Forensic Medicine Collection

Question Bank with Answers & Explanations

Generated on April 18, 2026

34 Topics • 744 Questions

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- Master Index links take you to topic parts.

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DIRECTORY EXPLORER

Click a folder below to open it.

» **01_Forensic Identification**

» **02_Forensic Thanatology**

» **03_Post Mortem Techniques**

» **04_Forensic Traumatology**

» **05_Ballistics**

» **06_Asphyxial Deaths**

» **07_Sexual Offences**

» **08_Sexual Jurisprudence**

» **09_Medical Jurisprudence**

» **10_Infanticide**

» **11_Forensic Toxicology**

» **12_Forensic Psychiatry**

» **13_Court of Law**

» **14_IPC Sections**

» **15_General Toxicology**

» **16_Sexual Jurisprudence**

» **17_Indian Legal System _ Medical Jurisprudence**

» 01_Forensic Identification

« Back to Parent Directory

Path: 01_Forensic Identification

• 001 Forensic Identification - I	***Questions***	***Answers***
• 002 Previous Year Questions	***Questions***	***Answers***
• 003 Previous Year Questions	***Questions***	***Answers***

» 02_Forensic Thanatology

« Back to Parent Directory

Path: 02_Forensic Thanatology

• 004 Thanatology - I	***Questions***	***Answers***
• 005 Previous Year Questions	***Questions***	***Answers***

» 03_Post Mortem Techniques

« Back to Parent Directory

Path: 03_Post Mortem Techniques

• 006 Postmortem Autopsy And Torture	***Questions***	***Answers***
• 007 Previous Year Questions	***Questions***	***Answers***

» 04_Forensic Traumatology

« Back to Parent Directory

Path: 04_Forensic Traumatology

• 008 Mechanical Injuries	***Questions***	***Answers***
• 009 Regional Injuries	***Questions***	***Answers***
• 010 Thermal Injuries - I Incl Rta	***Questions***	***Answers***
• 011 Previous Year Questions	***Questions***	***Answers***

» 05_Ballistics

« Back to Parent Directory

Path: 05_Ballistics

• 012 Forensic Ballistics- I	***Questions***	***Answers***
• 013 Previous Year Questions	***Questions***	***Answers***

» 06_Asphyxial Deaths

« Back to Parent Directory

Path: 06_Asphyxial Deaths

• 014 Asphyxial Death	***Questions***	***Answers***
• 015 Previous Year Questions	***Questions***	***Answers***

» 07_Sexual Offences

« Back to Parent Directory

Path: 07_Sexual Offences

• 016 Sexual Offences Traces Of Evidence	***Questions***	***Answers***
• 017 Previous Year Questions	***Questions***	***Answers***

» 08_Sexual Jurisprudence

« Back to Parent Directory

Path: 08_Sexual Jurisprudence

• 018 Sexual Jurisprudence	***Questions***	***Answers***
• 019 Previous Year Questions	***Questions***	***Answers***

» 09_Medical Jurisprudence

« Back to Parent Directory

Path: 09_Medical Jurisprudence

• 020 Medical Jurisprudence	***Questions***	***Answers***
• 021 Previous Year Questions	***Questions***	***Answers***

» 10_Infanticide

« Back to Parent Directory

Path: 10_Infanticide

	Questions	*Answers*
• 022 Infanticide		

» 11_Forensic Toxicology

« Back to Parent Directory

Path: 11_Forensic Toxicology

• 023 Forensic Toxicology 1	***Questions***	***Answers***
• 024 Forensic Toxicology 2	***Questions***	***Answers***
• 025 Previous Year Questions	***Questions***	***Answers***

» 12_Forensic Psychiatry

« Back to Parent Directory

Path: 12_Forensic Psychiatry

• 026 Forensic Psychiatry	***Questions***	***Answers***
• 027 Previous Year Questions	***Questions***	***Answers***

» 13_Court of Law

« Back to Parent Directory

Path: 13_Court of Law

	Questions	*Answers*
• 028 Previous Year Questions		

» 14_IPC Sections

« Back to Parent Directory

Path: 14_IPC Sections

• 029 Bns Sections - I	***Questions***	***Answers***
• 030 Previous Year Questions	***Questions***	***Answers***

» 15_General Toxicology

« Back to Parent Directory

Path: 15_General Toxicology

• 031 General Toxicology	***Questions***	***Answers***
• 032 Previous Year Questions	***Questions***	***Answers***

» 16_Sexual Jurisprudence

« Back to Parent Directory

Path: 16_Sexual Jurisprudence

	Questions	*Answers*
• 033 Previous Year Questions		

» 17_Indian Legal System _ Medical Jurisprudence

« Back to Parent Directory

Path: 17_Indian Legal System _ Medical Jurisprudence

• 034 Previous Year Questions	***Questions***	***Answers***

Part A — All Questions

• [01_Forensic Identification] 001 Forensic Identification - I

« Back to Folder Directory

[01_Forensic Identification] 001 Forensic Identification - I — Quick Jump

Q1 (p. 21)	*Q2 (p. 21)*	*Q3 (p. 22)*	*Q4 (p. 22)*	*Q5 (p. 23)*	*Q6 (p. 23)*
Q7 (p. 24)	*Q8 (p. 24)*	*Q9 (p. 25)*	*Q10 (p. 25)*	*Q11 (p. 26)*	*Q12 (p. 26)*
Q13 (p. 26)	*Q14 (p. 27)*	*Q15 (p. 27)*	*Q16 (p. 28)*	*Q17 (p. 29)*	*Q18 (p. 29)*
Q19 (p. 30)	*Q20 (p. 30)*	*Q21 (p. 30)*	*Q22 (p. 31)*	*Q23 (p. 31)*	*Q24 (p. 32)*
Q25 (p. 32)	*Q26 (p. 32)*	*Q27 (p. 33)*	*Q28 (p. 33)*	*Q29 (p. 33)*	*Q30 (p. 34)*
Q31 (p. 34)	*Q32 (p. 34)*	*Q33 (p. 35)*	*Q34 (p. 35)*	*Q35 (p. 36)*	*Q36 (p. 36)*
Q37 (p. 37)	*Q38 (p. 37)*	*Q39 (p. 38)*	*Q40 (p. 38)*	*Q41 (p. 38)*	*Q42 (p. 39)*
Q43 (p. 39)	*Q44 (p. 40)*	*Q45 (p. 40)*	*Q46 (p. 40)*	*Q47 (p. 41)*	*Q48 (p. 41)*
Q49 (p. 42)	*Q50 (p. 42)*	*Q51 (p. 42)*	*Q52 (p. 43)*	*Q53 (p. 45)*	*Q54 (p. 46)*
Q55 (p. 46)	*Q56 (p. 47)*	*Q57 (p. 47)*	*Q58 (p. 47)*	*Q59 (p. 48)*	*Q60 (p. 48)*
Q61 (p. 49)	*Q62 (p. 49)*	*Q63 (p. 49)*			

Q1: Pearson’s formula is most commonly applied in forensic investigations to determine which of the following characteristics from skeletal remains? (Q884198)

A. Approximate height of an individual

B. Biological age

C. Gender determination

D. Ethnic origin

See Answer in Part B → Q1

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Q2: In a medico-legal examination of skeletal remains of an individual older than 25 years, which of the following findings provides the most dependable estimate of age?

(Q884144)

A. Ectocranial fusion of skull sutures

B. Endocranial fusion of skull sutures

C. Morphological changes of the pubic symphysis

D. Degenerative changes in teeth

See Answer in Part B → Q2

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Q3: Which of the following bones develops from a secondary ossification centre? (Q884145)

A. Shaft of femur

B. Shaft of tibia

C. Distal end of femur

D. Body of calcaneus

See Answer in Part B → Q3

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Q4: Which of the following is the first carpal bone to ossify? (Q884146)

A. Capitate

B. Hamate

C. Lunate

D. Scaphoid

See Answer in Part B → Q4

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Q5: A child is brought for medico-legal age assessment. An X-ray of the hand is shown. What is the most likely age of the child? (Q884149)

A. 1 year

B. 2 years

C. 3 years

D. 6 years



See Answer in Part B → Q5

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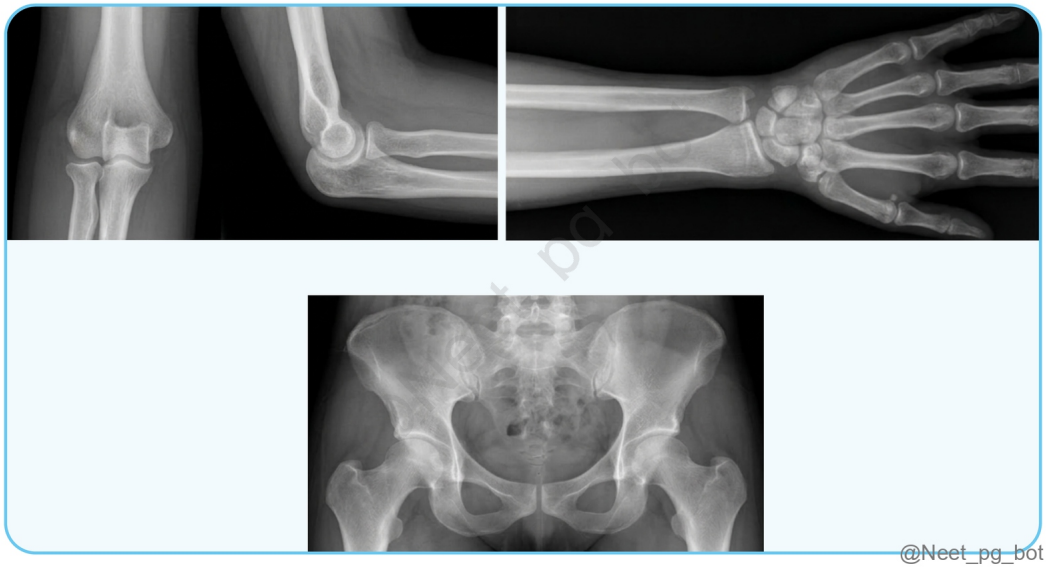
Q6: A female is produced before the court for age determination in a legal dispute. Radiographs of the elbow, wrist, and pelvis show complete fusion of epiphyses at the elbow and wrist, with recent fusion of the iliac crest and ischial tuberosity. What is the most likely age of the girl? (Q884150)

A. 15-16 years

B. 16-17 years

C. 18-19 years

D. 21-22 years



See Answer in Part B → Q6

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Q7: In forensic identification, photo-superimposition is sometimes used to compare skeletal remains with antemortem records. Which of the following statements regarding this technique is TRUE? (Q884153)

A. Primarily used to positively identify an individual

B. Can be carried out using two-dimensional images

C. Does not require any antemortem photographs

D. Commonly applied to bones of the lower limb

See Answer in Part B → Q7

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Q8: In forensic anthropology, the cranial shape of an adult Indian male is most commonly classified as: (Q884155)

A. Long-headed (dolichocephalic)

B. Medium-headed (mesaticephalic)

C. Broad-headed (brachycephalic)

D. Flat-headed (platycephalic)

See Answer in Part B → Q8

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Q9: During a forensic examination of recovered human remains, the scalp hair is observed to have a round cross-section with little to no pigmentation variation. Based on hair morphology, what is the most likely racial affinity of the individual? (Q884158)

A. African (Negroid)

B. East Asian (Mongoloid)

C. European (Caucasoid)

D. Cannot be determined

See Answer in Part B → Q9

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Q10: In forensic odontology, certain dental traits are associated with different ethnic groups. Which of the following statements is TRUE? (Q884159)

A. Shovel-shaped incisors are commonly seen in Mongoloid populations.

B. Carabelli’s cusp is a feature of Africans.

C. Upper third molars are most frequently absent in Caucasians.

D. Prominent lingual and labial ridges are typical in Caucasians.

See Answer in Part B → Q10

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Q11: Which of the following forensic applications is the preauricular sulcus most commonly used for? (Q884160)

A. Estimating age at death

B. Identifying biological sex

C. Determining ancestry

D. Assessing stature

See Answer in Part B → Q11

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Q12: Which of the following pelvic measurements are routinely used as indices for determining the sex of skeletal remains? Ischiopubic (Washburn) index Sciatic notch index Sacral index Sternal index Corporobasal index Kimura Base-wing index Chilotic line (Q884161)

A. 1, 2, 3, 5, 6, and 7

B. 1, 2, 3, 6, and 7

C. 1, 2, 3, and 6

D. All of the above

See Answer in Part B → Q12

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Q13: During forensic examination of unidentified skeletal remains, which bone provides the highest accuracy for determining biological sex? (Q884163)

A. Skull

B. Pelvis

C. Femur

D. Sternum

See Answer in Part B → Q13

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Q14: A hip bone is submitted for medico-legal examination. Which combination of features most strongly supports that the pelvis belongs to a male individual? Deep, funnel-shaped pelvic cavity Broad subpubic angle Narrow and deep greater sciatic notch Large acetabulum Large, oval obturator foramen with upward-directed base Broad, shallow greater sciatic notch (Q884164)

A. 1, 3, 4, and 5

B. 2, 4, and 6

C. Only 5

D. 2 , 3, 5, and 6

See Answer in Part B → Q14

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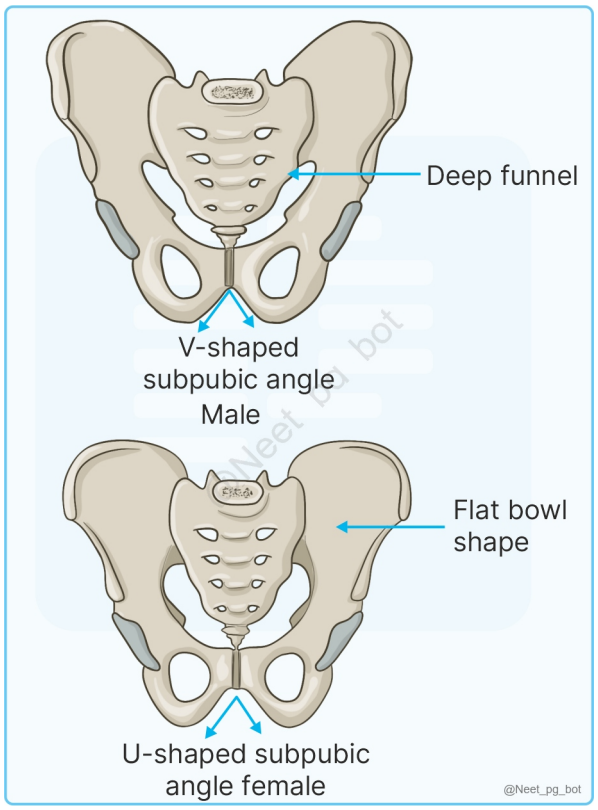
Q15: Identify the sex from the given pelvic bones: (Q884165)

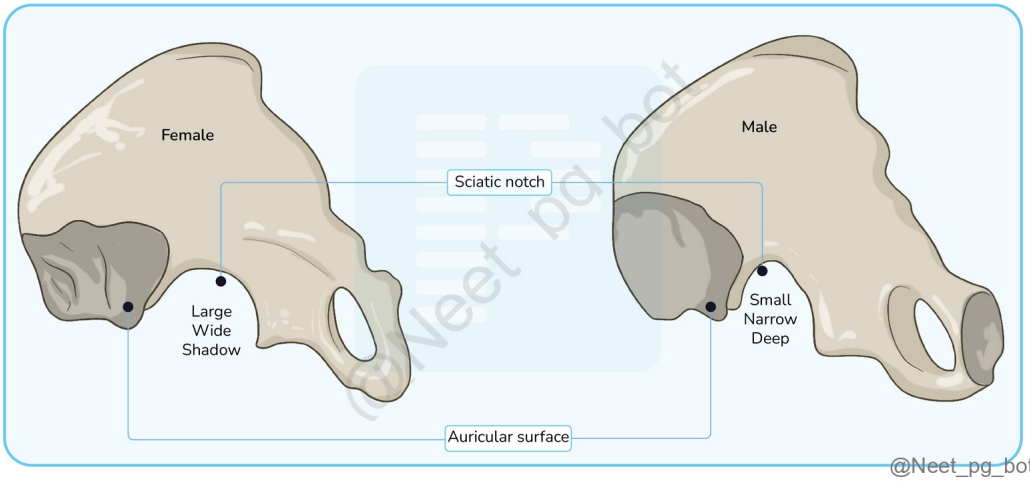
A. A- Female, B- Male, C- Female, D- Male

B. A- Male, B- Female, C- Male, D- Female

C. A- Male, B- Female, C- Female, D- Male

D. A- Female, B- Male, C- Male, D- Female





See Answer in Part B → Q15

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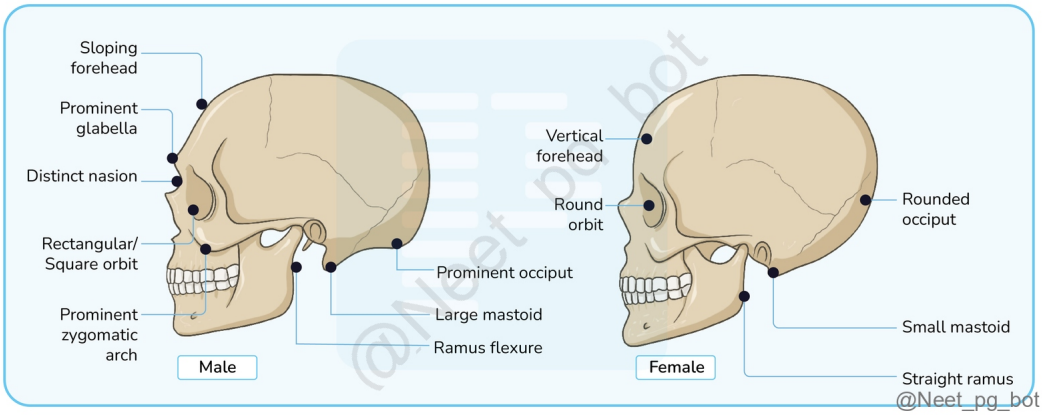
Q16: The image below shows two human skulls labelled A and B . Identify the sex of Skull A and Skull B. (Q884166)

A. A - Female, B - Male

B. A - Male, B - Female

C. A - Male, B - Male

D. A - Female, B - Female



See Answer in Part B → Q16

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Q17: A forensic expert examines radiographs of a young female to determine whether her age is above 16 years. Which of the following skeletal findings would most reliably support this conclusion? (Q884143)

A. Fusion of distal radius

B. Fusion of proximal ulna

C. Fusion of iliac crest apophysis

D. Fusion of medial end of clavicle

See Answer in Part B → Q17

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Q18: A fetus has a crown-rump length of 24 cm and a lower limb length of 12 cm. Based on these measurements, the estimated gestational age is: (Q884199)

A. 5 to 6 months

B. 6 to 7 months

C. 7 to 8 months

D. Full term

See Answer in Part B → Q18

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Q19: The vertebral column contributes approximately what percentage to the total stature of an adult individual? (Q884200)

A. 15%

B. 25%

C. 35%

D. 50%

See Answer in Part B → Q19

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Q20: While examining unidentified skeletal remains, a forensic anthropologist focuses on the pelvic girdle to determine the individual's sex. Which pelvic component provides the most reliable indicator for sex estimation? (Q884201)

A. Ilium

B. Pubis

C. Ischial tuberosity

D. Sacrum

See Answer in Part B → Q20

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Q21: Edmond Locard is most famously associated with which foundational concept in forensic science? (Q884202)

A. Principle of individuality

B. Exchange principle

C. Principle of probability

D. Principle of comparison

See Answer in Part B → Q21

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Q22: The ridge patterns that form the basis of fingerprints become permanently established during which period of intrauterine life? (Q884203)

A. 6-8 weeks

B. 10-12 weeks

C. 16-20 weeks

D. At birth

See Answer in Part B → Q22

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Q23: A fingerprint impression showing no delta formation is classified as which pattern? (Q884204)

A. Plain arch

B. Tented arch

C. Loop

D. Whorl

See Answer in Part B → Q23

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Q24: The approximate depth of fingerprint ridges into the skin, which must be reached to cause permanent destruction of the pattern, is: (Q884205)

A. 0.01 mm

B. 0.1 mm

C. 0.6 mm

D. 1 mm

See Answer in Part B → Q24

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Q25: Identical (monozygotic) twins share similarities in all of the following, except: (Q884206)

A. DNA profile

B. Blood group

C. Fingerprints

D. Sex

See Answer in Part B → Q25

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Q26: Complete absence of fingerprints is characteristically seen in which condition? (Q884207)

A. Ichthyosis vulgaris

B. Scleroderma

C. Adermatoglyphia

D. Psoriasis

See Answer in Part B → Q26

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Q27: Edgeoscopy in fingerprint analysis primarily evaluates which feature? (Q884208)

A. Ridges

B. Shape and contour of ridge edges

C. Sweat pore number

D. Fingerprint pattern type

See Answer in Part B → Q27

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Q28: Which of the following is not a standard method used for tattoo removal? (Q884209)

A. Laser ablation

B. Dermabrasion

C. Chemical cauterization

D. Radiofrequency ablation

See Answer in Part B → Q28

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Q29: Which tattoo pigment is most resistant to fading over time? (Q884210)

A. Yellow

B. Red

C. Blue

D. Black

See Answer in Part B → Q29

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Q30: Which method is most useful for visualizing a faded or obliterated tattoo? (Q884211)

A. Ultraviolet light examination

B. Diascopy

C. Wood’s lamp examination

D. Dermoscopy

See Answer in Part B → Q30

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Q31: If a tattoo is claimed in history but no cutaneous evidence is visible, which structure should be examined for confirmation? (Q884212)

A. Liver

B. Kidney

C. Spleen

D. Regional lymph nodes

See Answer in Part B → Q31

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Q32: Which microscopic feature of human hair is most useful in distinguishing human hair from animal hair? (Q884213)

A. Medullary index

B. Cuticular scale pattern

C. Cortical pigmentation

D. Hair shaft diameter

See Answer in Part B → Q32

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Q33: A team of forensic anthropologists is excavating a site where multiple sets of human remains have been discovered. They need to take precise measurements of various bones to aid in identification and analysis. As they set up their equipment, a junior member of the team asks about the best tool for taking linear measurements of long bones like femurs and tibias. Which instrument should the senior anthropologist recommend for this task? (Q847091)

A. Sliding caliper

B. Spreading caliper

C. Hepburn-type osteometric board

D. Digital radiography system

See Answer in Part B → Q33

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Q34: A young male is brought to the emergency department unconscious after a car accident. Despite resuscitation efforts, he is declared dead. The medical examiner is called to conduct a post-mortem examination. The patient has no identification, and his body was found far from any populated area. During the autopsy, the cephalic index (CI) of the skull is calculated to be 83. Based on this information, which population ancestry does this person most likely belong to? (Q847012)

A. Aboriginal

B. Central European

C. Mongolian

D. Caucasian

See Answer in Part B → Q34

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Q35: An unidentified male body is brought to the mortuary for forensic examination. Upon evaluation, it is noted that the orbits of the skull are rounded, the palate is broad, and the teeth exhibit shovel-shaped incisors. The hair recovered from the body is straight and coarse. Based on the forensic findings, what is the most likely racial group of this individual? (Q847023)

A. African descent

B. Caucasian descent

C. Asian descent

D. Hispanic descent

See Answer in Part B → Q35

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Q36: A 30-year-old individual with ambiguous genitalia presents for forensic sex determination. Both sex chromatin (Barr body) study and gonadal biopsy are performed. After a thorough examination, it was noted that no Barr bodies were identified, and the gonadal tissue revealed immature seminiferous tubules. Based on this information, which of the following is the most appropriate interpretation? (Q847026)

A. The absence of Barr bodies indicates Turner syndrome.

B. The individual is chromosomally male but may have androgen insensitivity syndrome (AIS).

C. The presence of seminiferous tubules confirms chromosomal female sex.

D. The absence of Barr bodies automatically excludes mosaicism.

See Answer in Part B → Q36

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Q37: A forensic anthropologist is tasked with determining the biological sex of skeletal remains found at an excavation site. The skeleton is relatively well-preserved, and specific morphological features are noted. The pelvis shows a wide subpubic angle, a broad sciatic notch, and a wide, circular pelvic inlet. Additionally, the skull has a smaller mastoid process and rounded chin. Based on these skeletal characteristics, which of the following is the most likely biological sex of the individual? (Q847030)

A. Male

B. Female

C. Cannot be determined without DNA analysis

D. Hermaphroditic

See Answer in Part B → Q37

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Q38: A forensic anthropologist is analyzing skeletal remains to determine the sex of an individual. Based on the following rules, which statement is TRUE? (Q847035)

A. According to Ashley’s Rule, females have a sternum length greater than 149 mm.

B. Hyrtl’s Law states that males have a sternum body length more than twice the length of the manubrium.

C. Krogman’s Table indicates that long bones alone provide 100% accuracy in sexing remains.

D. The skull has a higher accuracy rate than the pelvis.

See Answer in Part B → Q38

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Q39: A pregnant woman has an ultrasound that measures her fetus's Crown Heel Length (CHL) as 40 cm. What is the estimated age of the fetus in months? (Q847037)

A. 7 months

B. 8 months

C. 9 months

D. 10 months

See Answer in Part B → Q39

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Q40: A 12-year-old boy is brought to the clinic for a routine check-up. During the examination, the physician notes the development of certain bones, particularly focusing on the clavicle and scapula. Based on the provided information, which statement is TRUE regarding the boy's skeletal development? (Q847039)

A. The medial end of the clavicle fuses by 22 years.

B. The coracoid base of the scapula fuses at 10 years.

C. The xiphisternum fuses at 3 years postnatal.

D. The first sternebrae appears between 14–25 years.

See Answer in Part B → Q40

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Q41: Match the following skull sutures with their age of closure 1. Posterior fontanelle a) 2–4 years 2. Anterior fontanelle b) 45–50 years 3. Lambdoid suture c) At birth to 6 months 4. Metopic suture d) 1½–2 years (Q847046)

A. 1-a, 2-c,3-d, 4-b

B. 1-c, 2-d, 3-b, 4-a

C. 1-d, 2-b, 3-c, 4-a

D. 1-d, 2-a, 3-b, 4-c

See Answer in Part B → Q41

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Q42: A 10-year-old girl visits the clinic for a routine examination. During the assessment, the physician notes the development of her upper and lower limb bones. Which of the following statements is FALSE? (Q847050)

A. The head of the humerus fuses with the shaft at 17–18 years.

B. The lower end of the radius fuses by 17–19 years.

C. The greater trochanter of the femur fuses at 14–15 years.

D. The upper end of the fibula fuses at 10–12 years.

See Answer in Part B → Q42

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Q43: A forensic odontologist is examining the remains of an unidentified individual found in a remote area. The examination reveals the following dental pattern: 28 teeth present All third molars are absent Second premolars are partially erupted Canines are fully erupted Some primary (deciduous) molars are still present Based on this dental evidence, what is the most likely age range of the individual? (Q847055)

A. 6-7 years

B. 9-10 years

C. 11-12 years

D. 14-15 years

See Answer in Part B → Q43

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Q44: A forensic pathologist is asked to estimate the age of a deceased infant based on the weight of its teeth, which is found to be 530 mg. Which of the following methods is the most appropriate for age estimation in this case? (Q847058)

A. Stack's method

B. Boyde’s method

C. Lamendin’s method

D. Gustafson's method

See Answer in Part B → Q44

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Q45: Which of the following criteria is included in Gustafson's method but excluded from Dalitz's method of age estimation from teeth? (Q847060)

A. Root transparency

B. Attrition

C. Root resorption

D. Periodontal recession

See Answer in Part B → Q45

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Q46: A 32-year-old patient presents with dental pain in the upper right first molar. During charting, the dentist notes that the tooth is marked as "6." The dentist then refers to a dental notation system where each tooth is numbered according to quadrants and the location of permanent teeth. Which of the following notation methods is being used? (Q847066)

A. Zsigmondy-Palmer notation

B. Haderup notation

C. Universal numbering system

D. FDI notation

See Answer in Part B → Q46

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Q47: A forensic odontologist receives dental records with the following notations: "#8 crown" (Universal System) "46 missing" (FDI System) "64 carious" (Modified FDI System for primary teeth) Which of the following correctly represents all these findings using only the FDI system for permanent dentition? (Q847069)

A. 11 crown, 46 missing, 24 carious

B. 21 crown, 46 missing, 14 carious

C. 11 crown, 46 missing, 14 carious

D. 21 crown, 46 missing, 24 carious

See Answer in Part B → Q47

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Q48: A forensic anthropologist is tasked with estimating the stature of an unidentified male skeleton. Only the femur is available for measurement. Which of the following multiplication factors should be used to calculate the stature based on the femur length? (Q847088)

A. 3.3

B. 3.6-3.8

C. 4.48

D. 5.30

See Answer in Part B → Q48

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Q49: A partially decomposed body was discovered at a crime scene, and authorities suspected foul play. On examination of dead body, a bullet was retrieved from the body and weapon marks were present on the clothing. To establish that a crime has taken place in this suspected homicide, which of the following is the most crucial factor? (Q847009)

A. The presence of motive and opportunity for the crime

B. Identification of the dead body and proof of death by criminal act

C. Eyewitness testimony linking a suspect to the crime

D. Detailed reconstruction of the crime scene and sequence of events

See Answer in Part B → Q49

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Q50: A 6-year-old child is brought to court as a witness in a criminal case. Which of the following statements best describes the legal considerations regarding this child's testimony? (Q847098)

A. The child cannot give evidence due to being under 7 years old

B. The child's testimony is automatically considered truthful

C. The child can give evidence if the court is satisfied with their understanding

D. The child's testimony will be undertaken by the guardian

See Answer in Part B → Q50

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Q51: Match the following ages with their corresponding medicolegal significance: 1. 14 years a) Age of majority and can cast vote 2. 18 years b) Minimum age for appointment as President or Vice-President of India 3. 21 years c) Cannot be employed in factory jobs 4. 25 years d) Age for contesting membership of Parliament 5. 35 years e) Age of marriage for males (Q847105)

A. 1-a, 2-c, 3-e, 4-b, 5-d

B. 1-c, 2-a, 3-e, 4-b, 5-d

C. 1-c, 2-a, 3-e, 4-d, 5-b

D. 1-c, 2-e, 3-a, 4-d, 5-b

See Answer in Part B → Q51

@Neet_pg_bot

Q52: Match the following dactylography patterns with their correct type and frequency (%) 1. Loop a. X. 30-35% 2. Whorl b. Y. 5-10% 3. Arch c. Z. 60-70% (Q847111)

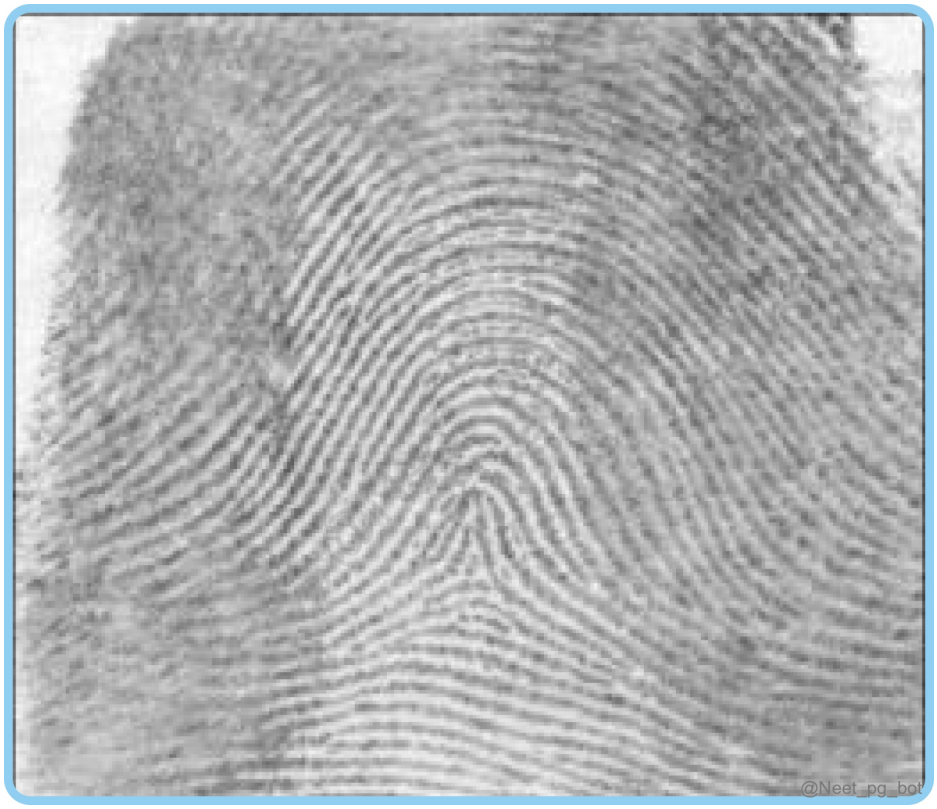
A. 1-a-X, 2-c-Z, 3-b-Y

B. 1-c-Z, 2-a-X, 3-b-Y

C. 1-a-Z, 2-c-Y, 3-b-X

D. 1-c-Y, 2-a-X, 3-b-Z


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See Answer in Part B → Q52

@Neet_pg_bot

Q53: A forensic expert is called to testify in a court case involving disputed fingerprint evidence. During the trial, various aspects of fingerprint analysis are discussed, including abnormalities and development techniques. Which of the following statements about fingerprint abnormalities is INCORRECT? (Q847115)

A. Ridge atrophy with alteration of ridge pattern can be seen in conditions such as celiac disease, dermatitis, and prolonged exposure to certain drugs

B. People with certain genetic disorders like Naegeli-Franceschetti-Jadassohn syndrome may be born without fingerprints

C. Latent prints require additional processing to be rendered visible and are often made from grease, dirt, oil, or blood

D. Development techniques such as VMD, powdering, SPR, and iodine fuming can be used to visualize altered fingerprints

See Answer in Part B → Q53

@Neet_pg_bot

Q54: A forensic investigator is examining evidence from a crime scene in a restaurant. The following items have been collected: A wine glass with a partial fingerprint A napkin with a lipstick mark A fork with what appears to be saliva residue The investigator has a suspect in custody but lacks sufficient ridge detail from the partial fingerprint for a conclusive match. Which of the following approaches would be MOST appropriate for the investigator to pursue next? (Q847119)

A. Focus solely on analyzing the lipstick mark on the napkin using chelioscopy techniques

B. Employ poroscopy to examine the sweat pores on the partial fingerprint from the wine glass

C. Disregard the evidence collected and seek alternative means of identification

D. Attempt to extract DNA from the saliva on the fork and compare it to the suspect's DNA

See Answer in Part B → Q54

@Neet_pg_bot

Q55: A forensic pathologist is examining a body found in a river. The deceased has multiple tattoos, including a faded amateur tattoo on the arm and a professional tattoo on the chest. The pathologist also notices a partially erased tattoo on the back. Which of the following statements is MOST likely to be true based on the information provided about tattoos? (Q847122)

A. The faded amateur tattoo on the arm was likely created using red dye and is about 3 weeks old

B. The professional tattoo on the chest probably used black or blue dye and could be identified in lymph nodes

C. The partially erased tattoo on the back was most likely removed using chemical peeling with trichloroacetic acid

D. All tattoos on the body can be accurately dated to determine the exact time they were created

See Answer in Part B → Q55

@Neet_pg_bot

Q56: A museum curator is organizing an exhibit on the history of forensic science. They come across a set of tools and records from the late 19th century that include calipers, measuring tapes, and detailed cards with various bodily measurements and descriptions. The curator notices that these records consistently include 11 specific measurements, along with descriptions of physical features and photographs. What is the MOST likely purpose of this historical forensic method? (Q847125)

A. To determine the age and cause of death in archaeological remains

B. To create a standardized system for criminal identification

C. To classify individuals based on racial characteristics for eugenics research

D. To establish a observational method for normal human growth and development

See Answer in Part B → Q56

@Neet_pg_bot

Q57: Which of the following statements BEST describes the value and application of frontal sinus prints? (Q847129)

A. Frontal sinus prints are useful for identification, but they change significantly after infections or injuries to the skull

B. Frontal sinus prints are unique to each individual and remain stable after age 15, making them valuable for postmortem identification

C. Frontal sinus prints are only useful for identifying individuals under 15 years of age, as they continue to alter in adulthood

D. Frontal sinus prints provide a general indication of a person's age and sex, but are not unique enough for individual identification

See Answer in Part B → Q57

@Neet_pg_bot

Q58: A child rescued during an investigation of illegal adoption is produced before a medical board for accurate age estimation. Which of the following methods would be

most reliable for determining the child's age? (Q884134)

A. Eruption of permanent teeth

B. Fusion of the epiphysis of long bones

C. Mineralisation stages of teeth

D. Closure of cranial sutures

See Answer in Part B → Q58

@Neet_pg_bot

Q59: An infant aged 10 months is examined during a pediatric dental check-up. Which of the following teeth is most likely to erupt at this age? (Q884136)

A. Mandibular central incisor

B. Maxillary central incisor

C. Mandibular first molar

D. Maxillary lateral incisor

See Answer in Part B → Q59

@Neet_pg_bot

Q60: Which of the following permanent teeth erupt without replacing any primary teeth? (Q884138)

A. Lateral Incisors

B. Canines

C. Premolars

D. Molars

See Answer in Part B → Q60

@Neet_pg_bot

Q61: What does the presence of a neonatal line in a child’s tooth enamel on electron microscopic examination indicate? (Q884139)

A. Birth defect

B. Exposure to toxins in utero

C. Death before birth

D. Survival after birth

See Answer in Part B → Q61

@Neet_pg_bot

Q62: During forensic examination of unidentified skeletal remains, a dentist applies Gustafson’s criteria to estimate age. Which of the following dental features is not included in this method? (Q884140)

A. Secondary dentin deposition

B. Cementum apposition

C. Root transparency

D. Crown height measurement

See Answer in Part B → Q62

@Neet_pg_bot

Q63: A forensic expert examines the skull of an unknown female individual for age estimation. At what age does the spheno-occipital synchondrosis typically fuse in females? (Q884142)

A. 12 years

B. 16 years

C. 18 years

D. 25 years

See Answer in Part B → Q63

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• [01_Forensic Identification] 002 Previous Year Questions

« Back to Folder Directory

[01_Forensic Identification] 002 Previous Year Questions — Quick Jump

Q1 (p. 51)	*Q2 (p. 51)*	*Q3 (p. 52)*	*Q4 (p. 52)*	*Q5 (p. 53)*	*Q6 (p. 53)*
Q7 (p. 54)	*Q8 (p. 54)*	*Q9 (p. 55)*	*Q10 (p. 56)*	*Q11 (p. 58)*	*Q12 (p. 58)*
Q13 (p. 58)	*Q14 (p. 59)*	*Q15 (p. 59)*	*Q16 (p. 59)*	*Q17 (p. 60)*	*Q18 (p. 60)*
Q19 (p. 61)	*Q20 (p. 61)*	*Q21 (p. 61)*	*Q22 (p. 62)*	*Q23 (p. 62)*	*Q24 (p. 64)*
Q25 (p. 64)	*Q26 (p. 65)*	*Q27 (p. 65)*			

Q1: Which confirmatory test is utilized by forensic experts to establish the presence of a bloodstain at a crime scene? (Q857016)

A. Spectroscopic test

B. Kastle meyer test

C. Benzidine test

D. Orthotoluidine test

See Answer in Part B → Q1

@Neet_pg_bot

Q2: What is the substance identified by Barberio's test, which was conducted on the stains from a sexual assault incident involving an 18-year-old female and a 20-year-old male? (Q859886)

A. Spermine

B. Acid phosphatase

C. Choline

D. Fructose

See Answer in Part B → Q2

@Neet_pg_bot

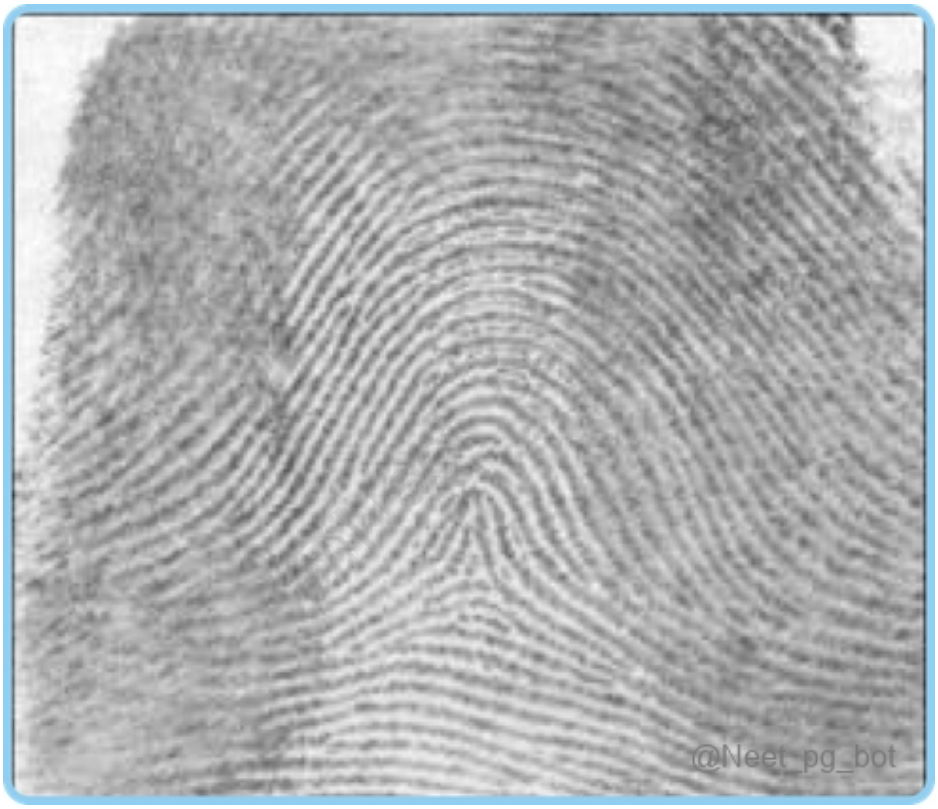
Q3: Identify the fingerprint pattern shown in the image: (Q859879)

A. Whorl

B. Composite

C. Loop

D. Arch



See Answer in Part B → Q3

@Neet_pg_bot

Q4: A deceased male was brought to the morgue for a post-mortem examination. His relatives reported that he had a tattoo over his skin, which was not found on examination. Which of the following structures would you examine? (Q854896)

A. Lymph nodes

B. Liver

C. Arteries

D. Skin

See Answer in Part B → Q4

@Neet_pg_bot

Q5: Match the following weapons with the potential injuries they may cause: A. Axe 1. Incised wound B. RTA (Road Traffic Accident) 2. Train track bruise C. Blade 3. Grazed abrasion D. Lathi 4. Chop wound (Q856327)

A. A-4, B-3, C-1, D-2

B. A-1, B-3, C-4, D-2

C. A-1, B-2, C-4, D-3

D. A-4, B-1, C-3, D-2

See Answer in Part B → Q5

@Neet_pg_bot

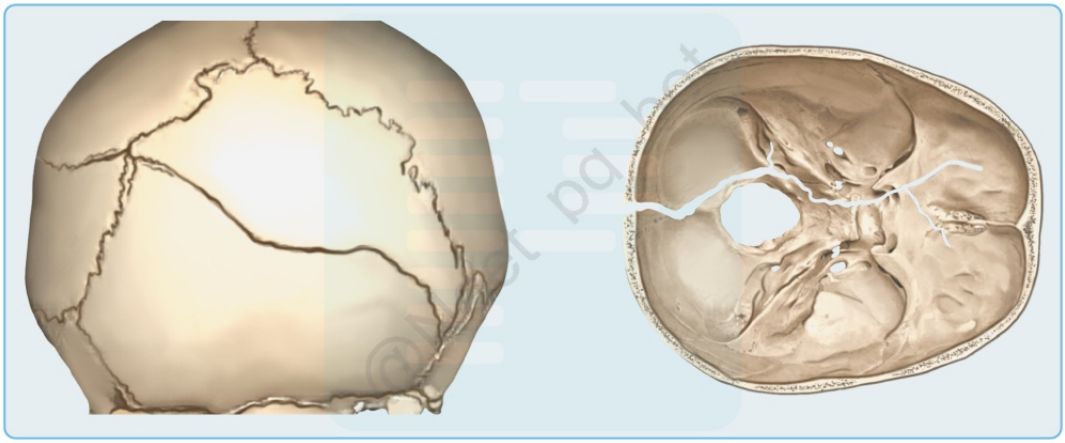
Q6: Identify the type of skull fracture in the given image ? (Q856877)

A. Diastatic

B. Depressed

C. Fissured

D. Comminuted



@Neet_pg_bot

See Answer in Part B → Q6

@Neet_pg_bot

Q7: When a patient with life-threatening injuries arrives at the hospital and there is no time to obtain explicit consent, under which legal doctrine can a physician perform necessary life-saving procedures, with consent considered extended to emergency intervention, thus protecting the physician from liability if the patient dies despite proper care? (Q856865)

A. Res ipsa loquitur

B. Doctrine of anticipation

C. Doctrine of extended consent

D. Doctrine of conjugated consent

See Answer in Part B → Q7

@Neet_pg_bot

Q8: Identify the condition shown in the image. (Q856862)

A. Postmortem lividity

B. Marbling

C. Fillgree burns

D. Subcutaneous emphysema



See Answer in Part B → Q8

@Neet_pg_bot

Q9: What is the approximate age of a person in whom the medial end of the clavicle is fused and also the sternum is completely fused: (Q856852)

A. <18 years

B. 18-22 years

C. 22-25 years

D. >25 years

See Answer in Part B → Q9

@Neet_pg_bot

Q10: A girl was allegedly kidnapped by a man. In court, she says that she is a major and is married to the man, X-ray images of her elbow, wrist and pelvis are given. What is the approximate age of the girl? (Q856651)

A. 14 to 15 years

B. 16 to 17 years

C. 18 to 19 years

D. 21 to 22 years



@Neet_pg_bot





See Answer in Part B → Q10

@Neet_pg_bot

Q11: What will be the gestational age of the fetus if the crown rump length is 21 cm and the length of the lower limb is 10 cm? (Q856647)

A. 6 to 7 months

B. 4 to 5 months

C. 7 to 8 months

D. Term

See Answer in Part B → Q11

@Neet_pg_bot

Q12: Which of the following traits is a feature of the female skull ? (Q855328)

A. Larger teeth

B. Mastoid medium-large

C. Mandible Rounded

D. Zygomatic is more pronounced

See Answer in Part B → Q12

@Neet_pg_bot

Q13: The most reliable criteria among Gustafson's criteria for age estimation is? (Q857044)

A. Root resorption

B. Paradentosis

C. Translucency of root

D. Attrition

See Answer in Part B → Q13

@Neet_pg_bot

Q14: From the dense vegetation near the highway, the police have found the remains of a burnt body. The location was discovered with the help of a sniffer dog, as they were tracing a 25-year-old IT worker who had gone missing the night before. To determine the identity of the victim, the team needs to gather a suitable sample. Which type of tissue from a charred body is most effective for identification purposes? (Q857038)

A. Hair

B. Bone

C. Teeth

D. Blood

See Answer in Part B → Q14

@Neet_pg_bot

Q15: A 30-year-old man is accused of sexually abusing a girl. The mother insists her daughter is under 18, but the daughter claims she is already 18. To legally verify her age, which combination of X-rays would provide the most reliable information? (Q865313)

A. Elbow and shoulder

B. Sternum and medial end of clavicle

C. Wrist, medial end of clavicle, and pelvis

D. Skull and Sternum

See Answer in Part B → Q15

@Neet_pg_bot

Q16: Match the tooth type with its corresponding age of eruption. A. Canine 1. 6-7 years B. Lateral incisor 2. 8-9 years C. First molar 3. 11-12 years D. Third molar 4. 17-25 years (Q855155)

A. A-1, B-3, C-2, D-4

B. A-3, B-4, C-1, D-2

C. A-3, B-2, C-1, D-4

D. A-2, B-3, C-4, D-1

See Answer in Part B → Q16

@Neet_pg_bot

Q17: When do fingerprints first develop during intrauterine life? (Q855152)

A. 12-16 weeks

B. 20-24 weeks

C. 28-32 weeks

D. 32-36 weeks

See Answer in Part B → Q17

@Neet_pg_bot

Q18: All of the following are used in the identification of a dead body except? (Q854650)

A. Teeth

B. Blood

C. Nail

D. Muscle

See Answer in Part B → Q18

@Neet_pg_bot

Q19: When does the talus become ossified during intrauterine life? (Q820296)

A. 3 months

B. 7 months

C. 9 months

D. 2 months

See Answer in Part B → Q19

@Neet_pg_bot

Q20: A 10-year-old child presenting for a dental examination, what is the expected number of permanent and temporary teeth? (Q820284)

A. 20 & 4

B. 24 & 0

C. 16 & 8

D. 12 & 12

See Answer in Part B → Q20

@Neet_pg_bot

Q21: In a forensic investigation, the police recover a beheaded skull bone and receive a photograph of a missing person from their relatives. These two samples can be analyzed using which technique? (Q820280)

A. Fingerprint

B. DNA Fingerprint

C. Superimposition

D. Cheiloscopy

See Answer in Part B → Q21

@Neet_pg_bot

Q22: Following the death of a 40-year-old male patient, his relatives mention that he had a tattoo on his body. However, upon autopsy, no tattoo is observed on the skin. What is the best location to check for the presence of the tattoo? (Q820272)

A. Spleen

B. Artery

C. Lymph node

D. Liver

See Answer in Part B → Q22

@Neet_pg_bot

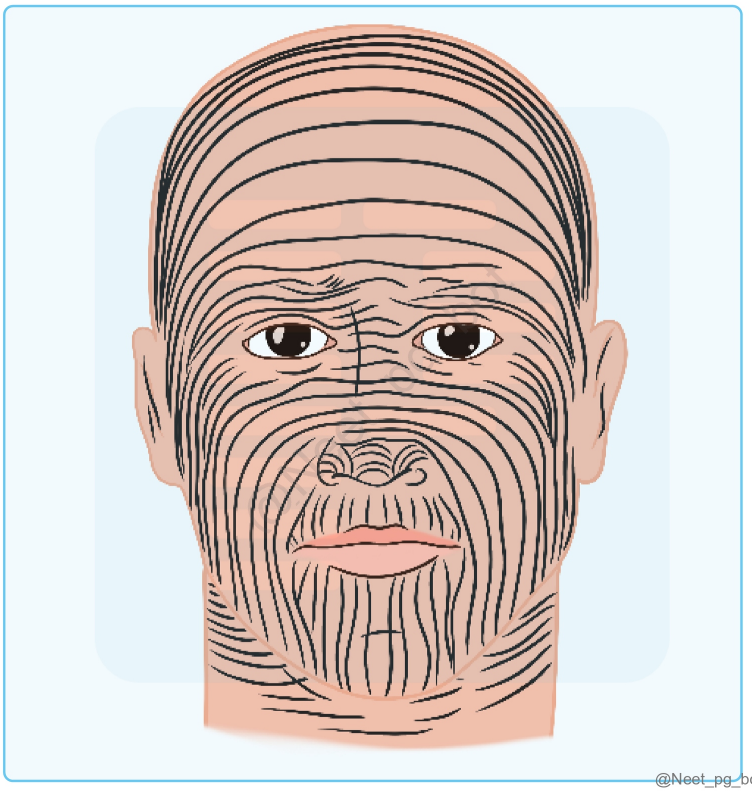
Q23: Identify the following image. (Q857403)

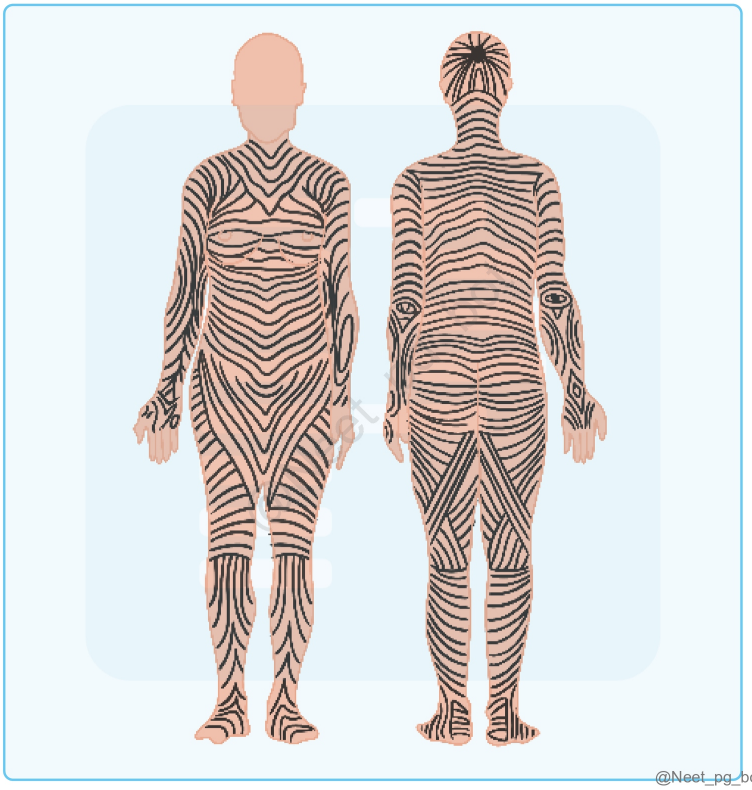
A. Hinderer's line

B. Langer's lines

C. Blaschko lines

D. Dermatomes





See Answer in Part B → Q23

@Neet_pg_bot

Q24: A vegetable vendor with no criminal history went missing and was found dead a week later with advanced decomposition. How would you identify the body? (Q860487)

A. General recognition

B. DNA profiling

C. Dental records

D. Fingerprints

See Answer in Part B → Q24

@Neet_pg_bot

Q25: Identify the finding that is seen in antemortem drowning? (Q860472)

A. Cadaveric spasm

B. Pugilistic attitude

C. Washerwoman hand

D. Emphysema aquosum



See Answer in Part B → Q25

@Neet_pg_bot

Q26: During a forensic examination, a skull bone was brought by police whose cephalic index came out to be 85. Skull bone belongs to which race? (Q852480)

A. Negroes

B. Aryan

C. European

D. Mongoloids

See Answer in Part B → Q26

@Neet_pg_bot

Q27: At how many months of intrauterine life does the talus begin to develop from a single primary ossification center? (Q866425)

A. 5 months

B. 10 months

C. 7 months

D. 9 months

See Answer in Part B → Q27

@Neet_pg_bot

• [01_Forensic Identification] 003 Previous Year Questions

« Back to Folder Directory

[01_Forensic Identification] 003 Previous Year Questions — Quick Jump

Q1 (p. 67) *Q2 (p. 67)*

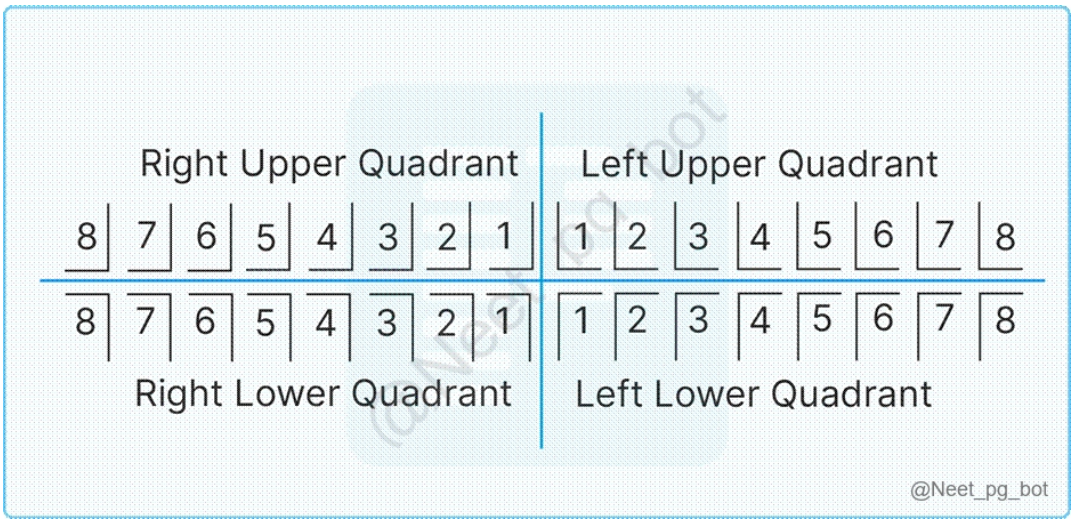
Q1: Which of the following dental notation systems is shown in this image? (Q865333)

A. Palmer Notation

B. Haderup System

C. Universal Numbering System

D. Federation Dentaire Internationale (FDI)



See Answer in Part B → Q1

@Neet_pg_bot

Q2: A registered medical practitioner is requested by a survivor of sexual violence to examine her. Within what time must the practitioner take a vaginal swab to look for the presence of spermatozoa? (Q855306)

A. Within 72 hours

B. Within 36 hours

C. Within 5 day

D. Within 48 hours

See Answer in Part B → Q2

@Neet_pg_bot

• [02_Forensic Thanatology] 004 Thanatology - I

« Back to Folder Directory

[02_Forensic Thanatology] 004 Thanatology - I — Quick Jump

Q1 (p. 69)	*Q2 (p. 69)*	*Q3 (p. 70)*	*Q4 (p. 70)*	*Q5 (p. 70)*	*Q6 (p. 71)*
Q7 (p. 72)	*Q8 (p. 72)*	*Q9 (p. 72)*	*Q10 (p. 73)*	*Q11 (p. 74)*	*Q12 (p. 74)*
Q13 (p. 75)	*Q14 (p. 76)*	*Q15 (p. 76)*	*Q16 (p. 77)*	*Q17 (p. 77)*	*Q18 (p. 78)*
Q19 (p. 78)	*Q20 (p. 79)*	*Q21 (p. 79)*	*Q22 (p. 80)*	*Q23 (p. 81)*	*Q24 (p. 81)*
Q25 (p. 81)	*Q26 (p. 82)*				

Q1: The charred body has been recovered from the dense vegetation close to the highway. The police were led to the spot by a sniffer dog that was tracking a 25-year-old IT employee who had been missing since the previous evening. The team has to collect a sample to identify the victim. A sample of which tissue from a burnt body, is best for identification? (Q882306)

A. Hair

B. Bone

C. Teeth

D. Blood

See Answer in Part B → Q1

@Neet_pg_bot

Q2: Which of the following conditions can lead to early onset rigor mortis? Cholera Strychnine poisoning Tetanus Asphyxia Pneumonia (Q847301)

A. 1 and 4

B. 1, 2, and 3

C. 2, 3, and 5

D. All are correct

See Answer in Part B → Q2

@Neet_pg_bot

Q3: A dead body is being examined by the forensic surgeon and maggots are found. Which of the following life stage of maggots is correctly matched with their time? (Q847317)

A. Larvae formation: 3-4 days

B. Pupae formation: 3-6 days

C. Adult fly formation from pupae: 1-2 days

D. Entire cycle: 8-20 days summer

See Answer in Part B → Q3

@Neet_pg_bot

Q4: A 50-year-old female is found deceased in her home, and upon examination, it is noted that her stomach contains undigested food from a heavy meal. Based on the examination findings, what is the most likely time frame for the patient's death after her last meal? (Q847316)

A. 1 to 2 hours

B. 3 to 4 hours

C. 5 to 8 hours

D. 10 to 12 hours

See Answer in Part B → Q4

@Neet_pg_bot

Q5: A 50-year-old male passed away due to a myocardial infarction. The family requested embalming for preservation of the body before the funeral. Which of the

following statements about embalming is incorrect? (Q847315)

A. Produces permanent chemical rigidity that mimics rigor mortis.

B. Sodium citrate is used in embalming fluid as an anticoagulant.

C. Embalming makes it easier to interpret postmortem injuries.

D. Femoral artery is commonly used for injecting embalming fluid.

See Answer in Part B → Q5

@Neet_pg_bot

Q6: Which of the following factors does not favour the process in the given image? (Q847314)

A. Hot environment

B. Free air movement

C. Contact of the body with water

D. Chronic antimony poisoning



See Answer in Part B → Q6

@Neet_pg_bot

Q7: A forensic expert is examining a dead body that was found in a hot and moist place. There is adipocere formation all over the body including the internal organs. What does this finding signify? It gives a rough idea of the time since death It is formed due to postmortem hydrolysis and hydrogenation of saturated fats Organisms like aerobic bacteria help this process It is usually found in sites with fat deposits (Q847313)

A. 1, 2, and 4

B. 1, 2, and 3

C. 1 and 4

D. All are correct

See Answer in Part B → Q7

@Neet_pg_bot

Q8: According to Casper's dictum, the rate of decomposition varies depending on the environment. Which of the following correctly represents this relationship? (Q847312)

A. Decomposition in deeply buried bodies is faster than in water.

B. Decomposition in water occurs at the same rate as in air.

C. Decomposition in air is faster than in soil.

D. Decomposition in air occurs eight times faster than in water.

See Answer in Part B → Q8

@Neet_pg_bot

Q9: A decomposing body is found in the woods. Upon examination, it is noted that the skull sutures have separated, and the skin on the hands and feet has sloughed off in a 'glove and stocking' manner. Liquefied brain matter is observed. What is the most likely time frame of death? (Q847311)

A. 12–24 hours

B. 24–48 hours

C. 3–5 days

D. 5–10 days

See Answer in Part B → Q9

@Neet_pg_bot

Q10: During an autopsy performed on a body 20 hours after death, the pathologist notices small blisters filled with gas on the lower abdomen and thighs. What is the likely cause of these blisters? (Q847309)

A. Antemortem burn injury

B. Decomposition due to gas formation

C. Friction-induced blisters

D. Chemical exposure



See Answer in Part B → Q10

@Neet_pg_bot

Q11: A 35-year-old male is found deceased in an apartment, and the body is examined 48 hours post-mortem. A distinct branching pattern is observed along the superficial blood vessels after 24 hours, as shown below. What is the most likely cause of the skin pattern observed in the image? (Q847304)

A. Marbling

B. Adipocere

C. Filigree burns

D. Postmortem lividity



See Answer in Part B → Q11

@Neet_pg_bot

Q12: A body arrived at the forensic department for autopsy, presenting with distinct features, including a greenish discoloration of the abdomen, a strong odor, and gas formation within the tissues (as shown in the image provided below). What enzyme is primarily responsible for these characteristics? (Q847303)

A. Hyaluronidase

B. Collagenase

C. Lecithinase

D. Protease



See Answer in Part B → Q12

@Neet_pg_bot

Q13: A body was discovered in a lake near a village, and it needs to be determined whether the individual was alive at the time of drowning or if the body was dumped postmortem. Which of the following postmortem signs would most likely help in distinguishing between the two situations? (Q847302)

A. Rigor mortis

B. Cold stiffening

C. Cadaveric spasm

D. Pugilistic attitude

See Answer in Part B → Q13

@Neet_pg_bot

Q14: According to the Bishop's tripod of life, which of the following is not a criterion for establishing death? (Q847288)

A. Irreversible cessation of circulation

B. Irreversible cessation of respiration

C. Total absence of reflexes

D. Irreversible cessation of brain activity

See Answer in Part B → Q14

@Neet_pg_bot

Q15: What is the correct order of presenting sequence in rigor mortis after death? (Q847300)

A. Fingers and toes → Upper limbs → Lower limbs →Abdomen

B. Upper limbs → Abdomen → Lower limbs → Fingers and toes

C. Lower limbs → Abdomen → Upper limbs →Fingers and toes

D. Fingers and toes → Upper limbs → Abdomen → Lower limbs

See Answer in Part B → Q15

@Neet_pg_bot

Q16: A 32-year-old male with a known history of chronic alcohol abuse was found unconscious at home. He was noted to have respiratory depression, pinpoint pupils, and altered mental status upon initial examination. Despite prompt resuscitation efforts, he succumbed to his condition. A postmortem examination revealed that the body had turned a dark black color. What is the most likely cause of death? (Q847299)

A. Hydrogen sulfide toxicity

B. Carbon monoxide poisoning

C. Methanol adulteration

D. Opioid overdose

See Answer in Part B → Q16

@Neet_pg_bot

Q17: A body has been presented to the forensic department for autopsy, exhibiting typically visible post-mortem changes given below as an image, including blanching and a shift of pattern occurring upon handling and moving the body. Based on these observations, what is the approximate time of death? (Q847298)

A. Immediately after death

B. Within 4 hours

C. After 12 hours

D. After 24 hours



See Answer in Part B → Q17

@Neet_pg_bot

Q18: A 35-year-old male is discovered deceased in his apartment. During examination, livor mortis is observed primarily on the front part of his body. What was the most likely position of the body at the time of death based on this distribution of livor mortis? (Q847297)

A. Prone

B. Supine

C. Head downwards

D. Vertical suspension

See Answer in Part B → Q18

@Neet_pg_bot

Q19: A forensic pathologist is examining the body of a 50-year-old male found deceased under suspicious circumstances, with elevated core temperature within two hours after death. Which of the following conditions is not typically associated with this postmortem finding? (Q847296)

A. Burns

B. Tetanus

C. Septicemia

D. Pontine hemorrhage

See Answer in Part B → Q19

@Neet_pg_bot

Q20: A forensic investigator examines a body in a room at 22°C. The normal body temperature is 37°C, and the rectal temperature is 31°C. The rate of temperature fall is approximately 0.6°C per hour. What is the estimated time since death? (Q847295)

A. 8 hours

B. 9 hours

C. 10 hours

D. 12 hours

See Answer in Part B → Q20

@Neet_pg_bot

Q21: A forensic investigator is examining a 45-year-old male found deceased in his apartment. To determine the time of death using algor mortis, which of the following sites is ideal for measuring core body temperature? (Q847294)

A. Nostrils

B. Rectum

C. oral

D. External auditory meatus

See Answer in Part B → Q21

@Neet_pg_bot

Q22: A 45-year-old male is found dead in his apartment with no signs of external trauma. Based on the provided image of the eye showing hazy corneas and sunken eyeballs, what is the most likely time since death? (Q847293)

A. Less than 2 hour

B. 3 - 4 hours

C. 6 - 7 hours

D. 10 - 12 hours



See Answer in Part B → Q22

@Neet_pg_bot

Q23: The appearance of facial pallor after death is an example of which category of postmortem changes? (Q847292)

A. Immediate changes

B. Early changes

C. Late changes

D. Suspended animation

See Answer in Part B → Q23

@Neet_pg_bot

Q24: A 45-year-old male is brought dead to the hospital. The doctor ties a ligature around the base of the fingers and notices no bluish discoloration or edema. Which test is the doctor using to check for the absence of circulation? (Q847291)

A. Icard’s test

B. Magnus test

C. Diaphanous test

D. Pressure test

See Answer in Part B → Q24

@Neet_pg_bot

Q25: A 45-year-old woman is declared dead after a cardiac arrest. 2 hours later, a forensic expert strikes the quadriceps with a reflex hammer and observes contraction. What does this indicate about the state of the patient’s tissues? (Q847290)

A. Molecular death has occurred

B. Muscle tissues have lost all responsiveness

C. Zsako’s phenomenon is present

D. Muscles are in rigor mortis

See Answer in Part B → Q25

@Neet_pg_bot

Q26: Suspended animation is most likely to occur after which type of poisoning? (Q847289)

A. Cyanide poisoning

B. Strychnine poisoning

C. Phosphorus poisoning

D. Barbiturate poisoning

See Answer in Part B → Q26

@Neet_pg_bot

• [02_Forensic Thanatology] 005 Previous Year Questions

« Back to Folder Directory

[02_Forensic Thanatology] 005 Previous Year Questions — Quick Jump

Q1 (p. 83)	*Q2 (p. 83)*	*Q3 (p. 84)*	*Q4 (p. 85)*	*Q5 (p. 86)*	*Q6 (p. 87)*
Q7 (p. 88)	*Q8 (p. 88)*	*Q9 (p. 89)*	*Q10 (p. 89)*	*Q11 (p. 90)*	*Q12 (p. 90)*
Q13 (p. 90)	*Q14 (p. 91)*	*Q15 (p. 91)*	*Q16 (p. 91)*	*Q17 (p. 92)*	*Q18 (p. 93)*
Q19 (p. 93)	*Q20 (p. 93)*	*Q21 (p. 94)*			

Q1: Post-mortem examination of a dead body reveals contraction of the hands with absent primary relaxation. What is this suggestive of? (Q857929)

A. Rigor Mortis

B. Livor Mortis

C. Cadaveric spasm

D. Algor Mortis

See Answer in Part B → Q1

@Neet_pg_bot

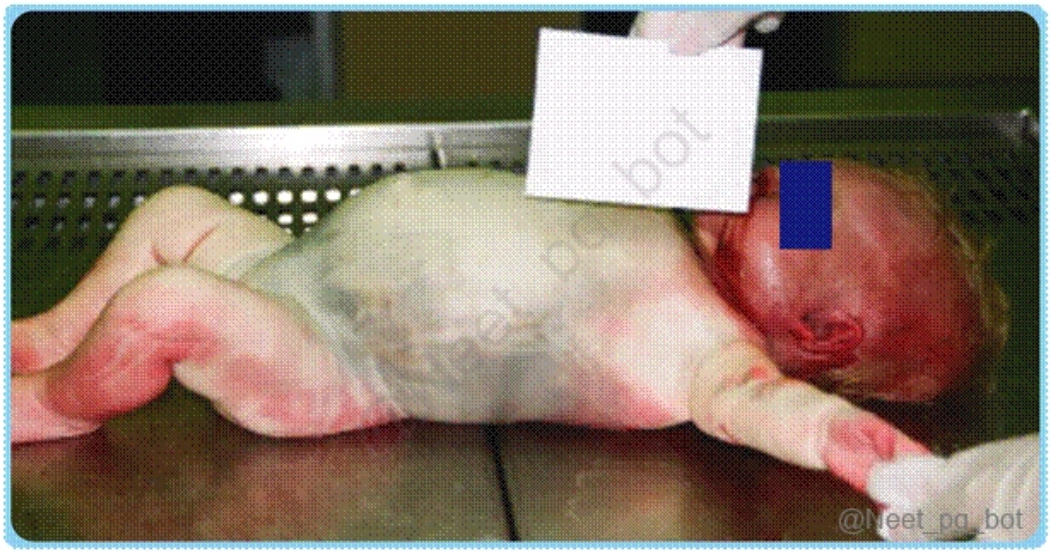
Q2: In a dead body, bloating of face, tongue protrusions were noted along with the findings in the image. Identify the phenomenon: (Q858474)

A. Electrocution

B. Crocodile burns

C. Scalds

D. Putrefaction



See Answer in Part B → Q2

@Neet_pg_bot

Q3: A child who is a victim under the POCSO Act is brought to the Department of forensic medicine for age estimation. The X-ray image of the hand is shown below. What is the likely age of the child? (Q854900)

A. 4 years

B. 7 years

C. 10 years

D. 13 years



See Answer in Part B → Q3

@Neet_pg_bot

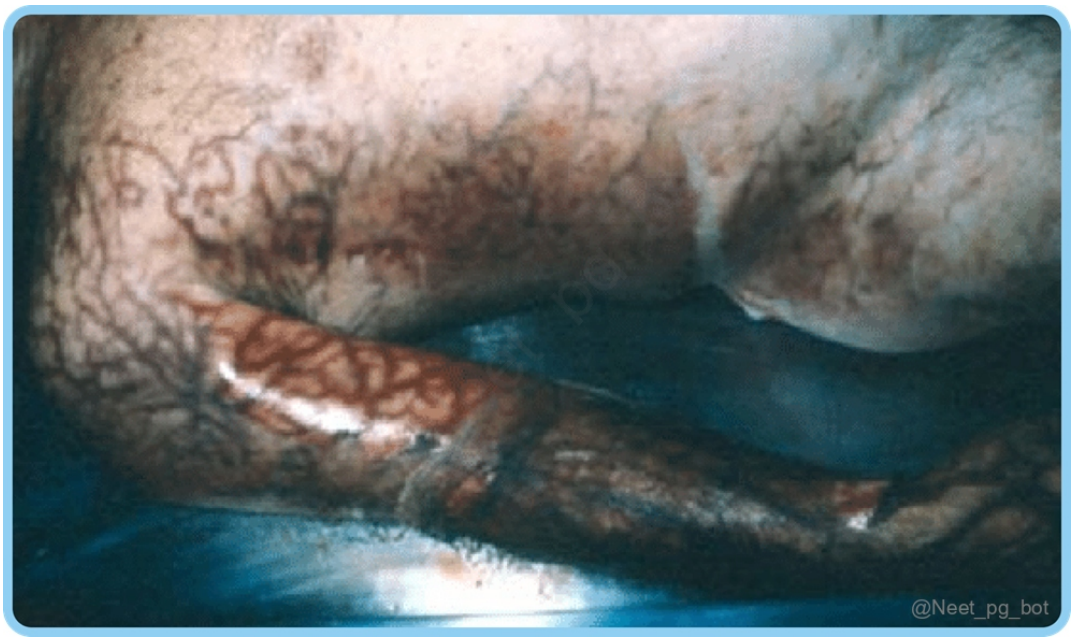
Q4: Which of the following is true regarding the post-mortem change shown in the image given below? (Q856306)

A. Seen within first 12 hours of death

B. It occurs due to the accumulation of deoxygenated blood

C. It results due to bacterial activity

D. It is seen in case of lightning



See Answer in Part B → Q4

@Neet_pg_bot

Q5: The phenomenon shown below is typically seen in the case of ? (Q856282)

A. Case of torture phalanges

B. Case of suspension or hanging more than 72 hours

C. Case of immersion in water for 36 hours

D. Case of colliquative liquefaction due to immersion in hot water



See Answer in Part B → Q5

@Neet_pg_bot

Q6: Identify the following post mortem change: (Q855316)

A. Tattooing

B. Suggillation

C. Putrefaction

D. Decomposition



See Answer in Part B → Q6

@Neet_pg_bot

Q7: In an autopsy of suspected poisoning, which organ, along with the stomach, part of the intestine, and liver, is preserved? (Q857649)

A. Kidney

B. Lungs

C. Muscle

D. Heart

See Answer in Part B → Q7

@Neet_pg_bot

Q8: What is the first postmortem change that occurs in a dead body? (Q857047)

A. Maggot formation

B. Putrefaction

C. Greenish discoloration of right iliac fossa

D. Mummification

See Answer in Part B → Q8

@Neet_pg_bot

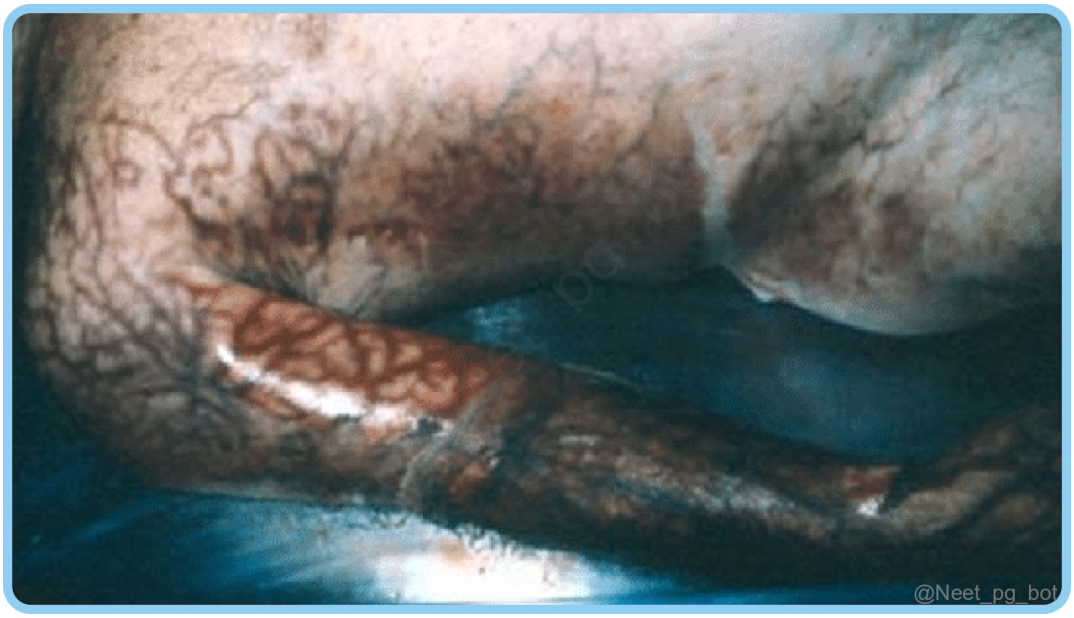
Q9: Identify the postmortem change given in the following image. (Q855787)

A. Marbling

B. Tattooing

C. Lividity

D. Filigree burns



See Answer in Part B → Q9

@Neet_pg_bot

Q10: Study of death in all aspects is known as: (Q858040)

A. Thanatology

B. Forensic anthropology

C. Toxicology

D. Molecular death

See Answer in Part B → Q10

@Neet_pg_bot

Q11: All of the following changes occur in chronic starvation except? (Q857941)

A. Hyperthermia

B. Exhaustion

C. Heart atrophy

D. Hypotension

See Answer in Part B → Q11

@Neet_pg_bot

Q12: What is the Zasko phenomenon? (Q866421)

A. Tendon reflex occurring after death

B. Seepage of blood from wounds around time of death

C. Clotting of blood after death

D. Gaping of wound along tension lines

See Answer in Part B → Q12

@Neet_pg_bot

Q13: The temperature of the body of a deceased person is found to be 39°C. Which of the following is the most probable reason? (Q855268)

A. Cyanide poisoning

B. Septicemia

C. Corrosive poisoning

D. Intra-abdominal hemorrhage

See Answer in Part B → Q13

@Neet_pg_bot

Q14: A 42-year-old HIV-positive patient died, and his body was brought for post-mortem. The method of autopsy to be done is: (Q855245)

A. Ghon technique

B. Letulle technique

C. Virchow technique

D. Rokitansky technique

See Answer in Part B → Q14

@Neet_pg_bot

Q15: The method of autopsy carried out en masse to remove from the tongue to the prostate is: (Q855243)

A. Virchow technique

B. Rokitansky technique

C. Ghon technique

D. Letulle technique

See Answer in Part B → Q15

@Neet_pg_bot

Q16: Cadaveric spasm is seen in death due to all of the following except? (Q854646)

A. Suicidal gun-shot wound

B. Electrocution

C. Drowning

D. Traumatic asphyxia

See Answer in Part B → Q16

@Neet_pg_bot

Q17: Which of the following eye signs can be appreciated in the image? (Q860449)

A. Tache noire

B. Kevorkian sign

C. Corneal changes

D. Vitreous humour changes



See Answer in Part B → Q17

@Neet_pg_bot

Q18: Which of the following is true regarding adipocere formation? (Q844168)

A. Preservation by saponification

B. High temperature needed

C. Cool and dry climate needed

D. Occurs within minutes to hours

See Answer in Part B → Q18

@Neet_pg_bot

Q19: In medicolegal examination accused 18 year old male claims he is 16 year old. Which joint x-ray should be done? (Q844147)

A. Head & shoulder

B. Elbow and ankle

C. Knee and wrist

D. Elbow & hip

See Answer in Part B → Q19

@Neet_pg_bot

Q20: The dead body shows the following finding as in image . What is this case? (Q844142)

A. Hanging

B. Throttling

C. Choking

D. Smothering



See Answer in Part B → Q20

@Neet_pg_bot

Q21: A body brought for autopsy is cold and has developed rigor mortis in all 4 limbs and livor mortis at the back/fixed, but no signs of putrefaction. What will be the estimated time since death? (Q852471)

A. 12-24 hrs

B. 6-12 hrs

C. 24-48 hrs

D. 36-48 hrs

See Answer in Part B → Q21

@Neet_pg_bot

• [03_Post Mortem Techniques] 006 Postmortem Autopsy And Torture

« Back to Folder Directory

[03_Post Mortem Techniques] 006 Postmortem Autopsy And Torture — Quick Jump

Q1 (p. 95)	*Q2 (p. 96)*	*Q3 (p. 96)*	*Q4 (p. 96)*	*Q5 (p. 97)*	*Q6 (p. 97)*
Q7 (p. 97)	*Q8 (p. 98)*	*Q9 (p. 98)*	*Q10 (p. 98)*	*Q11 (p. 99)*	*Q12 (p. 100)*
Q13 (p. 100)	*Q14 (p. 101)*	*Q15 (p. 101)*	*Q16 (p. 102)*	*Q17 (p. 103)*	*Q18 (p. 103)*
Q19 (p. 104)	*Q20 (p. 104)*	*Q21 (p. 104)*	*Q22 (p. 105)*	*Q23 (p. 105)*	*Q24 (p. 106)*

Q1: What is the type of torture mentioned in the image given below? (Q846938)

A. Telefono

B. Falanga

C. Passing the board

D. Nail torture



@Neet_pg_bot

See Answer in Part B → Q1

@Neet_pg_bot

Q2: Which of the following enzymes is of diagnostic value to confirm an anaphylactic death? (Q885937)

A. Amylase

B. Chymase

C. Tryptase

D. Lactase

See Answer in Part B → Q2

@Neet_pg_bot

Q3: In cases of conflagration, which of the following metals is most likely to be detected in the charred human remains? (Q885935)

A. Mercury

B. Arsenic

C. Cadmium

D. Lead

See Answer in Part B → Q3

@Neet_pg_bot

Q4: Consider the following statements regarding second autopsy: A second autopsy may be conducted to verify or challenge the findings of the first autopsy. It can be performed only with proper legal permission. The findings of a second autopsy are not admissible in court. Second autopsies are commonly performed in cases of suspected foul play or dispute over cause of death. (Q885930)

A. 1 and 2 only

B. 1, 2, and 4 only

C. 2 and 3 only

D. All of the above

See Answer in Part B → Q4

@Neet_pg_bot

Q5: Which of the following is a confirmatory sign of live birth? (Q885926)

A. Presence of lanugo

B. Hydrostatic (lung float) test positive

C. Vernix caseosa on the skin

D. Presence of meconium in the intestine

See Answer in Part B → Q5

@Neet_pg_bot

Q6: Raygat’s test is used to determine: (Q885925)

A. Whether the newborn had breathed

B. Whether the child was born alive

C. Presence of air in the stomach and intestines

D. Whether milk was ingested by the newborn

See Answer in Part B → Q6

@Neet_pg_bot

Q7: Breslau’s second life test is used to determine: (Q885921)

A. Whether the newborn had breathed

B. Whether the child was born alive

C. Whether respiration occurred in utero

D. Whether air entered the lungs due to putrefaction

See Answer in Part B → Q7

@Neet_pg_bot

Q8: Letulle method of autopsy refers to removal of: (Q885854)

A. Individual organs one by one

B. Thoracic and abdominal organs in separate blocks

C. All thoracic, abdominal, pelvic and cervical organs together as a single block

D. Only thoracic organs as a single mass

See Answer in Part B → Q8

@Neet_pg_bot

Q9: Autopsy should be conducted at the body recovery site in which of the following cases? (Q885849)

A. Advanced decomposed body

B. Body recovered from a mass disaster site

C. Body recovered from water

D. Burnt body recovered from closed premises

See Answer in Part B → Q9

@Neet_pg_bot

Q10: Corpus delicti refers to: (Q885842)

A. Confession of the accused

B. Dead body of the victim in all cases

C. Proof that a crime has been committed

D. Motive behind the crime

See Answer in Part B → Q10

@Neet_pg_bot

Q11: What is the type of torture mentioned in the image given below? (Q846940)

A. Wet Submarine

B. Black Slave

C. Iron Chair

D. Judas cradle



See Answer in Part B → Q11

@Neet_pg_bot

Q12: What is the type of torture mentioned in the image given below? (Q846939)

A. La Bandera

B. Parrot Perch

C. Crucifixion

D. Jack Knife Position



See Answer in Part B → Q12

@Neet_pg_bot

Q13: Which of the following statements about medicolegal autopsy is wrong? (Q846926)

A. Always complete autopsy

B. Consent of kin is required

C. Requisition from police or magistrate is required

D. Objective reporting to the police or magistrate is required

See Answer in Part B → Q13

@Neet_pg_bot

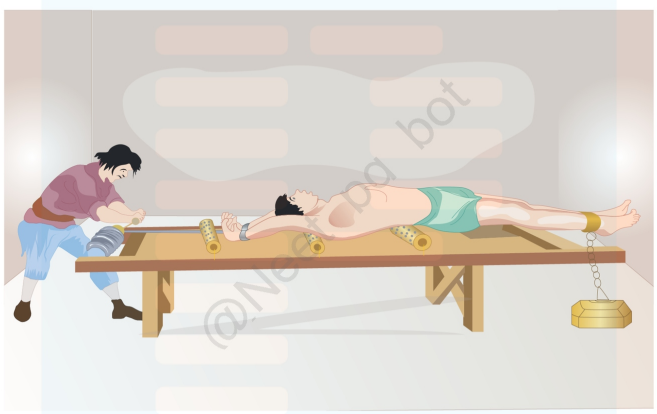
Q14: What is the type of torture mentioned in the image given below? (Q846937)

A. Chepuwa

B. Belana

C. Sawhorse

D. Operating table



See Answer in Part B → Q14

@Neet_pg_bot

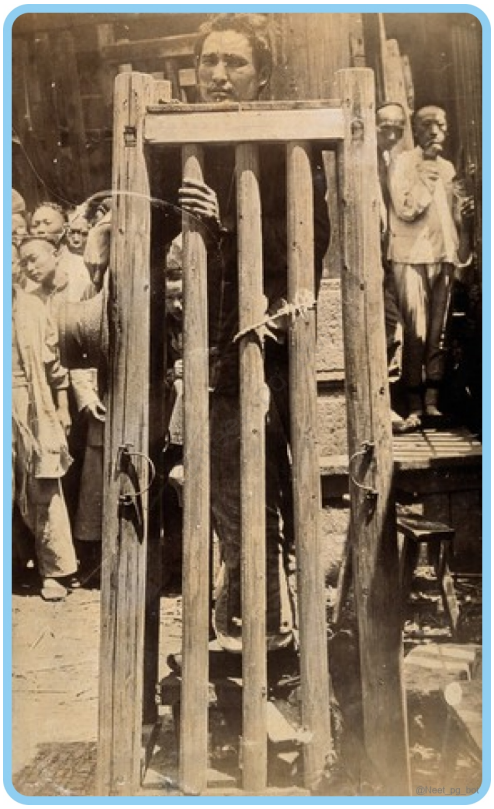
Q15: What is the type of torture mentioned in the image given below? (Q846936)

A. Scaphism

B. Dry Submarine

C. Picana

D. El Plantón



See Answer in Part B → Q15

@Neet_pg_bot

Q16: A 45-year-old man who had been incarcerated for political dissent is reported to have died under suspicious circumstances. The autopsy reveals multiple injuries consistent with physical torture. In considering international guidelines for the medical investigation of such cases, which key document outlines principles and standards for identifying and investigating torture for a Police Surgeon? (Q846935)

A. Declaration of Tokyo

B. Istanbul Protocol

C. Declaration of Helsinki

D. Nuremberg Code

See Answer in Part B → Q16

@Neet_pg_bot

Q17: A 45-year-old man was found dead under suspicious circumstances, and his body was buried without a post-mortem examination. Months later, new evidence suggests foul play, and the family now requests further investigation. The local police inspector wishes to exhume the body to re-examine the cause of death. Which of the following authorities is legally empowered to order an exhumation in this case? A) Police Inspector B) First Class Magistrate C) Sub-Inspector of Police D) Medical Officer E) Sub-Divisional Magistrate (Q846934)

A. All except D

B. All except C and D

C. Only B and E

D. None of the above

See Answer in Part B → Q17

@Neet_pg_bot

Q18: A 28-year-old man is found dead at home and poisoning is suspected. During the autopsy, the forensic pathologist decides to dissect the stomach to examine its contents. Which of the following is the most appropriate procedure for stomach dissection to preserve evidence of poisoning and ensure accurate forensic analysis? (Q846933)

A. Open the stomach along the greater curvature and discard the contents

B. Open the stomach along the lesser curvature and collect the contents for toxicology

C. Open the stomach along the greater curvature and collect the contents for toxicology

D. Incise the stomach along the pylorus and drain the contents into the small intestine

See Answer in Part B → Q18

@Neet_pg_bot

Q19: A 35-year-old male is found dead in his apartment under suspicious circumstances. External examination reveals petechial hemorrhages around the eyes, with no obvious external trauma. The circumstances suggest a possible asphyxial death. During autopsy, which of the following should be opened first to identify definitive signs of asphyxia? (Q846932)

A. Skull and abdomen

B. Neck and thorax

C. Thorax and abdomen

D. Skull and thorax

See Answer in Part B → Q19

@Neet_pg_bot

Q20: In a forensic autopsy of a female victim needing comprehensive thoracic, abdominal, and neck organ inspection, especially neck structures vital for hanging or strangulation cases, which incision best balances access with cosmetic body preservation? (Q846931)

A. I-shaped Incision

B. Y-shaped Incision

C. Modified Y-shaped Incision

D. T-shaped Incision

See Answer in Part B → Q20

@Neet_pg_bot

Q21: A 60-year-old man was discovered deceased under suspicious circumstances, and a full medico-legal autopsy was requested to establish the cause of death. During the procedure, the pathologist employed a technique in which each organ is removed and examined individually, instead of removing all the organs together in one mass. Which autopsy technique does this describe? (Q846930)

A. Letulle

B. Rokitansky

C. Gohn

D. Virchow

See Answer in Part B → Q21

@Neet_pg_bot

Q22: 2-5% of autopsies cannot determine the cause of death even after extensive lab investigations. What are such autopsies called? (Q846929)

A. Obscure autopsy

B. Negative autopsy

C. Virtual autopsy

D. Clinical autopsy

See Answer in Part B → Q22

@Neet_pg_bot

Q23: Given below are a few statements on various kinds of autopsy. Which of them is true? A psychological autopsy is done after suicide. Virtopsy combines 2D surface scanning/CAD photogrammetry with radiologic imaging like MRI. Psychological autopsy involves data collection. The ability to identify the infection status of antemortem from postmortem wounds is limited in Virtopsy. Easy to identify postmortem artifacts using Virtopsy (Q846928)

A. All are true

B. All except 2, 4 and 5

C. All except 2 and 4

D. All except 2 and 5

See Answer in Part B → Q23

@Neet_pg_bot

Q24: Which of the following statements regarding clinical autopsy is false? (Q846927)

A. Consent from kin is required

B. Requested by a clinician

C. Always complete

D. Tests are done in a medical laboratory

See Answer in Part B → Q24

@Neet_pg_bot

• [03_Post Mortem Techniques] 007 Previous Year Questions

« Back to Folder Directory

[03_Post Mortem Techniques] 007 Previous Year Questions — Quick Jump

Q1 (p. 107) *Q2 (p. 107)* *Q3 (p. 108)* *Q4 (p. 108)* *Q5 (p. 108)* *Q6 (p. 109)* *Q7 (p. 109)*

Q1: A family died in a closed room that was full of smoke from a wood fire. Which of the following findings is likely to be seen on the body? (Q860438)

A. Cherry red hypostasis

B. Cyanosis

C. Blackish discoloration

D. Brown colored pigmentation

See Answer in Part B → Q1

@Neet_pg_bot

Q2: A person dies suddenly, and his family is abroad. During the autopsy, his viscera are preserved for toxicological analysis. Which of the following substances can still be detected in the visceral organs even if it was not recently ingested before death? (Q860502)

A. Morphine

B. Aconite

C. Arsenic

D. Alcohol

See Answer in Part B → Q2

@Neet_pg_bot

Q3: In a fetal autopsy, why is it important to open the abdomen and note the position of the diaphragm by passing a finger before opening the thorax? (Q840092)

A. To accurately measure abdominal organ size

B. To confirm the diaphragmatic position to avoid postmortem air artifact in the lungs

C. To check for intra-abdominal hemorrhage before thoracic examination

D. To evaluate gastrointestinal malformations early in the autopsy

See Answer in Part B → Q3

@Neet_pg_bot

Q4: Blood during autopsy is preserved in? (Q860079)

A. NaF

B. NaCl

C. Formalin

D. Rectified spirit

See Answer in Part B → Q4

@Neet_pg_bot

Q5: During a police investigation, some bones are uncovered from the crime scene. Which of the following tests would aid in differentiating between human and canine bones, during the forensic analysis? (Q860091)

A. Precipitin test

B. Acid-phosphatase

C. LDH

D. Teichmann test

See Answer in Part B → Q5

@Neet_pg_bot

Q6: What is the typical shape of the algor mortis cooling curve? (Q830732)

A. Hyperbolic

B. Sigmoid

C. Linear

D. Parabolic

See Answer in Part B → Q6

@Neet_pg_bot

Q7: What is the specific name of the test performed by the doctor during the autopsy where they tied the bronchus and submerged the lung in water to determine if it floats or sinks? (Q859427)

A. Gettler's test

B. Ploucquet's test

C. Hydrostatic test

D. Diatom's test

See Answer in Part B → Q7

@Neet_pg_bot

• [04_Forensic Traumatology] 008 Mechanical Injuries

« Back to Folder Directory

[04_Forensic Traumatology] 008 Mechanical Injuries — Quick Jump

Q1 (p. 110)	*Q2 (p. 110)*	*Q3 (p. 111)*	*Q4 (p. 112)*	*Q5 (p. 112)*	*Q6 (p. 113)*
Q7 (p. 113)	*Q8 (p. 114)*	*Q9 (p. 114)*	*Q10 (p. 115)*	*Q11 (p. 115)*	*Q12 (p. 116)*
Q13 (p. 116)	*Q14 (p. 117)*	*Q15 (p. 117)*	*Q16 (p. 117)*	*Q17 (p. 118)*	*Q18 (p. 119)*
Q19 (p. 119)	*Q20 (p. 120)*	*Q21 (p. 121)*	*Q22 (p. 121)*	*Q23 (p. 122)*	*Q24 (p. 122)*
Q25 (p. 123)	*Q26 (p. 124)*	*Q27 (p. 125)*	*Q28 (p. 125)*	*Q29 (p. 126)*	*Q30 (p. 126)*
Q31 (p. 127)	*Q32 (p. 128)*	*Q33 (p. 128)*	*Q34 (p. 129)*		

Q1: Blunt force trauma produces bruises more readily in areas with loose connective tissue. Which region is most likely to show early and prominent bruising? (Q885957)

A. Shin

B. Forearm

C. Buttock

D. Legs

See Answer in Part B → Q1

@Neet_pg_bot

Q2: A forensic surgeon is examining multiple stab wounds on a homicide victim. The wounds are wedge-shaped as in the image: Which of the following weapons is likely the cause of the injury here? (Q847158)

A. Scissors

B. Single-edged knife

C. Double-edged knife

D. Broken glass bottleneck



Wedge shaped stab wound

@Neet_pg_bot

See Answer in Part B → Q2

@Neet_pg_bot

Q3: Assertion : The appearance and shape of stab wounds are significantly influenced by the orientation of Langer's lines on the skin. Reason : Stab wounds that are parallel to Langer's lines tend to be narrow and slit-shaped, while those that cut across the lines may gape due to skin elasticity and the tension created along these lines. Analyze the above statements and answer accordingly. (Q847161)

A. Both assertion and reason are correct and the reason is the right explanation

B. The assertion is wrong but the reason is correct

C. Both assertion and reason are wrong

D. The assertion is true but the reason is wrong

See Answer in Part B → Q3

@Neet_pg_bot

Q4: An old method of suicide conducted by Japanese samurai warriors as a ritual is shown below. Identify the cause of death in such cases. (Q847165)

A. Hypovolemic shock

B. Asphyxia

C. Vasovagal inhibition

D. Hypoxemia



See Answer in Part B → Q4

@Neet_pg_bot

Q5: A 30-year-old woman was attacked with an axe and suffered a chop wound from it. Which of the following is true about a chop wound? (Q847168)

A. The wound is a laceration on the surface and does not involve the underlying bone

B. The dimensions of the wound do not correspond to the weapon size

C. The margins of the wound are always irregular

D. The heel of the axe leaves a deeper wound than the toe of the axe

See Answer in Part B → Q5

@Neet_pg_bot

Q6: A victim of an attack displays several injuries on the palms, flexor sides of the fingers, and interdigital spaces and are irregular and ragged cuts. Which of the following best describes the nature of these injuries? (Q847171)

A. Passive defense injuries sustained while raising arms for protection

B. Active defense injuries sustained while attempting to grasp the weapon

C. Lacerations from a blunt weapon

D. Injuries caused by falling onto a sharp object

See Answer in Part B → Q6

@Neet_pg_bot

Q7: A road traffic accident victim is noted to have the injuries shown in the image given below. These injuries involve loss of skin limited to which layer? (Q885950)

A. Partial thickness of epidermis

B. Full thickness of epidermis

C. Epidermis with superficial dermis

D. Epidermis with full dermis



See Answer in Part B → Q7

@Neet_pg_bot

Q8: During medicolegal examination, an abrasion shows tapering at one end due to sliding contact. Which feature best determines the direction in which the force was applied? (Q885953)

A. Presence of epidermal tags

B. Marginal bruising

C. Terminal tailing of the lesion

D. Crushed hair shafts

See Answer in Part B → Q8

@Neet_pg_bot

Q9: Which of the following statements regarding wounds and vital reactions is incorrect? (Q885956)

A. Injuries inflicted during life show an inflammatory response

B. Injuries sustained after death show active bleeding

C. Postmortem injuries lack tissue reaction

D. Antemortem injuries exhibit tissue response

See Answer in Part B → Q9

@Neet_pg_bot

Q10: A forensic surgeon is examining a stab wound on a victim. Which of the following statement/s is/are true about the dimensions of the wound? Breadth of the wound is equal to the thickness of the weapon Depth is the greatest dimension of a stab wound The edges of the wound are clean-cut The length of the wound is usually slightly more than the width (Q847157)

A. 1, 2, and 3

B. 2,3

C. 1 and 3

D. All are correct

See Answer in Part B → Q10

@Neet_pg_bot

Q11: A forensic expert is asked to estimate the age of a contusion in a suspected assault victim. Which method provides the most reliable estimation? (Q885975)

A. Gross colour changes

B. Detection of green pigmentation

C. Microscopic tissue examination

D. Chemical staining alone

See Answer in Part B → Q11

@Neet_pg_bot

Q12: At autopsy, discoloration is noted over dependent areas of the body. Which procedure helps confirm whether the finding represents true bruising? (Q885977)

A. Gettler's test

B. Incising the discoloured area

C. Benzidine test

D. Precipitin reaction



See Answer in Part B → Q12

@Neet_pg_bot

Q13: A penetrating injury with symmetrical margins and a wedge-like appearance is observed during examination. Which weapon is most consistent with this injury? (Q885981)

A. Single-edged blade

B. Serrated knife

C. Double-edged blade

D. Blunt metallic rod

See Answer in Part B → Q13

@Neet_pg_bot

Q14: While examining a cut injury produced over a bony surface, which of the following findings would favour an incised wound rather than a split laceration? (Q885984)

A. Linear cut mark on the underlying bone

B. Hair shafts bridging across the wound

C. Tissue bridges seen within the wound cavity

D. Surrounding contusion at the wound margins

See Answer in Part B → Q14

@Neet_pg_bot

Q15: A blunt force injury produces a laceration with characteristic radiating skin tears at both ends. What is this appearance called? (Q885986)

A. Sparrow’s foot

B. Wedging

C. Fish tailing

D. Swallow tailing

See Answer in Part B → Q15

@Neet_pg_bot

Q16: During autopsy, several superficial, parallel, linear cuts are observed along the ulnar aspect of the forearm. These findings are most suggestive of which manner of injury? (Q885990)

A. Defence injuries

B. Self-mutilation

C. Tentative cuts

D. Accidental sharp injury



See Answer in Part B → Q16

@Neet_pg_bot

Q17: Histopathological examination of a wound shows polymorphonuclear leukocyte infiltration. What is the minimum time after injury when this change is typically observed? (Q885995)

A. Within 2 hours

B. Between 4-12 hours

C. Between 12-24 hours

D. After 72 hours

See Answer in Part B → Q17

@Neet_pg_bot

Q18: Which of the following statements accurately describes the differences between a bruise and hypostasis? (Q847133)

A. Bruises are caused by ruptured vessels, but hypostasis from distension of vessels.

B. Bruises typically have clearly defined margins, but hypostasis merges with the surrounding area.

C. Bruises are often seen in the most dependent parts of the body, but hypostasis is only present at the site of injury.

D. Bruises do not cause elevation of the affected area, while hypostasis may cause swelling.

See Answer in Part B → Q18

@Neet_pg_bot

Q19: A 30-year-old man was involved in a road traffic accident and presented with abrasion marks visible on his body. The abrasion pattern appears consistent with a distinct type of injury mechanism. Based on the image provided, what type of abrasion is most likely in this scenario? (Q847004)

A. Linear Abrasion

B. Grazed Abrasion

C. Imprint Abrasion

D. Pressure Abrasion



See Answer in Part B → Q19

@Neet_pg_bot

Q20: Which of the following statements is correct regarding the forensic findings given in the following image? (Q847027)

A. Pressure abrasion marks are always superficial and heal without scarring.

B. Continuous vertical force can cause damage to both the epidermis and underlying structures.

C. Ligature marks caused by hanging do not show epidermal crushing.

D. Abrasions from strangulation are typically caused by horizontal shearing forces.



See Answer in Part B → Q20

@Neet_pg_bot

Q21: A 35-year-old male is being evaluated for injuries as part of a medico-legal case. During the examination, an abrasion wound is noted to be brown in color. Based on the appearance of the wound, what is the most likely time since the injury occurred? (Q847034)

A. 12-24 hours

B. 2-3 days

C. 4-5 days

D. 6-7 days

See Answer in Part B → Q21

@Neet_pg_bot

Q22: Which of the following statements correctly differentiates between postmortem and antemortem abrasions? (Q847043)

A. Antemortem abrasions are yellowish-white or pale, whereas postmortem abrasions are reddish-brown to dark brown in color.

B. Postmortem abrasions are typically found on bony prominences, while antemortem abrasions can occur on any part of the body.

C. Congestion is definitive of postmortem abrasions.

D. Both postmortem and antemortem abrasions exhibit bleeding with clot formation.

See Answer in Part B → Q22

@Neet_pg_bot

Q23: A 45-year-old female presents to the emergency department following minor trauma from bumping into a table corner. Physical examination reveals a bluish discoloration on the thigh. Based on its appearance, what is the most likely age of the bruise? (Q847099)

A. Day 4

B. 5 to 6 days

C. Few hours to 3 days

D. 2 weeks

See Answer in Part B → Q23

@Neet_pg_bot

Q24: A 30-year-old man presents with multiple bruises on his body following a fight. Upon examination, the physician notes a specific pattern of bruising on his back as shown: What is this type of bruise called? (Q847106)

A. Battle sign

B. Spectacle hematoma

C. Railway line type

D. Automobile tyre pattern



See Answer in Part B → Q24

@Neet_pg_bot

Q25: Given below is the picture of a patient with history of fall from a bike the day before. What is the name of this finding? (Q847121)

A. Spectacle hematoma

B. Grey Turner’s sign

C. Cullen’s sign

D. Battle sign



See Answer in Part B → Q25

@Neet_pg_bot

Q26: A medicolegal case of assault is being examined at the emergency with the following contusions. What is the most likely explanation for the appearance of these bruises? (Q847126)

A. Natural bruises due to physical trauma

B. Artificial bruising to falsely accuse someone

C. Post-mortem bruising from blood settling

D. Bruising due to pre-existing medical condition



See Answer in Part B → Q26

@Neet_pg_bot

Q27: Which of the following is not a cause of injury due to sharp force? (Q847000)

A. Laceration

B. Incision

C. Stab

D. Chop

See Answer in Part B → Q27

@Neet_pg_bot

Q28: During an autopsy, the forensic pathologist observes an injury on the thigh, which shows irregular edges, bruising, and embedded dirt. On further examination,

the deeper tissues show uneven tearing, with visible nerve and blood vessel damage. What type of injury is most consistent with these findings? (Q847136)

A. Incised wound caused by a sharp object

B. Laceration caused by blunt force trauma

C. Abrasion caused by friction

D. Puncture wound from a sharp object

See Answer in Part B → Q28

@Neet_pg_bot

Q29: A 50-year-old woman presents to the emergency department after hitting her head on a metal beam. On examination, the wound has sharp edges but lacks undermining, and tissue bridges are visible. There is no significant underlying soft tissue present between the skin and the skull. What is the most likely type of injury? (Q847139)

A. Incised wound

B. Split laceration

C. Shearing laceration

D. Chop wound

See Answer in Part B → Q29

@Neet_pg_bot

Q30: A 32-year-old male was involved in a high-speed motor vehicle accident. Upon examination, the direction of the vehicle's movement can be inferred from the orientation of the skin flap, as shown in the image below. What is the most likely type of injury in this case? (Q847144)

A. Chop wound

B. Cut laceration

C. Stretch laceration

D. Tear laceration



See Answer in Part B → Q30

@Neet_pg_bot

Q31: During an autopsy of a 50-year-old male, the forensic pathologist observes a wound shown in the figure. Which of the following is correct regarding this type of wound? (Q847146)

A. Shallow at beginning, deeper towards end

B. Irregular margins with bruising

C. No significant hemorrhage

D. Clean, well-defined edges



See Answer in Part B → Q31

@Neet_pg_bot

Q32: A 45-year-old woman presents for a follow-up appointment after undergoing surgery for an abdominal incision. The physician observes that the wound is beginning to heal, with granulation tissue forming in the wound bed. What is the most likely duration of healing indicated by the presence of vascularized granulation tissue? (Q847151)

A. 7 days

B. 12 hours

C. 2–3 days

D. 4–6 days

See Answer in Part B → Q32

@Neet_pg_bot

Q33: A forensic pathologist examines a body and notes the following findings. What do these findings suggest? (Q847153)

A. The individual experienced a moment of hesitation before the fatal injury.

B. The injuries were caused by a blunt object.

C. The victim was attacked with a sharp instrument from a distance.

D. The wounds are consistent with self-inflicted injuries.



See Answer in Part B → Q33

@Neet_pg_bot

Q34: A homicidal case with a stab wound over the abdomen is being examined. The weapon has passed through and through with a larger entry wound and a smaller exit wound. Which type of wound is this classified as? (Q847154)

A. Puncture wound

B. Perforating wound

C. Penetrating wound

D. Concealed wound

See Answer in Part B → Q34

@Neet_pg_bot

• [04_Forensic Traumatology] 009 Regional Injuries

« Back to Folder Directory

[04_Forensic Traumatology] 009 Regional Injuries — Quick Jump

Q1 (p. 131) *Q2 (p. 131)* *Q3 (p. 131)* *Q4 (p. 132)* *Q5 (p. 133)* *Q6 (p. 133)*
Q7 (p. 133) *Q8 (p. 134)* *Q9 (p. 135)* *Q10 (p. 135)* *Q11 (p. 136)* *Q12 (p. 137)*
Q13 (p. 138) *Q14 (p. 138)* *Q15 (p. 138)* *Q16 (p. 139)*

Q1: What is the most commonly fractured bone in cases of basilar skull fractures? (Q847059)

A. Temporal bone

B. Occipital bone

C. Sphenoid bone

D. Frontal bone

See Answer in Part B → Q1

@Neet_pg_bot

Q2: In which of the following scenarios is a diastatic skull fracture most likely to occur? (Q847061)

A. An adult hit by a broad surface object

B. A child with increased intracranial pressure

C. A teenager experiencing a sports-related injury

D. An elderly person falling onto their buttocks

See Answer in Part B → Q2

@Neet_pg_bot

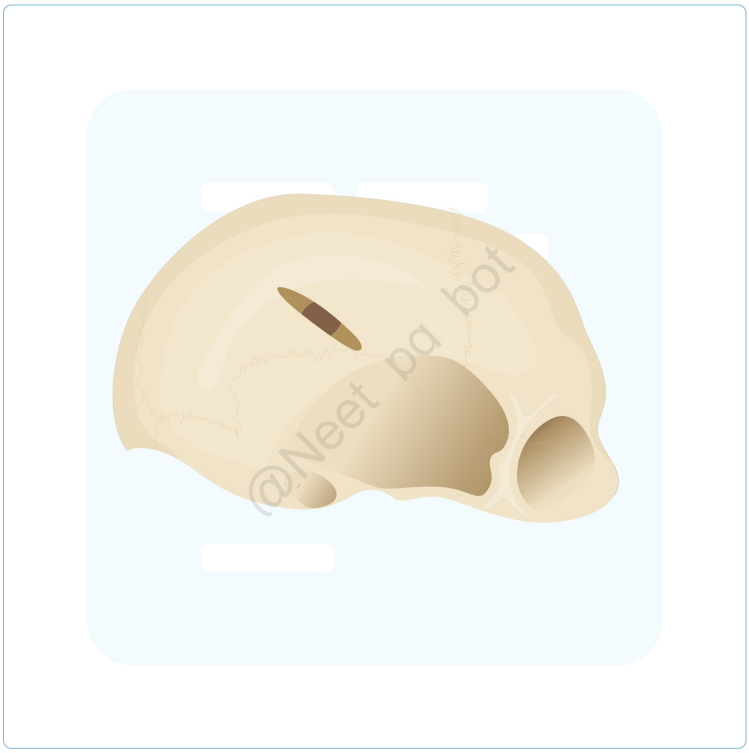
Q3: A 32 year old male is brought to the emergency after sustaining a gunshot wound to the head during a robbery. The bullet trajectory is reported as oblique. Which type of skull fracture is most commonly associated with this presentation? (Q847062)

A. Depressed fracture

B. Gutter fracture

C. Comminuted fracture

D. Elevated fracture



See Answer in Part B → Q3

@Neet_pg_bot

Q4: A “motorcyclist fracture," typically results from what type of impact? (Q847063)

A. Side impact

B. Direct blow to the chin

C. Heavy blow to the vertex

D. Blunt force to the occiput

See Answer in Part B → Q4

@Neet_pg_bot

Q5: A 25-year-old male presents with facial trauma after being struck in the eye during a sports accident. Which radiographic finding is most indicative of a blowout fracture of the orbit? (Q847064)

A. Spider web-like pattern on X-ray

B. Ping-pong ball dent appearance

C. Teardrop sign

D. Circular crack around the skull base

See Answer in Part B → Q5

@Neet_pg_bot

Q6: A 45 year old woman falls and strikes the back of her head on the ground. Upon examination, she exhibits signs of a contrecoup injury affecting the frontal lobe. Which of the following statements about her injury is incorrect? (Q847075)

A. The injury results from the brain striking the frontal skull after an initial impact on the occipital region

B. Contrecoup injuries are commonly associated with RTAs

C. Contrecoup injuries primarily affect the areas directly beneath the point of impact

D. The rotational forces during the fall could contribute to the contrecoup mechanism

See Answer in Part B → Q6

@Neet_pg_bot

Q7: In the context of intracranial haemorrhages, which of the following statements accurately describes the relationship between the layers of the cranial anatomy and the associated blood vessels? (Q847076)

A. The epidural space contains bridging veins.

B. The subdural space is located between the pia mater and the arachnoid mater.

C. The subarachnoid space contains arteries of the circle of Willis.

D. The middle meningeal artery is located between the dura mater and the arachnoid mater.

See Answer in Part B → Q7

@Neet_pg_bot

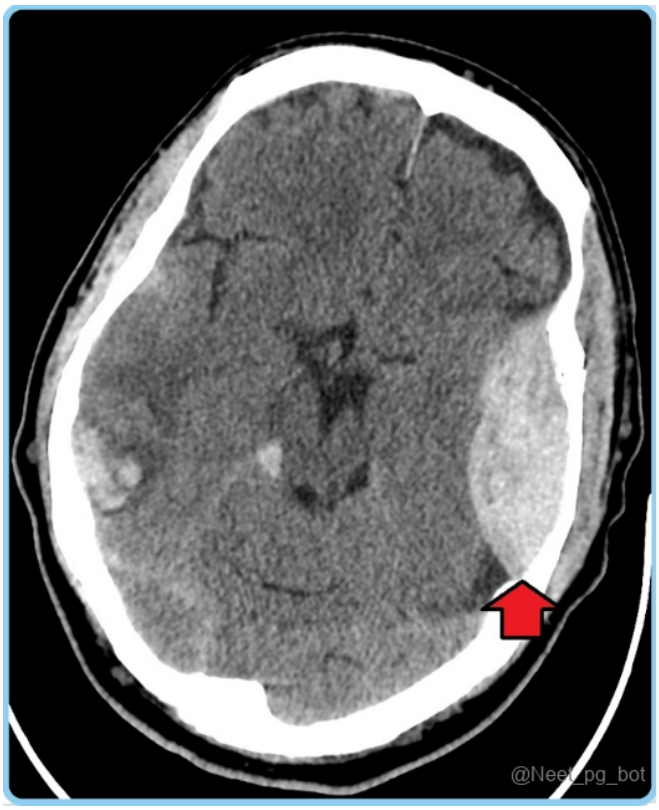
Q8: A 25 year old man is brought to the ED after a fall from a height. He was unconscious upon arrival, and a CT scan was done which revealed the following. What is the most likely underlying cause of this patient's condition? (Q847077)

A. Rupture of bridging veins

B. Rupture of the middle meningeal artery

C. Venous thrombosis

D. Subarachnoid hemorrhage



See Answer in Part B → Q8

@Neet_pg_bot

Q9: A forensic pathologist examines a body that has suffered extensive thermal injury. Which of the following characteristics would most likely indicate the presence of a heat hematoma as a postmortem finding? (Q847078)

A. Absence of carboxyhemoglobin

B. Reddish brown discolouration of the hematoma

C. Rupture of the meningeal artery

D. Honeycomb appearance of a blood clot

See Answer in Part B → Q9

@Neet_pg_bot

Q10: A 65 year old woman presents to the emergency department with confusion and headache that developed gradually over the past two weeks after a minor fall. A CT scan reveals an isodense lesion along the cerebral convexities. What is the most likely diagnosis? (Q847079)

A. Acute Subdural Hemorrhage

B. Subacute Subdural Hemorrhage

C. Chronic Subdural Hemorrhage

D. Epidural Hematoma



See Answer in Part B → Q10

@Neet_pg_bot

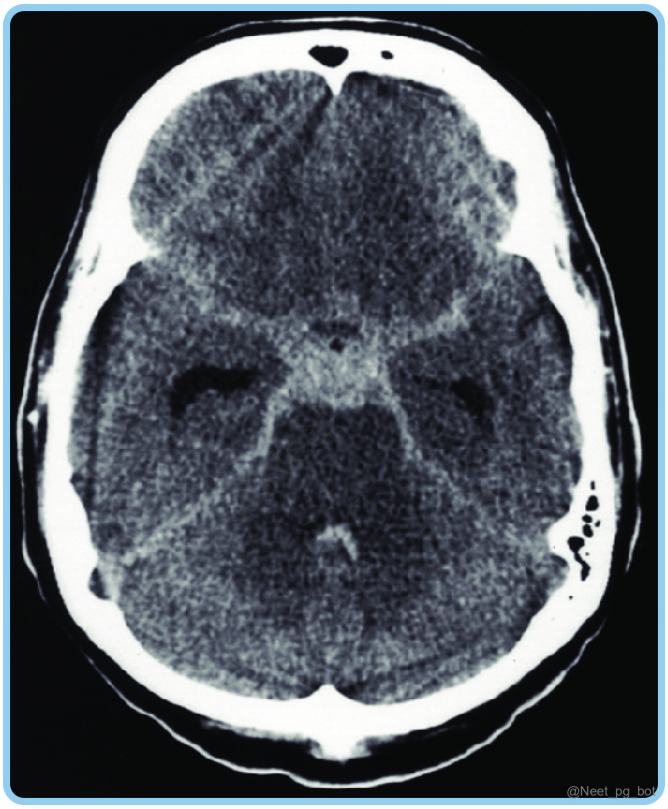
Q11: A 50 y/o man is found unconscious in his home after complaining of severe headache. A CT of the patient is given below. His medical history is significant for hypertension and smoking. Which of the following is the most likely underlying cause in this patient? (Q847095)

A. Ruptured berry aneurysm

B. Trauma from a fall

C. Hypertensive encephalopathy

D. Acute subdural haematoma



See Answer in Part B → Q11

@Neet_pg_bot

Q12: A retired boxer presents with a gradual decline in his coordination, memory, and speech over the past few years. His wife reports personality changes, including paranoia and social withdrawal. O/E, he displays dysarthria and broad-based gait. Which of the following is the most likely diagnosis? (Q847096)

A. Parkinson's disease

B. Alzheimer's disease

C. Dementia pugilistica

D. Multiple sclerosis

See Answer in Part B → Q12

@Neet_pg_bot

Q13: A 65 year old man with a history of hypertension presents to the ED with a sudden onset of weakness in his right arm and leg. He also complains of a severe headache and nausea. On examination, he has a decreased level of consciousness and right-sided hemiparesis. A CT scan shows a hyperdense lesion in the left basal ganglia. Which of the following is the most likely cause of his condition? (Q847097)

A. Epidural haematoma

B. Subarachnoid haemorrhage

C. Hypertensive intracerebral haemorrhage

D. Subdural haematoma

See Answer in Part B → Q13

@Neet_pg_bot

Q14: In cases of traumatic head injury, which of the following is considered the most common traumatic intracranial haemorrhage? (Q885997)

A. Extradural haemorrhage

B. Subarachnoid hemorrhage

C. Subdural haemorrhage

D. Cerebral contusion

See Answer in Part B → Q14

@Neet_pg_bot

Q15: During the medicolegal examination of a victim struck on the head with a heavy wooden log. However, on closer inspection with a magnifying glass, the doctor finds tissue bridges, crushed hair bulbs, and irregular margins. This injury is best classified as: (Q886000)

A. Incised wound

B. Split laceration

C. Chop wound

D. Contusion



See Answer in Part B → Q15

@Neet_pg_bot

Q16: During a postmortem examination of a victim found on a railway track, the image of the skull is given below. What is this type of fracture known as? (Q886003)

A. Depressed fracture

B. Mosaic fracture

C. Diastatic fracture

D. Pond fracture



See Answer in Part B → Q16

@Neet_pg_bot

• [04_Forensic Traumatology] 010 Thermal Injuries - I Incl Rta

« Back to Folder Directory

[04_Forensic Traumatology] 010 Thermal Injuries - I Incl Rta — Quick Jump

Q1 (p. 141)	*Q2 (p. 141)*	*Q3 (p. 141)*	*Q4 (p. 142)*	*Q5 (p. 142)*	*Q6 (p. 143)*
Q7 (p. 143)	*Q8 (p. 144)*	*Q9 (p. 144)*	*Q10 (p. 145)*	*Q11 (p. 145)*	*Q12 (p. 145)*
Q13 (p. 146)	*Q14 (p. 146)*	*Q15 (p. 146)*	*Q16 (p. 147)*	*Q17 (p. 147)*	*Q18 (p. 148)*
Q19 (p. 148)	*Q20 (p. 148)*	*Q21 (p. 149)*	*Q22 (p. 149)*	*Q23 (p. 150)*	

Q1: Which among the following is not seen in heat exhaustion? (Q853112)

A. Loss of thermoregulatory mechanism

B. Altered sensorium

C. Orthostatic hypotension

D. Core body temperature below 105 °F

See Answer in Part B → Q1

@Neet_pg_bot

Q2: Which of the following is a pathognomonic feature of a lightning strike injury? (Q847128)

A. Lichtenberg flowers

B. Joule burns

C. Crocodile skin lesions

D. Sparrow foot marks

See Answer in Part B → Q2

@Neet_pg_bot

Q3: What is the probable etiology of the patient's burn injury who presents to the outpatient department (OPD) with a dampened, erythematous, blistered lesion on the right thigh, along with a demarcation line that extends distally? (Q876266)

A. Electric burn

B. Chemical burn

C. Dry heat

D. Moist heat

See Answer in Part B → Q3

@Neet_pg_bot

Q4: Which type of fracture is most commonly associated with seat belt injuries in motor vehicle accidents? (Q847149)

A. Smith fracture

B. Chance fracture

C. Barton fracture

D. Colles fracture

See Answer in Part B → Q4

@Neet_pg_bot

Q5: Which among the following are usually associated with collisions over the dashboard during an RTA? 1) Posterior cruciate ligament injury 2) Posterior dislocation of hip 3) Patella fracture (Q847147)

A. 1, 2

B. 2, 3

C. 1, 3

D. 1, 2, 3

See Answer in Part B → Q5

@Neet_pg_bot

Q6: What is the most likely structure to be affected in this illustration shown? (Q847142)

A. DJ flexure of small intestine

B. Mesentery

C. Spleen

D. Liver



See Answer in Part B → Q6

@Neet_pg_bot

Q7: Person sustained a blow to the front of the chest by the steering wheel in an RTA. Which site of the aorta is most likely to be affected? (Q847141)

A. Ascending aorta - 1.5cms proximal to ligamentum arteriosum

B. Ascending aorta - 1.5cms distal to ligamentum arteriosum

C. Descending aorta - 1.5cms proximal to ligamentum arteriosum

D. Descending aorta - 1.5cms distal to ligamentum arteriosum

See Answer in Part B → Q7

@Neet_pg_bot

Q8: What is the mechanism of injury and common level affected in fracture-dislocation seen with whiplash injury? (Q847138)

A. Flexion-hyperextension; C3-C4

B. Sideways movement of head; C3-C4

C. Flexion-hyperextension; C5-C6

D. Sideways movement of head; C5-C6

See Answer in Part B → Q8

@Neet_pg_bot

Q9: Windshield impact to the front seat passenger may impact which among the following injuries? (Q847137)

A. Avulsion of forehead skin

B. Dicing injury

C. Sparrow foot marks

D. All of the above

See Answer in Part B → Q9

@Neet_pg_bot

Q10: Which of the following is a frequent type of injury seen in tertiary impact injuries? (Q847135)

A. Contrecoup injury

B. Tailgating injury

C. Terrible triad injury

D. Sparrow footmark injury

See Answer in Part B → Q10

@Neet_pg_bot

Q11: Which of the following is a classic pattern of injury seen in pedestrian children involved in road traffic accidents? (Q847132)

A. Tailgating

B. Whiplash

C. Waddell's Triad

D. Terrible Triad

See Answer in Part B → Q11

@Neet_pg_bot

Q12: What is a unique type of injury often associated with motorcyclists? (Q847130)

A. Bone pearls

B. Lichtenberg flowers

C. Whiplash

D. Tailgating

See Answer in Part B → Q12

@Neet_pg_bot

Q13: Which of the following statements accurately describes 'Hide and die' syndrome? (Q847072)

A. It occurs when hypothermic victims discard their clothing due to overheating sensations

B. It is characterized by the victim pulling household items over themselves or hiding in unusual places, due to mental confusion from hypothermia

C. It refers to a skin condition caused by prolonged exposure to cold, resulting in ulcerative lesions

D. It is the result of an intentional attempt by victims to escape from a dangerous situation

See Answer in Part B → Q13

@Neet_pg_bot

Q14: Which factor is considered more dangerous in causing electrocution? (Q847123)

A. AC current

B. DC current

C. Voltage = 50V

D. Dry skin

See Answer in Part B → Q14

@Neet_pg_bot

Q15: A forensic pathologist is tasked with determining whether the burns on a severely charred body occurred before or after death. During the examination, the pathologist observes a combination of findings, some of which are more suggestive of antemortem burns. Which of the following combinations of findings is least indicative

of antemortem burns? (Q847112)

A. Elevated carbon monoxide levels and soot in the trachea

B. Pugilistic attitude and blisters filled with clear fluid

C. Presence of an inflammatory reaction at the burn edges and cherry-red discoloration of the skin

D. Blisters filled with protein-rich fluid and soot in the upper respiratory tract

See Answer in Part B → Q15

@Neet_pg_bot

Q16: A police surgeon is tasked with determining whether the burns on a deceased individual occurred before or after death. The body was discovered in a residential fire, and toxicology revealed elevated carbon monoxide levels. Which among the following findings is more relatable to the elevated carbon monoxide levels? (Q847109)

A. Absence of soot in the upper respiratory tract

B. Blisters filled with clear fluid and air

C. Presence of an inflammatory reaction at the burn edges

D. Both B and C

See Answer in Part B → Q16

@Neet_pg_bot

Q17: A 25-year-old male weighing 75 kg sustains second-degree burns covering 40% of his total body surface area (TBSA) in an industrial accident. Using the Parkland formula, how much fluid should be administered in the first 24 hours? (Q847104)

A. 4,000 mL

B. 5,000 mL

C. 6,000 mL

D. 12,000 mL

See Answer in Part B → Q17

@Neet_pg_bot

Q18: A 7 year old child is admitted in ER with burns to the entire posterior trunk and the left lower limb. Using the Lund and Browder chart, calculate the percentage of total body surface area (TBSA) affected? (Q847102)

A. 25%

B. 35%

C. 36%

D. 40%

See Answer in Part B → Q18

@Neet_pg_bot

Q19: A 30-year-old male is brought to the emergency department with burns involving the anterior trunk and the anterior aspect of the right upper limb. Using the Wallace Rule of Nines, what is the approximate total body surface area (TBSA) affected? (Q847093)

A. 15–20%

B. 22–27%

C. 30–35%

D. 40–45%

See Answer in Part B → Q19

@Neet_pg_bot

Q20: Destruction of superficial skin is classified under which category in Wilson’s classification of burns? (Q847089)

A. Epidermal

B. Dermal

C. Dermo-epidermal

D. Deep

See Answer in Part B → Q20

@Neet_pg_bot

Q21: Match the following types of burns with its characteristics Type of heat Characteristic 1. Dry heat burn a. Vesicles over the burned area 2. Moist heat burn b. No vesicles present 3. Chemical burn c. Vesicles at the circumference of the burnt area (Q847085)

A. 1-a, 2-b, 3-c

B. 1-c, 2-b, 3-a

C. 1-c, 2-a, 3-b

D. 1-b, 2-c, 3-a

See Answer in Part B → Q21

@Neet_pg_bot

Q22: Which of the following statements regarding heat stroke is wrong? (Q847081)

A. Sweating is present

B. Core body temperature of more than 40.5°C

C. Failure of thermoregulation

D. Sudden collapse

See Answer in Part B → Q22

@Neet_pg_bot

Q23: Which of the following statements regarding immersion syndrome and frostbite is false? (Q847074)

A. Immersion syndrome affects the extremities

B. Pressure is applied in frostbite treatment

C. Dampness is required for immersion syndrome

D. Tetanus prophylaxis is given in frostbite cases with deep infection

See Answer in Part B → Q23

@Neet_pg_bot

• [04_Forensic Traumatology] 011 Previous Year Questions

« Back to Folder Directory

[04_Forensic Traumatology] 011 Previous Year Questions — Quick Jump

Q1 (p. 151)	*Q2 (p. 151)*	*Q3 (p. 152)*	*Q4 (p. 152)*	*Q5 (p. 153)*	*Q6 (p. 154)*
Q7 (p. 154)	*Q8 (p. 155)*	*Q9 (p. 156)*	*Q10 (p. 157)*	*Q11 (p. 157)*	*Q12 (p. 158)*
Q13 (p. 159)	*Q14 (p. 160)*	*Q15 (p. 160)*	*Q16 (p. 161)*	*Q17 (p. 162)*	*Q18 (p. 162)*
Q19 (p. 162)	*Q20 (p. 163)*	*Q21 (p. 163)*	*Q22 (p. 164)*	*Q23 (p. 164)*	*Q24 (p. 164)*
Q25 (p. 165)	*Q26 (p. 165)*	*Q27 (p. 166)*	*Q28 (p. 166)*	*Q29 (p. 167)*	*Q30 (p. 167)*
Q31 (p. 168)	*Q32 (p. 168)*	*Q33 (p. 168)*	*Q34 (p. 169)*	*Q35 (p. 169)*	

Q1: A man was working in a field and he suddenly collapsed on a hot summer afternoon. On examination, there were no physical signs of dehydration. His serum electrolyte level was normal. The doctor found that the body temperature was 106 degrees Fahrenheit. Which of the following symptoms is least likely to be seen in this patient? (Q856273)

A. Hot skin

B. Hypotension

C. Sweating

D. Disorientation

See Answer in Part B → Q1

@Neet_pg_bot

Q2: During an explosion, a patient sustains a crushed lower limb injury by collapse of a building. What type of blast injury does this represent? (Q866629)

A. Primary

B. Secondary

C. Tertiary

D. Quaternary

See Answer in Part B → Q2

@Neet_pg_bot

Q3: Identify the pattern of abrasion shown in the image below. (Q855774)

A. Pressure abrasion

B. Graze abrasion

C. Ligature mark

D. Imprint abrasion



See Answer in Part B → Q3

@Neet_pg_bot

Q4: The image provided shows a wound. What type of wound is it? (Q855811)

A. Contusion

B. Abrasion

C. Laceration

D. Stab wound



See Answer in Part B → Q4

@Neet_pg_bot

Q5: Post-mortem examination reveals specific findings. What is this finding known as? (Q855168)

A. Hesitation cuts

B. Grazed abrasion

C. Laceration

D. Patterned bruise



See Answer in Part B → Q5

@Neet_pg_bot

Q6: Paradoxical undressing is seen in : (Q855274)

A. Heart stress

B. Voyeurism

C. Hypothermia

D. LSD overdose

See Answer in Part B → Q6

@Neet_pg_bot

Q7: Identify the injury the image below : (Q855280)

A. Abrasion

B. Laceration

C. Bruise

D. Imprint



See Answer in Part B → Q7

@Neet_pg_bot

Q8: Name the type of skull fracture. (Q855300)

A. Depressed fracture

B. Hinge fracture

C. Pond fracture

D. Ring fracture



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See Answer in Part B → Q8

@Neet_pg_bot

Q9: Identify the lesion shown in the image below: (Q856269)

A. Laceration

B. Incised wound

C. Laceration-looking incised wound

D. Incised looking laceration



See Answer in Part B → Q9

@Neet_pg_bot

Q10: Which of the following injuries is not expected in a person brought to the hospital with a history of a road traffic accident (RTA)? (Q854649)

A. Contusion

B. Abrasions

C. Laceration

D. Chop wound

See Answer in Part B → Q10

@Neet_pg_bot

Q11: A middle-aged man was brought to the ER after an assault with a sharp axe. Identify the type of wound. (Q856344)

A. Incised wound

B. Chop wound

C. Lacerated wound

D. Abrasion



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See Answer in Part B → Q11

@Neet_pg_bot

Q12: A 12-year-old boy presents with an injury sustained during a football match after being tackled by an opponent. As the casualty medical officer, how would you describe the wound in the case sheet? (Q856345)

A. Incised wound

B. Abrasion

C. Laceration

D. Bruise



See Answer in Part B → Q12

@Neet_pg_bot

Q13: A dead body was found with a wound on the neck, with clean-cut edges, crushed tissues along with the disruption of the vertebral bones.Identify the type of wound. (Q859877)

A. Incised wound

B. Chop wound

C. Lacerated wound

D. Avulsion

See Answer in Part B → Q13

@Neet_pg_bot

Q14: Identify the type of wound from the image. (Q855839)

A. Defense wounds

B. Antemortem wound

C. Postmortem wound

D. Hesitation cuts



See Answer in Part B → Q14

@Neet_pg_bot

Q15: What is the most likely cause of death in a body with a horizontal ligature mark completely encircling the neck and located below the thyroid, with no dribbling of saliva? (Q855845)

A. Throttling

B. Ligature strangulation

C. Gagging

D. Hanging

See Answer in Part B → Q15

@Neet_pg_bot

Q16: The characteristic “crocodile burns’ pattern seen in the image is the most commonly associated with: (Q879116)

A. Electrical injury (high voltage)

B. Mummification

C. Adipocere formation

D. Coagulation burn



See Answer in Part B → Q16

@Neet_pg_bot

Q17: During autopsy examination, a forensic expert found blisters with soddening with a clear line of demarcation over the lower limbs and thigh. This indicates which type of burn? (Q879156)

A. Chemical burn

B. Dry burn

C. Lightening

D. Moist burn

See Answer in Part B → Q17

@Neet_pg_bot

Q18: A 35-year-old female patient is admitted to the emergency department following an accidental burn incident. On examination, it is noted that she has sustained burn injuries to her right upper limb, the entire right lower limb, and the entire front and back of her abdomen. Based on the rule of nine, what is the estimated percentage of her total body surface area (TBSA) that is burned? (Q860442)

A. 45%

B. 60%

C. 28%

D. 70%

See Answer in Part B → Q18

@Neet_pg_bot

Q19: The triad of abrasions, contusions, and lacerations is most diagnostic of which of the following? (Q865343)

A. Firearm injury

B. Bomb blast injury

C. Road Traffic Accident (RTA)

D. Strangulation

See Answer in Part B → Q19

@Neet_pg_bot

Q20: During autopsy, a body shows curved scratch marks below the right angle of the mandible, three grouped bruises on the left side of the neck below the thyroid cartilage, and additional bruises over the head, posterior shoulder, backside of the trunk, and hip crests. Fracture of the superior horn of the thyroid cartilage present. What is the most likely cause of death? (Q866416)

A. Throttling

B. Garroting

C. Mugging

D. Ligature strangulation

See Answer in Part B → Q20

@Neet_pg_bot

Q21: A person got stabbed in his anterior thigh and died. His body was brought for postmortem. What type of injury is this? (Q852470)

A. Incised wound

B. Penetrating wound

C. Puncture wound

D. Blunt force injury

See Answer in Part B → Q21

@Neet_pg_bot

Q22: What type of fracture is caused by a hammer? (Q852473)

A. Linear

B. Depressed

C. Hinge

D. Ring

See Answer in Part B → Q22

@Neet_pg_bot

Q23: A 3-year-old child presented with multiple burn injuries involving the entire head, neck & right upper limb. What is the percentage of burn? (Q852477)

A. 25-30%

B. 40-44%

C. 18-20%

D. 5-10%

See Answer in Part B → Q23

@Neet_pg_bot

Q24: Leading questions can be asked in? (Q852478)

A. Cross-examination

B. Re-examination

C. Anytime

D. Examination in chief

See Answer in Part B → Q24

@Neet_pg_bot

Q25: Sequence of rigor mortis is? (Q844100)

A. Center to periphery

B. Head to foot

C. Foot to head

D. Simultaneously

See Answer in Part B → Q25

@Neet_pg_bot

Q26: Identify the bullet range (Q844195)

A. Distant range

B. Close contact

C. Close range

D. Can not be predicted



See Answer in Part B → Q26

@Neet_pg_bot

Q27: A 42 year old patient, a case of road traffic accident presented with EDH due to involvement of Middle Meningeal Artery. Where will the impact of collision be? (Q820292)

A. Pterion

B. Angle of mandible

C. Lambdoid suture

D. Nasion

See Answer in Part B → Q27

@Neet_pg_bot

Q28: Which of the following is the bleeding vessel in extradural hemorrhage? (Q860475)

A. Middle meningeal artery

B. Bridging veins

C. Circle of Willis

D. Anterior cerebral artery

See Answer in Part B → Q28

@Neet_pg_bot

Q29: During measurement of a rifled barrel weapon, the caliber depends on? (Q860082)

A. Distance between two opposite lands

B. Distance between two opposite grooves

C. Number of lead pellets

D. Mass and velocity

See Answer in Part B → Q29

@Neet_pg_bot

Q30: Most common organ involved in seat-belt injury is? (Q860112)

A. Spleen

B. Liver

C. Pancreas

D. Hollow viscus

See Answer in Part B → Q30

@Neet_pg_bot

Q31: The most common organ injuries in air blast shock waves will be? (Q860118)

A. Intestine

B. Lungs

C. Kidney

D. Heart

See Answer in Part B → Q31

@Neet_pg_bot

Q32: During a forensic autopsy, a gunshot victim is examined, and the doctor observes that the firearm injury has a stellate shape. What will be the range of gunshot? (Q820278)

A. Close shot

B. Contact shot

C. Near shot

D. Distant shot

See Answer in Part B → Q32

@Neet_pg_bot

Q33: The dead body of a 30-year-old male drowning victim was brought in for autopsy. Upon examination, multiple cuts were observed on the victim's arm. What finding is likely to be seen in this scenario? (Q820288)

A. Defense wound

B. Self inflicted injury

C. Accidental cut wound from falling

D. Washer-women hands



See Answer in Part B → Q33

@Neet_pg_bot

Q34: Which of the following characteristics is not typically associated with a true bruise? (Q793579)

A. Negative chemical tests

B. Progression of the color of bruise over time

C. Irregular margins

D. Presence of Itching

See Answer in Part B → Q34

@Neet_pg_bot

Q35: During the examination of a victim of assault , you notice a wound with ragged, irregular and uneven margins with tears diverging at an angle from the end of the

main wound and typical swallowtails. Bleeding from this wound is not significant and shows crushed blood vessels and hair bulbs . You would document this wound as a/an. (Q793559)

A. Incised wound

B. Chopped wound

C. Stab wound

D. Lacerated wound

See Answer in Part B → Q35

@Neet_pg_bot

• [05_Ballistics] 012 Forensic Ballistics- I

« Back to Folder Directory

[05_Ballistics] 012 Forensic Ballistics- I — Quick Jump

Q1 (p. 171) *Q2 (p. 172)* *Q3 (p. 173)* *Q4 (p. 173)* *Q5 (p. 174)* *Q6 (p. 175)*
Q7 (p. 176) *Q8 (p. 177)* *Q9 (p. 177)* *Q10 (p. 177)* *Q11 (p. 178)* *Q12 (p. 178)*
Q13 (p. 179) *Q14 (p. 179)* *Q15 (p. 179)* *Q16 (p. 180)* *Q17 (p. 181)* *Q18 (p. 181)*
Q19 (p. 182) *Q20 (p. 182)* *Q21 (p. 183)* *Q22 (p. 184)* *Q23 (p. 184)* *Q24 (p. 184)*
Q25 (p. 185)

Q1: A 40-year-old male was found shot dead in a parking lot. Forensic examination revealed that the cause of death was a shotgun injury. Considering the type of injury, what is the probable range of the shot? (Q847221)

A. <1 metre

B. 1-2 metres

C. 2-4 metres

D. >4 metres



See Answer in Part B → Q1

@Neet_pg_bot

Q2: A 40-year-old laborer was involved in an explosion at a chemical plant caused by a faulty pressure valve. Rescued from a confined space, he arrived at the emergency department with respiratory distress and injuries shown in the image. What type of injury describes this condition? (Q847320)

A. Primary blast injury

B. Secondary blast injury

C. Tertiary blast injury

D. Quatenary blast injury



See Answer in Part B → Q2

@Neet_pg_bot

Q3: A 40-year-old male diver is brought to the emergency department after an underwater explosion and complains of severe abdominal pain, nausea, and difficulty breathing. Physical examination reveals tenderness in the abdomen. Which organ is most commonly injured in this patient due to the underwater blast? (Q847319)

A. Lungs

B. Stomach

C. Colon

D. Small intestine

See Answer in Part B → Q3

@Neet_pg_bot

Q4: A 35-year-old male construction worker was involved in a workplace explosion. Positioned near the blast's epicenter, he was swiftly taken to the emergency department with multiple injuries, including punctate abrasions, contusions, and lacerations as depicted in the image. What type of blast injury is most likely in this case? (Q847318)

A. Primary injury

B. Secondary injury

C. Tertiary injury

D. Quaternary injury



See Answer in Part B → Q4

@Neet_pg_bot

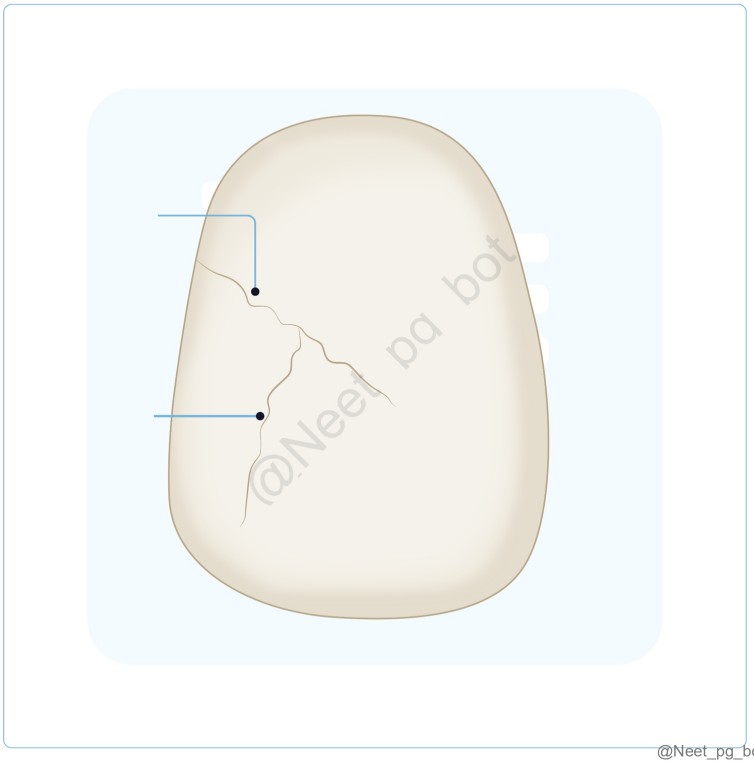
Q5: In the forensic analysis of cranial fractures, Puppe's Rule is applied to determine the sequence of impacts. According to this rule, when two fracture lines intersect ,as shown below, what can be inferred about their relationship? (Q847310)

A. The line that ends at the intersection is the newer injury.

B. The second fracture line crosses the first line.

C. Both fracture lines are of equal age.

D. Crossing fracture indicates a higher velocity impact.



See Answer in Part B → Q5

@Neet_pg_bot

Q6: A 28-year-old male was found dead in an abandoned warehouse due to a shotgun wound to the chest. Analysis indicated that the shotgun pellets caused an effect where multiple pellets, fired from a high range, impacted the same area, leading to significant damage and a larger wound channel. What effect is being described here? (Q847308)

A. Billiard ball effect

B. Balling effect

C. Rayalseena phenomenon

D. Kennedy phenomenon

See Answer in Part B → Q6

@Neet_pg_bot

Q7: A 40-year-old male was shot during a robbery while walking home at night. The weapon used was identified as a firearm, and forensic investigators recovered a bullet from the scene, as shown in the image below. Identify it. (Q847307)

A. Hollow point bullet

B. Souvenir bullet

C. Incendiary bullet

D. Dum dum bullet



See Answer in Part B → Q7

@Neet_pg_bot

Q8: A 30-year-old male was participating in a target shooting session at a local outdoor range when he accidentally fired a bullet that deflected off a metal target and struck another participant, resulting in his death. Which of the following best describes the bullet? (Q847306)

A. Yawning bullet

B. Ricochet bullet

C. Tumbling bullet

D. Tandem bullet

See Answer in Part B → Q8

@Neet_pg_bot

Q9: A 45-year-old male was found dead after a suspected shooting incident involving a shotgun. During the investigation, experts examined the shotgun's characteristics to determine factors affecting its range. Which of the following does not enhance the range of shotguns? (Q847305)

A. Elongated and pointed bullet

B. Barrel length

C. Paradox gun

D. Presence of a choke

See Answer in Part B → Q9

@Neet_pg_bot

Q10: A forensic investigation was launched after a 20-year-old boy was found dead with a bullet in his body, showing signs of burning, blackening, and tattooing. At what distance does a shotgun produce a flame effect? (Q847225)

A. 7 cm

B. 15 cm

C. 30 cm

D. 45 cm

See Answer in Part B → Q10

@Neet_pg_bot

Q11: A 30-year-old male was shot outside a nightclub late at night. Witnesses reported hearing gunshots and saw a dark sedan fleeing the scene. Police found shell casings and a bloodstained area, collecting gunshot residue (GSR) samples from the victim's hands and clothing. Which of the following is the most specific gunshot residue test? (Q847224)

A. Harrison and Gilroy test

B. Atomic absorption Spectrometry

C. Neutron activation analysis.

D. SEM-EDXA

See Answer in Part B → Q11

@Neet_pg_bot

Q12: A 38-year-old female is found deceased in an urban park with a single gunshot wound to the left side of her chest. Forensic analysis suggests the shot was fired from a distance, with no evidence of close-range effects like soot, muzzle imprint, or stippling. Which of the following is a feature of the entry wound? (Q847223)

A. Fat and soft tissue expulsion

B. Irregular, stellate-shaped wound

C. Presence of everted margins

D. Presence of cherry red wound track

See Answer in Part B → Q12

@Neet_pg_bot

Q13: A 35-year-old male was found dead in an abandoned building with no weapon at the scene. Forensic examination revealed a rifle was used. Which of the following wound characteristics is true regarding distant gunshot injury? (Q847222)

A. Presence of blackening and tattooing around the wound

B. Presence of abrasion collar around the entry wound

C. Clean, circular entry wound with everted edges

D. Presence of multiple small pellet wounds

See Answer in Part B → Q13

@Neet_pg_bot

Q14: A forensic investigator is analysing the injuries caused by a bullet at a crime scene. Which of the following best describes the study of the interaction between a projectile and its target? (Q847209)

A. Proximal Ballistics

B. Intermediate Ballistics

C. External Ballistics

D. Terminal Ballistics

See Answer in Part B → Q14

@Neet_pg_bot

Q15: A 50-year-old female is found deceased in her living room with a shotgun wound to the head. Considering the characteristics of the injury, what type of wound is this? (Q847220)

A. Close shot wound

B. Near shot wound

C. Intermediate shot wound

D. Contact shot wound



See Answer in Part B → Q15

@Neet_pg_bot

Q16: In a forensic investigation of a 45-year-old male found dead from a gunshot wound, the scene indicates forced entry, with the front door ajar and a bullet and shell casing collected. Which of the following are not considered primary markings on the bullet? (Q847219)

A. Diameter and width of lands and grooves

B. Number of lands and grooves

C. Degree of rifling twist

D. Surface irregularities from barrel imperfections

See Answer in Part B → Q16

@Neet_pg_bot

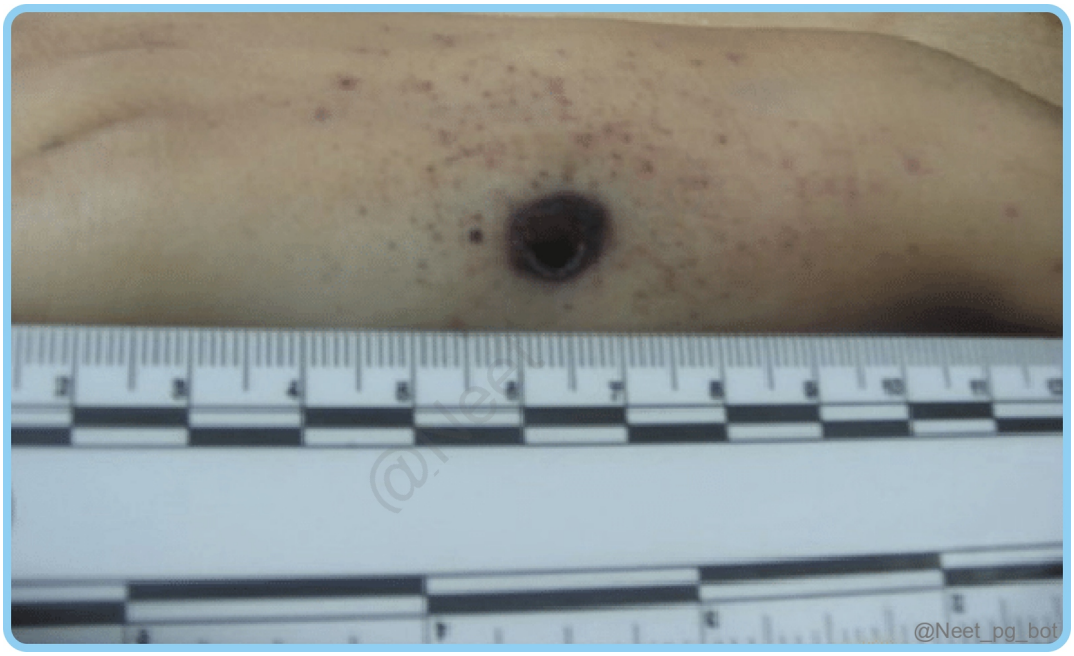
Q17: A 30-year-old male is found lying in the driveway with multiple gunshot wounds and is pronounced dead at the scene. Which component is responsible for the effects depicted in the wound image? (Q847218)

A. Soot deposition

B. Flame

C. Unburnt gunpowder

D. Weapon end



See Answer in Part B → Q17

@Neet_pg_bot

Q18: Forensic analysis of the cartridges recovered from the crime scene of a gunshot victim reveals the presence of primers. Which of the following is not used as a

component of a primer? (Q847217)

A. Tetrazine

B. Antimony sulphide

C. Barium Nitrate

D. Mercury fulminate

See Answer in Part B → Q18

@Neet_pg_bot

Q19: A 28-year-old male is found deceased in his apartment with a gunshot wound, and police find a firearm at the scene, along with traces of smokeless gunpowder on the victim's hands. What is the composition of single-base smokeless gunpowder? (Q847216)

A. Nitroguanidine

B. Nitroglycerine

C. Potassium nitrate

D. Nitrocellulose

See Answer in Part B → Q19

@Neet_pg_bot

Q20: A 30-year-old man presents to the emergency with severe burns and injuries after an accidental explosion while handling fireworks. Which of the following statements are true regarding the type of gunpowder commonly used in fireworks? Produces less smoke compared to newer gun powders Produces more heat and flame while burning 1gm of this powder produces 3000cc of gas It contains only Sulphur and Charcoal It is used in the composition of Semi smokeless gunpowder (Q847215)

A. 1, 2, 4

B. 1, 4, 5

C. 2, 4, 5

D. 2, 3, 5

See Answer in Part B → Q20

@Neet_pg_bot

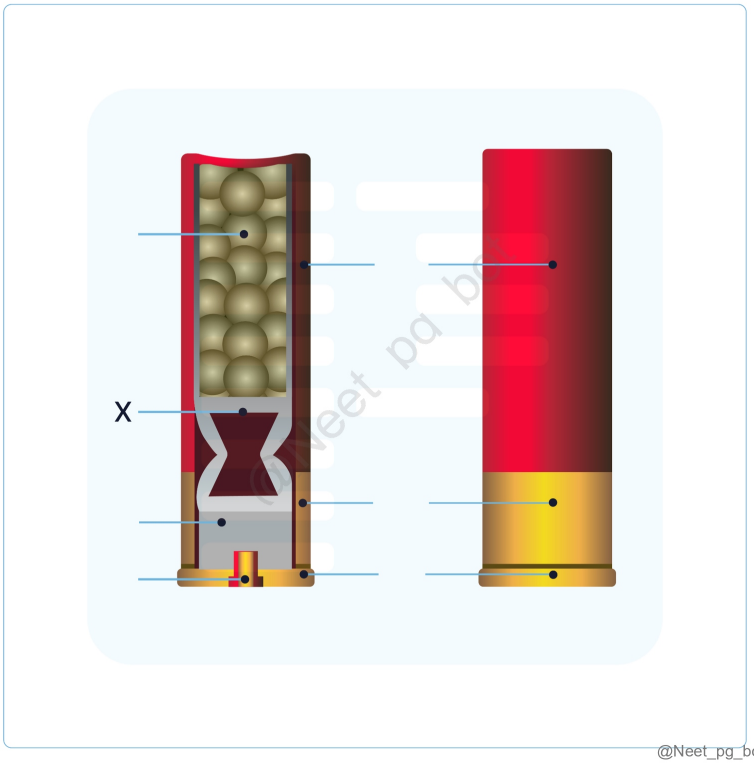
Q21: Which of the following is not an advantage of the structure labeled “X” in the image? (Q847214)

A. Effective sealing of bore

B. Lubrication

C. Allows gas to escape from the breech end

D. Facilitates optimal pressure



See Answer in Part B → Q21

@Neet_pg_bot

Q22: During a forensic examination of a shooting incident, a medical examiner discovers both shotgun pellets and rifle bullets at the crime scene. The examiner notes the differences in their design and function. Which statement about these ammunition types is not correct? (Q847213)

A. Shotgun cartridges contain multiple projectiles that spread upon firing.

B. Wads are used in all types of cartridges

C. Rifle bullets are generally elongated with a pointed tip

D. Rifle bullets and shotgun pellets are made of lead

See Answer in Part B → Q22

@Neet_pg_bot

Q23: During a forensic investigation, experts discussed the benefits of rifled firearms and how rifling impacts evidence collection. All the following are advantages of rifling except? (Q847212)

A. Increases accuracy by stabilizing the bullet

B. Improves range by imparting spin to the projectile

C. Limits spread of pellets

D. Reduces wobbling of the bullet in flight

See Answer in Part B → Q23

@Neet_pg_bot

Q24: During a forensic analysis of a crime scene, investigators examined firearms and noted the distinctions between rifled and smooth-bore firearms. Which of the following is true regarding rifled and smooth-bore firearms (Q847211)

A. Rifled firearms usually have multiple projectiles

B. Smooth-bore firearms include handguns and revolvers

C. Shotguns typically have a smooth barrel

D. Smooth-bore firearms typically don’t have chokes

See Answer in Part B → Q24

@Neet_pg_bot

Q25: At a forensic lab, a team was examining evidence from a recent shooting. One forensic analyst pointed out that identifying the caliber of the gun can help in linking it to a specific weapon. What does the term "caliber" refer to in forensic ballistics? (Q847210)

A. Distance between two opposite lands

B. Distance between two opposite grooves

C. Muzzle design influencing the dispersion of shot

D. Measurement of the diameter of the shotgun barrel

See Answer in Part B → Q25

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• [05_Ballistics] 013 Previous Year Questions

« Back to Folder Directory

[05_Ballistics] 013 Previous Year Questions — Quick Jump

Q1 (p. 186) *Q2 (p. 186)* *Q3 (p. 187)* *Q4 (p. 187)* *Q5 (p. 188)* *Q6 (p. 189)*

Q1: Marshall's triad (punctate lacerations, bruises, and abrasions) is seen in which type of blast injury? (Q853108)

A. Primary blast injury

B. Secondary blast injury

C. Tertiary blast injury

D. Quaternary blast injury

See Answer in Part B → Q1

@Neet_pg_bot

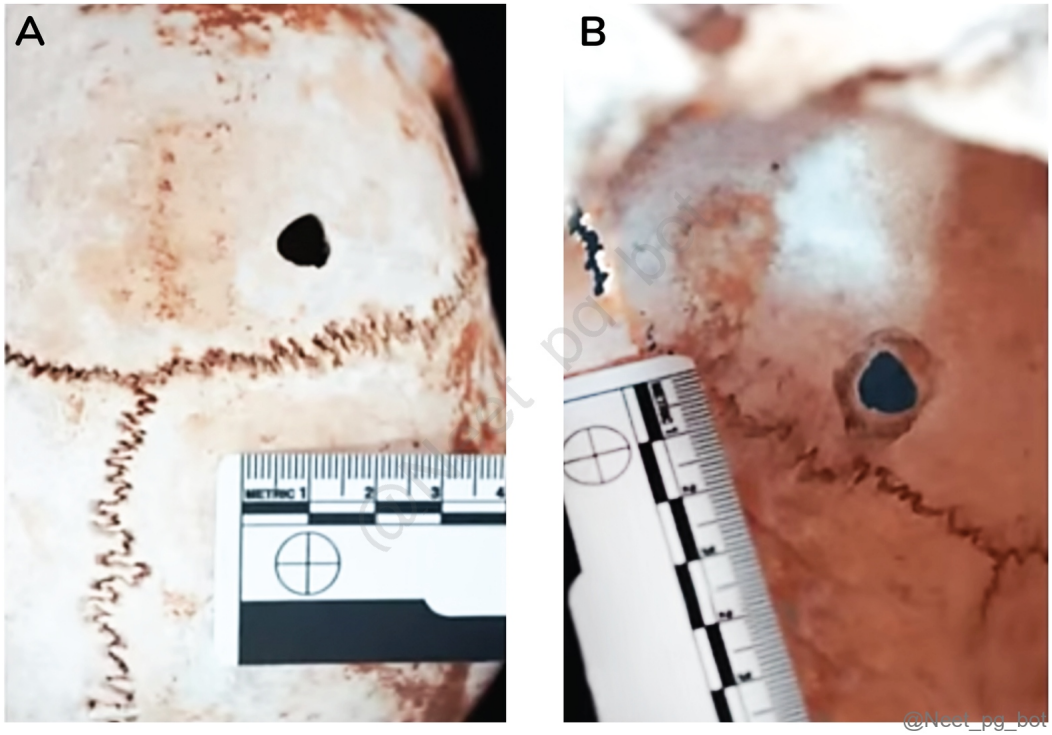
Q2: Identify the source of the trauma given in the image below. (Q840080)

A. Bullet

B. Rod

C. Axe

D. Scissor



See Answer in Part B → Q2

@Neet_pg_bot

Q3: What causes the blackening around a gunshot entry wound? (Q854642)

A. Smoke particles

B. Unburned gunpowder

C. Muzzle of firearm

D. Fire effect

See Answer in Part B → Q3

@Neet_pg_bot

Q4: Bullet fingerprinting involve: (Q856677)

A. Primary markings

B. Secondary markings

C. Both

D. None

See Answer in Part B → Q4

@Neet_pg_bot

Q5: Identify the injury depicted in the image provided. (Q856353)

A. Shot gun wound

B. Tattooing

C. Arsenic poisoning

D. Graze wound



See Answer in Part B → Q5

@Neet_pg_bot

Q6: Identify the gun and the corresponding range of the shot that caused the wound (Q855822)

A. Shot gun, intermediate range

B. Shot gun, close range

C. Pistol, near shot

D. Pistol, close shot



See Answer in Part B → Q6

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• [06_Asphyxial Deaths] 014 Asphyxial Death

« Back to Folder Directory

[06_Asphyxial Deaths] 014 Asphyxial Death — Quick Jump

Q1 (p. 190)	*Q2 (p. 190)*	*Q3 (p. 191)*	*Q4 (p. 191)*	*Q5 (p. 192)*	*Q6 (p. 194)*
Q7 (p. 195)	*Q8 (p. 195)*	*Q9 (p. 196)*	*Q10 (p. 196)*	*Q11 (p. 196)*	*Q12 (p. 197)*
Q13 (p. 197)	*Q14 (p. 198)*	*Q15 (p. 198)*	*Q16 (p. 198)*	*Q17 (p. 199)*	*Q18 (p. 199)*
Q19 (p. 200)	*Q20 (p. 200)*	*Q21 (p. 200)*	*Q22 (p. 201)*	*Q23 (p. 201)*	*Q24 (p. 202)*
Q25 (p. 202)	*Q26 (p. 203)*	*Q27 (p. 203)*	*Q28 (p. 204)*	*Q29 (p. 204)*	*Q30 (p. 204)*
Q31 (p. 205)	*Q32 (p. 205)*	*Q33 (p. 205)*	*Q34 (p. 206)*	*Q35 (p. 206)*	*Q36 (p. 207)*
Q37 (p. 207)	*Q38 (p. 208)*	*Q39 (p. 208)*	*Q40 (p. 209)*	*Q41 (p. 209)*	*Q42 (p. 210)*
Q43 (p. 210)	*Q44 (p. 211)*	*Q45 (p. 211)*	*Q46 (p. 211)*	*Q47 (p. 212)*	*Q48 (p. 213)*
Q49 (p. 214)	*Q50 (p. 214)*	*Q51 (p. 215)*			

Q1: A convicted criminal is executed by judicial hanging using a long-drop technique. In order to produce rapid death, the knot of the ligature is most appropriately placed at which of the following positions? (Q884243)

A. Between the chin and ear

B. Above the chin

C. Below the ear

D. Occiput

See Answer in Part B → Q1

@Neet_pg_bot

Q2: Identify the given method of strangulation. (Q884231)

A. Throttling

B. Mugging

C. Bansdola

D. Garroting



See Answer in Part B → Q2

@Neet_pg_bot

Q3: During the autopsy of a deceased individual suspected to have died due to neck compression, which of the following is not a standard procedure? (Q884232)

A. Careful palpation and dissection of the laryngeal framework before brain removal

B. Pre-dissection radiography (X-ray) or CT scan of the neck to detect fractures

C. Incising major neck vessels at the very beginning of the autopsy

D. Examination and documentation of external ligature marks before internal dissection

See Answer in Part B → Q3

@Neet_pg_bot

Q4: A middle-aged man is found dead in an abandoned area. Autopsy reveals fracture of the thyroid cartilage, extensive bruising of the neck muscles, and multiple abrasions over the front and sides of the neck. No ligature material is recovered from the scene. What is the most likely cause of death? (Q884233)

A. Hanging

B. Throttling

C. Ligature strangulation

D. Garroting

See Answer in Part B → Q4

@Neet_pg_bot

Q5: An unidentified individual is brought dead for a medicolegal autopsy. The following findings were noted on examination. No ligature material or patterned mark is seen around the neck. What is the most probable cause of death? (Q884234)

A. Throttling

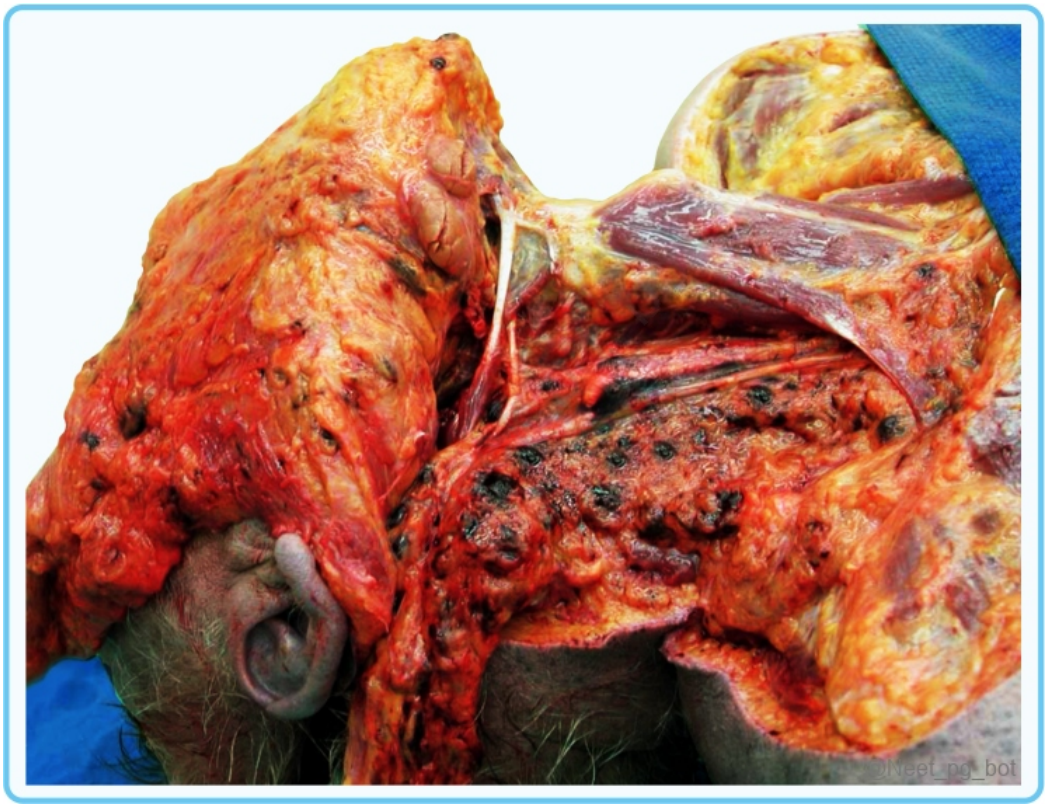
B. Ligature strangulation

C. Hanging

D. Mugging


@Neet_pg_bot


@Neet_pg_bot





See Answer in Part B → Q5

@Neet_pg_bot

Q6: During a medicolegal investigation of a death, it was noted that victims were suspended head-down for a prolonged periodwithout external neck pressure or traumatic chest compression. Autopsy revealed facial congestion, petechial haemorrhages, and venous pooling, with no traumatic chest injuries. What is the most likely mechanism of death? (Q884235)

A. Suffocation

B. Traumatic asphyxia

C. Postural asphyxia

D. Mechanical asphyxia

See Answer in Part B → Q6

@Neet_pg_bot

Q7: An intoxicated individual was found dead in a severely flexed posture, with the trunk bent forward and thighs pressed against the abdomen. There was no evidence of external neck pressure or traumatic chest compression. Autopsy showed pulmonary congestion and facial cyanosis. What is the most likely cause of death? (Q884236)

A. Wedging

B. Burking

C. Positional asphyxia

D. Traumatic asphyxia

See Answer in Part B → Q7

@Neet_pg_bot

Q8: Identify mugging strangulation from the given options. (Q884237)

A.

B.

C.

D.

See Answer in Part B → Q8

@Neet_pg_bot

Q9: In a case of hanging with the feet touching the ground. Despite this, death occurs due to the downward traction produced by the mass of the head, arms, and thorax, which tightens the ligature around the neck. Which type of hanging best explains this mechanism? (Q884238)

A. Partial Hanging

B. Typical Hanging

C. Atypical Hanging

D. Complete Hanging

See Answer in Part B → Q9

@Neet_pg_bot

Q10: During an experimental simulation of ligature compression, approximately 10 kg of circumferential pressure was applied around the neck. Which of the following structures would most likely be compressed at this level? (Q884239)

A. Jugular veins only

B. Jugular veins and carotid arteries

C. Jugular veins, carotid arteries, and trachea

D. Jugular veins, carotid arteries, trachea, and vertebral arteries

See Answer in Part B → Q10

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Q11: In a case of hanging, death may occur due to several physiological mechanisms. Which of the following does not contribute to death in such cases? (Q884240)

A. Cerebral ischemia leading to neuronal death

B. Fracture-dislocation of cervical vertebrae

C. Reflex laryngeal spasm

D. Vagal inhibition

See Answer in Part B → Q11

@Neet_pg_bot

Q12: The body of a person who died due to suicidal hanging was examined during autopsy. Which of the following findings related to the ligature mark is least likely to be seen? (Q884241)

A. The ligature mark completely encircles the neck

B. The discontinuity in the ligature mark corresponds to the knot position

C. The ligature mark is located above the hyoid bone

D. The ligature mark becomes dry and parchment-like after death

See Answer in Part B → Q12

@Neet_pg_bot

Q13: During autopsy of a person who died by suicidal hanging, which of the following findings is least likely to be present? (Q884242)

A. Absence of dribbling of saliva

B. Dependent post-mortem lividity in the limbs

C. Transverse tear of the carotid artery

D. Ligature mark situated above the hyoid bone

See Answer in Part B → Q13

@Neet_pg_bot

Q14: During autopsy of a middle-aged man who died due to neck compression, careful dissection of the laryngeal framework is performed. Which of the following statements about laryngeal and hyoid bone injuries in strangulation is incorrect? (Q884230)

A. Fracture of the superior horns of the thyroid cartilage is common in manual strangulation

B. Laryngeal injury is lesser in manual strangulation than ligature strangulation

C. Medial displacement of the hyoid bone indicates antemortem strangulation

D. No surrounding haemorrhage suggests a postmortem fracture

See Answer in Part B → Q14

@Neet_pg_bot

Q15: During autopsy of a deceased who died by hanging, small haemorrhages were noted within the intervertebral discs of the lower spine. This characteristic finding is known as which of the following? (Q884244)

A. Robert’s haemorrhage

B. Carl’s haemorrhage

C. Victor’s haemorrhage

D. Simon’s haemorrhage

See Answer in Part B → Q15

@Neet_pg_bot

Q16: During autopsy of a male deceased, seminal discharge was noted on the thighs near the genital region. This finding, by itself, is an absolute indicator of which of the following? (Q884254)

A. Autoerotic asphyxia

B. Death due to any form of asphyxia

C. Homicide associated with sexual assault

D. None of the above

See Answer in Part B → Q16

@Neet_pg_bot

Q17: During autopsy of a body recovered after neck compression, certain findings may represent spurious (post-mortem or artefactual) lesions rather than true antemortem injuries. Which of the following is not considered a spurious neck lesion? (Q884257)

A. Haemorrhage over the posterior surface of the oesophagus

B. Haemorrhage involving the anterior longitudinal ligament

C. Pale transverse bands seen on the oesophageal mucosa

D. True intramuscular haemorrhage of the strap muscles

See Answer in Part B → Q17

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Q18: During a physical altercation, an assailant pins the victim to the ground by sitting on the chest while simultaneously blocking the nose and mouth with a cloth, leading to death due to asphyxia. This method of killing is known as: (Q884259)

A. Burking

B. Wedging

C. Traumatic asphyxia

D. Overlaying

See Answer in Part B → Q18

@Neet_pg_bot

Q19: A 28-year-old swimmer was recovered unconscious from a river and declared dead on arrival. Autopsy examination showed marked over-inflation of the lungs with frothy fluid in the airways. What is the most likely cause of death? (Q884260)

A. Wet drowning

B. Shallow-water drowning

C. Immersion syndrome

D. Secondary drowning

See Answer in Part B → Q19

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Q20: During autopsy of a drowning victim, heavy stones were found firmly tied to the waist and ankles. What does this finding most strongly indicate? (Q884271)

A. Accidental or homicidal drowning

B. Homicidal drowning only

C. Suicidal drowning only

D. Homicidal or suicidal drowning

See Answer in Part B → Q20

@Neet_pg_bot

Q21: A man is rescued from deep water after prolonged submersion and is declared dead on arrival. Autopsy reveals water in the airways and heavy, water-logged lungs. What is the primary mechanism leading to death in this condition? (Q884272)

A. Reflex closure of the larynx

B. Primary cerebral edema

C. Sudden vagal cardiac arrest

D. Pulmonary edema with resultant cardiac failure

See Answer in Part B → Q21

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Q22: A 42-year-old tourist accidentally slips from the deck of a ship during a polar expedition and enters the icy sea abruptly in a flat, horizontal position. He is retrieved within minutes but is declared dead on arrival. Autopsy reveals no significant water in the lungs and no marked pulmonary edema. What is the most probable cause of death in this case? (Q884273)

A. Cerebral edema

B. Vasovagal inhibition

C. Pulmonary edema with cardiac failure

D. Laryngeal spasm

See Answer in Part B → Q22

@Neet_pg_bot

Q23: During medicolegal autopsy of a suspected drowning case, a biochemical test is performed comparing electrolyte levels between blood from the right and left sides of the heart to help differentiate freshwater from seawater drowning. Which electrolyte is specifically assessed in this test? (Q884274)

A. Sodium

B. Potassium

C. Bicarbonate

D. Chloride

See Answer in Part B → Q23

@Neet_pg_bot

Q24: During the autopsy of a suspected suicidal drowning case, the skin over the palms and soles appears pale, wrinkled, and sodden. Which of the following statements regarding this finding is correct? (Q884275)

A. It confirms that death occurred only a few hours earlier

B. Correct Answer: B) The timing of development varies with environmental conditions

C. The change is first noticed over the dorsum of the hand

D. It is synonymous with gooseflesh of the skin



See Answer in Part B → Q24

@Neet_pg_bot

Q25: The body of a young woman is recovered from a water-filled underground pit. While examining the body, which of the following findings would most convincingly indicate that drowning occurred during life? (Q884276)

A. Cadaveric spasm

B. Petechial hemorrhages in the eyes

C. Cutis anserina

D. Skin maceration

See Answer in Part B → Q25

@Neet_pg_bot

Q26: A 38-year-old male with a history of substance abuse is found dead in a water-filled trench. During postmortem examination, which of the following findings can be regarded as definitive proof that death occurred due to drowning? (Q884277)

A. Water present within the paranasal sinuses

B. Engorgement of the right chambers of the heart and major veins

C. Detection of diatoms in internal organs

D. No single finding is absolutely conclusive

See Answer in Part B → Q26

@Neet_pg_bot

Q27: A 25 y/o man is found dead near a water body after being submerged for an unknown period. Autopsy reveals ballooned, pale pink lungs that retain their shape and do not collapse after removal. Blood tests show significant hyponatremia and hyperkalemia. Which of the following best describes his condition? (Q847017)

A. Dry drowning

B. Seawater drowning

C. Freshwater drowning

D. Hydrocution

See Answer in Part B → Q27

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Q28: In which type of hanging is the knot positioned at the nape of the neck? (Q846973)

A. Incomplete Hanging

B. Typical Hanging

C. Atypical Hanging

D. Near-Hanging

See Answer in Part B → Q28

@Neet_pg_bot

Q29: Match the following neck structure compressed with their respective pressures needed to cause death in hanging. 1.Jugular Veins a) 10 kg 2.Carotid Arteries b) 30 kg 3.Trachea c) 2 kg 4.Vertebral Arteries d) 15 kg (Q846974)

A. 1-d, 2-a, 3-c, 4-b

B. 1-c, 2-b, 3-a, 4-d

C. 1-b, 2-c, 3-d, 4-a

D. 1-c, 2-a, 3-d, 4-b

See Answer in Part B → Q29

@Neet_pg_bot

Q30: Which of the following is NOT a cause of early death in hanging? (Q846975)

A. Asphyxia

B. Brain Infarction

C. Venous Congestion

D. Reflex Vagal Inhibition

See Answer in Part B → Q30

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Q31: A forensic team is called to investigate a case of judicial hanging in an obese individual. The victim was found suspended from a significant height with the knot positioned at the back of the neck. During the autopsy, a transverse tear in the carotid artery is observed, consistent with a long drop hanging. Which of the following findings is most likely associated with this case? (Q846976)

A. Dribbling of saliva

B. Ligature marks

C. Amussat's Sign

D. Simon's Sign

See Answer in Part B → Q31

@Neet_pg_bot

Q32: A 30 y/o male is brought to the emergency department after being found hanging from a ceiling fan. On physical examination, which of the following findings is most indicative of antemortem hanging? (Q846977)

A. Protrusion of the tongue

B. Dribbling of saliva

C. Subconjunctival hemorrhages

D. Blue lips and oral mucous membrane

See Answer in Part B → Q32

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Q33: Which of the following features is typically associated with sexual asphyxia and helps distinguish it from judicial hanging? (Q846978)

A. Intent to cause death

B. Use of elaborate setups and self-release mechanisms

C. Resulting cervical spine fracture

D. Presence of distinct ligature marks

See Answer in Part B → Q33

@Neet_pg_bot

Q34: A 45 y/o man is found unconscious in an alley with marks around his neck suggesting strangulation. The police suspect the use of a ligature tightened rapidly with a lever. Which of the following types of strangulation best describes this scenario? (Q846979)

A. Throttling

B. Mugging

C. Bansdola

D. Garroting

See Answer in Part B → Q34

@Neet_pg_bot

Q35: Which of the following findings is most characteristic of ligature strangulation? (Q846980)

A. Distinct bruising of subcutaneous tissues beneath the ligature

B. Presence of Tardieu's spots primarily on the chest and abdomen

C. Significant cervical vertebrae fracture

D. Absence of postmortem staining above the ligature

See Answer in Part B → Q35

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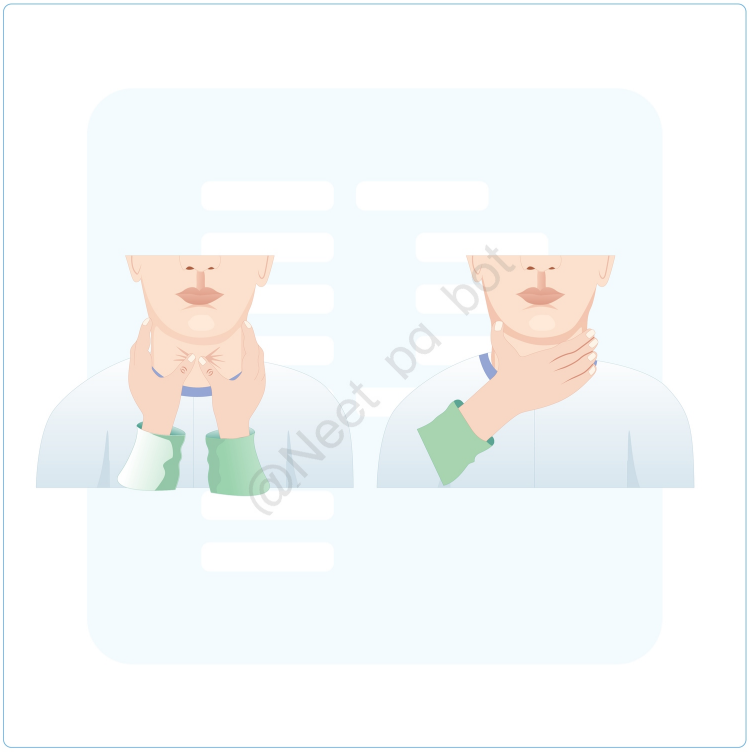
Q36: Which of the following statements regarding the given image is correct? (Q846981)

A. It can cause death through asphyxia and vagal inhibition, requiring at least 2 minutes of pressure

B. Results in minimal visible injuries on the neck

C. Key postmortem findings include only superficial bruises and no internal injuries

D. Suicidal death is a possibility



See Answer in Part B → Q36

@Neet_pg_bot

Q37: Which of the following methods of suffocation is most commonly associated with a reflex vagal inhibition that can lead to sudden cardiac arrest? (Q847013)

A. Smothering

B. Gagging

C. Choking

D. Café Coronary

See Answer in Part B → Q37

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Q38: A 28 y/o construction worker is trapped under a heavy beam and found unresponsive. He has deep purple discolouration above the compression point, pale skin below, and petechiae on his face and neck. He is pronounced dead at the scene. What type of asphyxia is most likely? (Q847015)

A. Traumatic Asphyxia

B. Positional Asphyxia

C. Drowning

D. Gagging

See Answer in Part B → Q38

@Neet_pg_bot

Q39: A 3-month-old infant is found unresponsive in bed next to a sleeping adult who has a strong odor of alcohol. The infant's nose appears flattened, and there are pale areas around the face. Which type of suffocation is most likely responsible for the infant's death? (Q847016)

A. Burking

B. Overlaying

C. Traumatic Asphyxia

D. Positional Asphyxia

See Answer in Part B → Q39

@Neet_pg_bot

Q40: A 35 y/o man is found unresponsive in his apartment. The scene suggests possible asphyxia due to a hanging. Upon examination, the forensic team notes several physical findings. Which of the following findings would most likely not be observed in this case of asphyxial death? (Q846972)

A. Tardieu spots

B. Bright red discolouration of the skin

C. Cyanosis

D. Congestion of viscera

See Answer in Part B → Q40

@Neet_pg_bot

Q41: A 30 y/o man is found dead after an incident where he fell into cold water. Witnesses report that he surfaced briefly, then collapsed and became unresponsive. No significant water is found in his lungs upon autopsy, but signs of cardiac arrest are evident. Which of the following is the most likely cause of death? (Q847018)

A. Wet drowning

B. Hydrocution

C. Dry drowning

D. Near drowning

See Answer in Part B → Q41

@Neet_pg_bot

Q42: A forensic pathologist is conducting an autopsy on a body recovered from a body of water. During the examination, several findings are noted. Based on the following statements regarding postmortem findings in drowning, which of the following is true? Frothy fluid, resulting from the churning of water, mucus, and air, is present at the mouth and nostrils, indicating drowning. Cutis anserina indicates prolonged immersion in warm water. Washerwoman's hand appears as wrinkled and sodden skin due to prolonged submersion. A cadaveric spasm is the immediate stiffening of muscles holding debris, indicating drowning. Paltauf's hemorrhage is a postmortem finding not associated with drowning. Water and bleeding in the middle ear confirm antemortem drowning. The heart shows equal amounts of blood on both sides in drowning victims. (Q847019)

A. 2, 5, 6, 7

B. 1, 3, 4, 6

C. 1, 4, 5, 6

D. 2, 3, 5, 7

See Answer in Part B → Q42

@Neet_pg_bot

Q43: Match the following signs of drowning. 1. Sehrt's Sign a) Free liquid in the paranasal sinus. 2. Sveshnikov's sign b) Water in the middle ear due to violent respiratory efforts while drowning. 3. Sabinsky's Sign c) Micro rupture in gastric mucosa due to stretching. 4. Ueno's Sign d) Small and anaemic spleen due to vasoconstriction. (Q847020)

A. 1-d, 2-b, 3-a, 4-c

B. 1-c, 2-a, 3-d, 4-b

C. 1-a, 2-c, 3-b, 4-d

D. 1-b, 2,c, 3-d, 4-a

See Answer in Part B → Q43

@Neet_pg_bot

Q44: A forensic pathologist examines a drowning victim's dead body and conducts tests for diatoms and chloride levels in the heart. The victim was found in a lake, and a water sample from the scene was collected for analysis. Which of the following statements is false ? (Q847021)

A. In freshwater drowning, chloride levels in the left heart are lower.

B. In saltwater drowning, chloride levels in the left heart are higher.

C. Finding diatoms in bone marrow indicates that the individual ingested water while alive.

D. The absence of diatoms in tissues can definitively rule out drowning.

See Answer in Part B → Q44

@Neet_pg_bot

Q45: A 35-year-old man is found dead in his kitchen. Autopsy reveals the trachea and bronchi packed with semi-digested rice and vegetable fragments without external neck injuries. Under which category of mechanical asphyxia does this finding best fall? (Q884214)

A. Throttling

B. Gagging

C. Choking

D. Traumatic asphyxia

See Answer in Part B → Q45

@Neet_pg_bot

Q46: During the autopsy of a 60-year-old male with suspected asphyxial death, numerous pinpoint hemorrhages are seen scattered over the pleural surfaces of both lungs. Which statement regarding this finding is incorrect? (Q884215)

A. Expression of E-selectin can distinguish antemortem and postmortem cases

B. Uncommon in the dependent position

C. Caused by rupture of capillaries

D. Unreliable indicator of asphyxial death



See Answer in Part B → Q46

@Neet_pg_bot

Q47: Identify the type of homicidal asphyxia shown below: (Q884225)

A. Throttling

B. Traumatic asphyxia

C. Gagging

D. Smothering



See Answer in Part B → Q47

@Neet_pg_bot

Q48: Which of the following external findings is considered the most suggestive of homicidal method shown below? (Q884226)

A. Generalised cyanosis of the lips

B. Multiple nail scratch abrasions around the nose and mouth

C. Facial congestion alone

D. Petechiae over the conjunctiva only



See Answer in Part B → Q48

@Neet_pg_bot

Q49: A victim is found dead with evidence of manual compression of the chest and obstruction of the nostrils and mouth. This combination of mechanisms is classically termed as: (Q884227)

A. Throttling

B. Burking

C. Mugging

D. Gagging

See Answer in Part B → Q49

@Neet_pg_bot

Q50: A middle-aged man collapses suddenly while eating meat at a wedding feast and is brought dead to the hospital. Autopsy reveals a large bolus of food impacted at the

level of the laryngeal inlet. Which statement regarding this condition is correct? (Q884228)

A. Death is usually due to vagal inhibition alone

B. The obstruction is typically found in the esophagus

C. It is commonly associated with alcohol intake

D. External injuries to the neck are always present

See Answer in Part B → Q50

@Neet_pg_bot

Q51: A 31-year-old woman is brought for medicolegal autopsy after being found unconscious at home with a tight nylon cord encircling her neck. On external examination, a continuous horizontal ligature mark is noted below the level of the thyroid cartilage. Which of the following additional findings most strongly supports death due to ligature strangulation rather than hanging? (Q884229)

A. Elongated neck with an oblique ligature mark

B. Carotid arteries' intimal layer damage

C. Congested, cyanotic face with petechial haemorrhages

D. Fracture of the hyoid bone in an elderly individual

See Answer in Part B → Q51

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• [06_Asphyxial Deaths] 015 Previous Year Questions

« Back to Folder Directory

[06_Asphyxial Deaths] 015 Previous Year Questions — Quick Jump

Q1 (p. 216) *Q2 (p. 216)* *Q3 (p. 217)* *Q4 (p. 217)* *Q5 (p. 218)* *Q6 (p. 219)*
Q7 (p. 219) *Q8 (p. 220)* *Q9 (p. 221)*

Q1: A person was found dead in a swimming pool. On autopsy, his stomach and lungs were filled with water, and there was evidence of mucoid froth at the nose and mouth. What is the most likely mode of death? (Q866693)

A. Dry drowning

B. Wet drowning

C. Near drowning

D. Cardiac arrest

See Answer in Part B → Q1

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Q2: An autopsy was conducted on a male with a history of drowning. No water was found in his lungs, and he was labeled a case of dry drowning. What is the cause of death? (Q857395)

A. Asphyxia

B. Vagal inhibition

C. Laryngospasm

D. Ventricular fibrillation

See Answer in Part B → Q2

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Q3: A girl was found deceased in a lake, and her body was retrieved. Which of the following is false regarding ante-mortem drowning? (Q857396)

A. Water in the stomach

B. Froth on nose and mouth

C. No mud and vegetation in the respiratory tract

D. Cadaveric spasm in hand muscle

See Answer in Part B → Q3

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Q4: Identify the type of homicide: (Q857949)

A. Mugging

B. Burking

C. Garrotting

D. Bansdola



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See Answer in Part B → Q4

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Q5: What is this finding suggestive of? (Q855200)

A. Drowning after organophosphate poisoning

B. Antemortem drowning

C. Drowning after arsenic poisoning

D. None of the above



See Answer in Part B → Q5

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Q6: Which of the following features are commonly observed in freshwater drowning? A. Haemodilution B. Hypokalemia C. Hyponatremia D. Arrhythmia (Q856873)

A. A, B, C & D

B. A, B & C

C. B, C & D

D. A, C & D

See Answer in Part B → Q6

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Q7: You are posted as an intern in casualty when an MLC (Medico-Legal Case) is brought by the police. The deceased has the following appearance and was declared brought dead. What is the likely cause of death before sending the body for postmortem? (Q856350)

A. Drowning

B. Hanging

C. Strangulation

D. Traumatic asphyxia



See Answer in Part B → Q7

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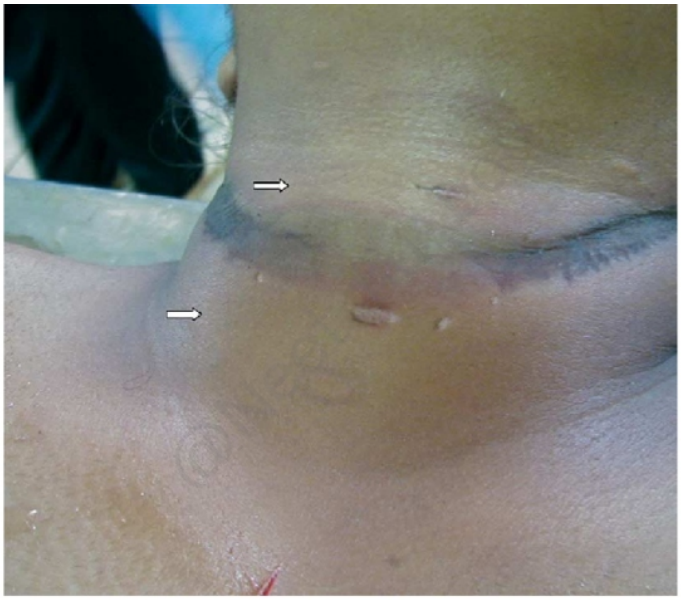
Q8: An individual was found dead at home and brought to the mortuary by the police. On external examination, a horizontal, continuous ligature mark was seen encircling the neck below the level of the thyroid cartilage. What is the likely cause of death? (Q856360)

A. Strangulation by ligature

B. Hanging

C. Throttling

D. Drowning



See Answer in Part B → Q8

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Q9: A person was found dead in the bushes with his hands tied. On examination of the body, there was cyanosis petechial hemorrhages, abrasions, and bruises around the mouth and lips.There was associated facial congestion and edema. What is the least likely cause of death here? (Q859894)

A. Asphyxia

B. Suicide

C. Smothering

D. Homicide

See Answer in Part B → Q9

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• [07_Sexual Offences] 016 Sexual Offences Traces Of Evidence

« Back to Folder Directory

[07_Sexual Offences] 016 Sexual Offences Traces Of Evidence — Quick Jump

Q1 (p. 223)	*Q2 (p. 223)*	*Q3 (p. 224)*	*Q4 (p. 224)*	*Q5 (p. 227)*	*Q6 (p. 227)*
Q7 (p. 227)	*Q8 (p. 228)*	*Q9 (p. 228)*	*Q10 (p. 229)*	*Q11 (p. 229)*	*Q12 (p. 229)*
Q13 (p. 230)	*Q14 (p. 230)*	*Q15 (p. 230)*	*Q16 (p. 231)*	*Q17 (p. 231)*	*Q18 (p. 232)*
Q19 (p. 232)	*Q20 (p. 233)*	*Q21 (p. 233)*	*Q22 (p. 234)*	*Q23 (p. 234)*	*Q24 (p. 235)*

Q1: A 28-year-old male presents to the emergency department following an alleged sexual assault by a man. The victim recalls that the assault occurred approximately 4 hours ago. Which of the following examination findings would least likely support evidence of the current sodomy assault? (Q847094)

A. Linear abrasions or contusions in the perianal region

B. Dried semen around the anus

C. Paradoxical dilatation of anus during bimanual traction of buttocks

D. Fresh anal tears or fissures

See Answer in Part B → Q1

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Q2: A 40-year-old male is arrested after being caught secretly watching women undress in a public locker room. He admits that he derives sexual pleasure from watching others undress and sometimes engaging in sexual acts. What is the likely paraphilic disorder? (Q847134)

A. Frotteurism

B. Voyeurism

C. Fetishism

D. Eonism

See Answer in Part B → Q2

@Neet_pg_bot

Q3: A 32-year-old male presents to the psychiatrist with complaints of unusual sexual desires. He reports feeling intense sexual gratification when inflicting pain on his partner during consensual intimate encounters. He denies any interest in other forms of sexual activity and mentions that causing pain is the primary source of his sexual arousal. What is the most likely paraphilic disorder? (Q847131)

A. Algolagnia

B. Uranism

C. Mooning

D. Cunnilingus

See Answer in Part B → Q3

@Neet_pg_bot

Q4: Which of the following is a part of the SAFE kit? 1. 2. 3. 4. 5. (Q847127)

A. 1, 2, 3

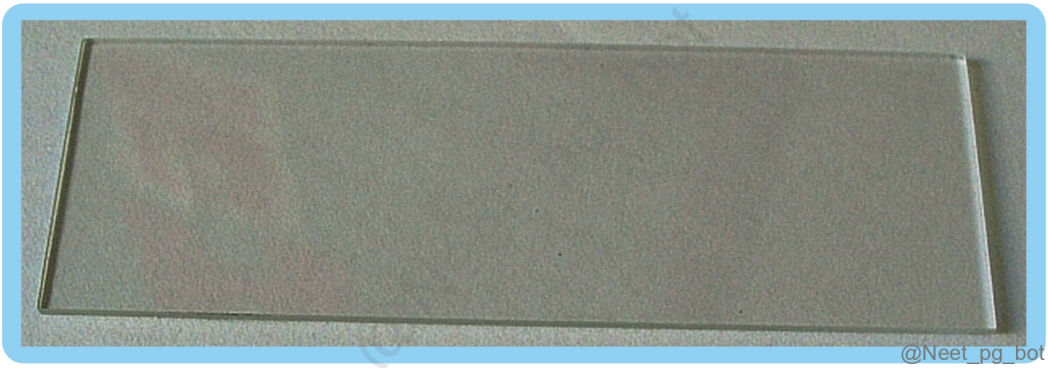
B. 2, 3, 4, 5

C. 1, 2, 3, 4, 5

D. 1, 2, 3, 5







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See Answer in Part B → Q4

Q5: A 20-year-old male was brought for medicolegal examination after being accused of raping a girl 2 hours back. The examining physician noted the cheesy secretion around the corona glandis and conducted a thorough assessment of the genital organs, including a penile swab. Which of the following is incorrect? (Q847124)

A. Cheesy material is inconsistent with his recent sexual intercourse

B. Lugol’s iodine test turns brown if vaginal cells are present

C. His consent for examination is needed

D. Lugol's iodine can be done till 4 days after rape

See Answer in Part B → Q5

@Neet_pg_bot

Q6: What is the primary purpose of applying toluidine blue to the anogenital area during the examination of rape victim? (Q847120)

A. To enhance the visibility of foreign objects

B. To identify areas of micro-injury

C. To check for signs of infection

D. To prepare for DNA collection

See Answer in Part B → Q6

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Q7: A 35-year-old employee alleges that he was forced by his employer to work extra hours without pay, against his will. The employee files a complaint under which section of the Bharatiya Nyaya Sanhita (BNS) that deals with unlawful compulsory labour? (Q847118)

A. BNS Section 142

B. BNS Section 145

C. BNS Section 146

D. BNS Section 150

See Answer in Part B → Q7

@Neet_pg_bot

Q8: During a news report, a journalist accidentally reveals the name of a woman who has accused her neighbor of rape under BNS Section 63. The report goes viral, causing distress to the victim. If the journalist is charged under BNS section 72, what is the maximum punishment they could face? (Q847116)

A. 1 year of imprisonment plus fine

B. 2 years of imprisonment plus a fine

C. 5 years of imprisonment without fine

D. A warning from the court with fine

See Answer in Part B → Q8

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Q9: A 26-year-old man is proven guilty of committing an offense of rape that resulted in the victim being in a persistent vegetative state. He is sentenced to 20 years of imprisonment. Under which BNS section is he most likely convicted? (Q847113)

A. BNS Section 65

B. BNS Section 66

C. BNS Section 67

D. BNS Section 68

See Answer in Part B → Q9

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Q10: During a forensic examination, a 25-year-old woman reports that she was raped by a colleague at a workplace event. The medical examination reveals no physical injuries but confirms non-consensual sexual intercourse. According to the Bharatiya Nyaya Sanhita, what is the minimum punishment the accused would face? (Q847108)

A. 5 years of rigorous imprisonment

B. 7 years of rigorous imprisonment

C. 10 years of rigorous imprisonment

D. Life imprisonment

See Answer in Part B → Q10

@Neet_pg_bot

Q11: Which of the following is NOT true regarding the POCSO Act? (Q847103)

A. It is designed to protect female children under the age of 18 from sexual abuse

B. It also includes protection against digital sexual crimes and exploitation against children.

C. The Act was amended in 2019, making punishments stricter.

D. Special courts have been established to ensure the swift disposal of POCSO cases

See Answer in Part B → Q11

@Neet_pg_bot

Q12: Under Section 63 of the Bharatiya Nyaya Sanhita (BNS), which of the following scenarios does NOT constitute rape? (Q847101)

A. A man engages in sexual intercourse with a woman by falsely promising marriage, knowing he does not intend to marry her.

B. A husband forces his wife, who is above 18 years of age, into sexual intercourse without her consent.

C. A man engages in consensual sexual intercourse with a woman who is 17 years old.

D. A man has consensual sexual intercourse with a woman who is mentally incapacitated and unable to provide informed consent.

See Answer in Part B → Q12

@Neet_pg_bot

Q13: Which of the following best represents an application of Locard's Exchange Principle in forensic investigations? (Q847045)

A. The use of DNA analysis to determine genetic relationships

B. The transfer of sweat and residue forming latent fingerprints on surfaces

C. The identification of drug metabolites in urine samples

D. The analysis of blood pressure to assess cause of death

See Answer in Part B → Q13

@Neet_pg_bot

Q14: Which of the following statements regarding BNS Section 107 is incorrect? (Q847092)

A. It criminalizes sexual acts against the order of nature.

B. Consensual sexual activity between adults is always punishable under this section.

C. The law primarily targets non-consensual sexual acts.

D. Punishment under this section includes imprisonment and/or fine.

See Answer in Part B → Q14

@Neet_pg_bot

Q15: A 30-year-old man approaches a lawyer seeking advice after discovering that his wife has been having an extramarital affair. He expresses anger and frustration,

wanting to understand his legal options regarding this situation. Which of the following statements correctly reflects the legal status of adultery in India? (Q847090)

A. It’s a criminal offense punishable by imprisonment under IPC

B. The man can file a criminal case against his wife’s lover

C. The man can pursue a civil case for divorce

D. A serious offense that can lead to both criminal and civil liabilities

See Answer in Part B → Q15

@Neet_pg_bot

Q16: Forensic analysts find hair samples at a crime scene and need to determine the origin of hair. They note the following characteristics: the medulla is thick, and the scale pattern shows coronal scales. What type of hair are they most likely examining? (Q847086)

A. Human hair

B. Animal hair

C. Synthetic hair

D. Insect hair

See Answer in Part B → Q16

@Neet_pg_bot

Q17: During an autopsy, forensic experts find hair strands embedded in the victim's scalp with a swollen bulb and ruptured sheath. What does this evidence suggest about the circumstances of the victim's death? (Q847083)

A. The hair fell out naturally.

B. The victim was forcibly restrained.

C. The hair was dyed before death.

D. The victim had a medical condition.

See Answer in Part B → Q17

@Neet_pg_bot

Q18: Which of the following statements regarding semen analysis tests is incorrect? (Q847080)

A. The fluorescence test results are bluish-white.

B. The Acid phosphatase test is positive in aspermia

C. The CPK test detects fresh seminal stains

D. Light microscopy is confirmatory

See Answer in Part B → Q18

@Neet_pg_bot

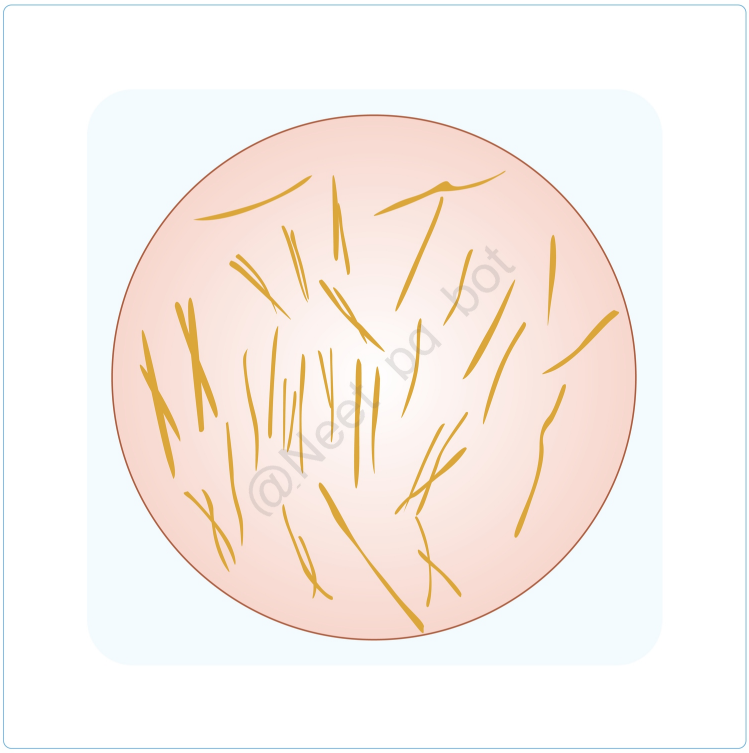
Q19: A 28-year-old woman presents with allegations of sexual assault. A P/V swab was taken, and a test as shown below was performed. Which of the following tests was likely done? (Q847073)

A. Teichmann test

B. Barberio test

C. Takayama test

D. Florence test



See Answer in Part B → Q19

@Neet_pg_bot

Q20: A forensic laboratory conducts a Florence Test on a suspected semen stain. The test yields dark brown rhombic crystals that resemble hemin crystals, indicating a positive result. Which of the following statements is true regarding the Florence Test? (Q847071)

A. It is a confirmatory test for the presence of semen

B. The formation of rhombic crystals is solely due to the presence of spermatozoa

C. False positives can occur if other substances containing choline are present

D. The test does not require follow-up confirmatory tests

See Answer in Part B → Q20

@Neet_pg_bot

Q21: A forensic scientist is analyzing a suspected bloodstain and decides to perform the Takayama test for confirmation. Which of the following statements about the Takayama test is correct? (Q847068)

A. It can only be performed on fresh blood samples.

B. The presence of pink, feathery crystals indicates a positive result for blood.

C. It provides information about the species of origin of the blood sample.

D. It is less sensitive than the Teichmann test.

See Answer in Part B → Q21

@Neet_pg_bot

Q22: A forensic laboratory is using the Teichmann test to confirm the presence of blood in a suspected bloodstain. Which of the following statements regarding this test is not true? (Q847065)

A. The test requires the addition of sodium chloride and glacial acetic acid to the blood sample.

B. The presence of brownish rhombic-shaped crystals indicates a positive result for blood.

C. The test can reliably identify the species of origin of the blood sample.

D. False negatives may occur due to the age of the bloodstain or excessive heating.

See Answer in Part B → Q22

@Neet_pg_bot

Q23: Which of the following tests is used to confirm the presence of blood by detecting red, feathery crystals of pyridine ferroprotoporphyrin? (Q847056)

A. Teichmann Test

B. HemaTrace Test

C. Takayama Test

D. Precipitin Test

See Answer in Part B → Q23

@Neet_pg_bot

Q24: A forensic investigator is analyzing a crime scene for potential blood stains. They decide to use a presumptive test that can detect trace amounts of blood but may also give false positives with other substances like bleach or rust. Which of the following is the most appropriate test for this scenario? (Q847052)

A. Kastle Meyer Test

B. Hemastix

C. Luminol

D. Forensic Bluestar

See Answer in Part B → Q24

@Neet_pg_bot

• [07_Sexual Offences] 017 Previous Year Questions

« Back to Folder Directory

[07_Sexual Offences] 017 Previous Year Questions — Quick Jump

Q1 (p. 236) *Q2 (p. 236)* *Q3 (p. 236)* *Q4 (p. 237)* *Q5 (p. 237)* *Q6 (p. 238)*

Q1: Which among the following is not seen in heat exhaustion? (Q853112)

A. Loss of thermoregulatory mechanism

B. Altered sensorium

C. Orthostatic hypotension

D. Core body temperature below 105 °F

See Answer in Part B → Q1

@Neet_pg_bot

Q2: Two handkerchiefs with blood stains are found at a crime scene. What is the most appropriate procedure for handling these items? (Q860095)

A. Place them in same plastic bag and seal it for preservation

B. Rinse the bloodstains with water to prevent contamination

C. Preserve in an envelope/paper bag

D. Place them in different plastic bags and seal it for preservation

See Answer in Part B → Q2

@Neet_pg_bot

Q3: In cases of suspected alcohol intoxication, which of the following is the correct procedure for sample collection? (Q857401)

A. Sample area cleaned with spirit

B. Sample area cleaned with soap and water

C. Sample should be preserved without preservative

D. Only one urine sample is required

See Answer in Part B → Q3

@Neet_pg_bot

Q4: During the examination of injury, hair bulbs are noted to be crushed. The probable type of wound is: (Q857652)

A. Abrasion

B. Laceration

C. Stab injury

D. None

See Answer in Part B → Q4

@Neet_pg_bot

Q5: All of the following statements are true about the given condition except: (Q856685)

A. Swabs should be taken immediately after moistening with sterile water

B. It is most commonly caused by incisors and canines

C. There are fewer chances of bacterial infections

D. Tetanus vaccination should be given



See Answer in Part B → Q5

@Neet_pg_bot

Q6: A woman gave birth to twins. The father who believed that they did not belong to him requested DNA testing. After testing, it was found that one child did not belong to him. This case would be best described as? (Q856318)

A. Superfetation

B. Superfecundation

C. Suppositious child

D. Atavism

See Answer in Part B → Q6

@Neet_pg_bot

• [08_Sexual Jurisprudence] 018 Sexual Jurisprudence

« Back to Folder Directory

[08_Sexual Jurisprudence] 018 Sexual Jurisprudence — Quick Jump

Q1 (p. 239)	*Q2 (p. 239)*	*Q3 (p. 239)*	*Q4 (p. 240)*	*Q5 (p. 240)*	*Q6 (p. 241)*
Q7 (p. 241)	*Q8 (p. 241)*	*Q9 (p. 242)*	*Q10 (p. 242)*	*Q11 (p. 243)*	*Q12 (p. 243)*
Q13 (p. 243)	*Q14 (p. 244)*	*Q15 (p. 244)*	*Q16 (p. 244)*	*Q17 (p. 245)*	*Q18 (p. 245)*
Q19 (p. 246)	*Q20 (p. 246)*	*Q21 (p. 246)*	*Q22 (p. 247)*		

Q1: A person of eonism derives pleasure from? (Q882179)

A. Wearing clothes of opposite sex

B. Kissing and licking of anus by a sexual partner

C. Underclothing of female

D. Seeing a female undressing

See Answer in Part B → Q1

@Neet_pg_bot

Q2: A woman presents with amenorrhea, breast tenderness, and morning sickness. Which category of pregnancy signs do these symptoms belong to? (Q847003)

A. Presumptive

B. Probable

C. Positive

D. Diagnostic

See Answer in Part B → Q2

@Neet_pg_bot

Q3: What is the expected result of a Lateral Traction Test in an individual who is not accustomed to anal penetration? (Q847032)

A. Relaxation and dilation of the anal sphincter up to 4-5 cm

B. Reflex constriction of the anal sphincter

C. No response in the anal sphincter

D. Complete prolapse of the rectum

See Answer in Part B → Q3

@Neet_pg_bot

Q4: Which of the following statements best describes the role of the Sexual Assault Forensic Examination (rape kit) concerning victim care? (Q847028)

A. The examination focuses solely on collecting evidence and does not provide medical treatment.

B. The examination can help victims access immediate medical care and provide resources for their health needs and collecting evidence

C. The examination requires all victims to file a police report and then provides resources for their health needs.

D. The examination is primarily for legal purposes and does not address the psychological well-being of the victim.

See Answer in Part B → Q4

@Neet_pg_bot

Q5: A 28-year-old female presents to a clinic with a sore throat and discomfort following a recent sexual encounter. During the examination, the clinician notes abrasions on her mouth and lips. Which sexual act is most likely associated with the injuries observed in this patient? (Q847025)

A. Sodomy

B. Sin of Gomorrah

C. Tribadism

D. Bestiality

See Answer in Part B → Q5

@Neet_pg_bot

Q6: A 10-year-old boy exhibits extreme jealousy toward his mother's close relationship with her new partner, showing signs of distress when she pays attention to anyone else. What psychological complex might this behaviour suggest? (Q847024)

A. Pharaoh Complex

B. Electra Complex

C. Oedipus Complex

D. Narcissistic Complex

See Answer in Part B → Q6

@Neet_pg_bot

Q7: Which of the following methods of violence is most likely to directly injure the uterus and cause membrane rupture? (Q847022)

A. Inserting foreign objects like knitting needles

B. Strenuous activities like horse riding

C. Using pastes with toxic ingredients

D. Injecting fluids into the uterus with a syringe

See Answer in Part B → Q7

@Neet_pg_bot

Q8: Which of the following drugs is known for being an emmenagogue used in criminal abortions? (Q847011)

A. Lead

B. Quinine

C. Savin

D. Cantharides

See Answer in Part B → Q8

@Neet_pg_bot

Q9: Which section of the BNS involves life imprisonment for causing a miscarriage without the woman's consent? (Q847010)

A. 88

B. 89

C. 90

D. 91

See Answer in Part B → Q9

@Neet_pg_bot

Q10: Under the eugenic grounds of the Medical Termination of Pregnancy (MTP) Act, which of the following is a valid indication for terminating a pregnancy? (Q847007)

A. Maternal hypertension

B. Severe fetal genetic anomaly

C. Threatened miscarriage

D. Adolescent pregnancy

See Answer in Part B → Q10

@Neet_pg_bot

Q11: Which of the following is classified as an induced abortion performed to protect the mother's life? (Q847006)

A. Criminal Abortion

B. Legal Abortion

C. Spontaneous Abortion

D. Septic Abortion

See Answer in Part B → Q11

@Neet_pg_bot

Q12: Which term refers to the inability to initiate or maintain the sexual arousal pattern in females or an incapacity to achieve orgasm? (Q846963)

A. Impotence

B. Erectile Dysfunction

C. Quod

D. Frigidity

See Answer in Part B → Q12

@Neet_pg_bot

Q13: Which of the following features distinguishes a fimbriated hymen from a torn hymen due to trauma? (Q846999)

A. Asymmetrical notches

B. Posterior location of notches

C. Mucous membrane covering intact notches

D. Extension of notches to the vaginal wall

See Answer in Part B → Q13

@Neet_pg_bot

Q14: A medical student is studying the anatomical variations of the hymen. Which of the following statements regarding hymen types and their implications is true? (Q846997)

A. A single central opening characterises a septate hymen.

B. The cribriform hymen features multiple small openings in the membrane.

C. An infantile hymen typically has multiple small openings.

D. The annular hymen typically have two side-by-side openings.

See Answer in Part B → Q14

@Neet_pg_bot

Q15: A 24 y/o woman is anxious about societal perceptions of her virginity after her first sexual experience. Which of the following statements is true regarding virginity and defloration? (Q846996)

A. Virginity can be medically assessed by examining the hymen.

B. Defloration is solely marked by the hymen's rupture during first intercourse.

C. Virginity is a social construct that varies across cultures.

D. False virgins always present with small and firm breasts.

See Answer in Part B → Q15

@Neet_pg_bot

Q16: Which of the following is not a feature of the Indian Council of Medical Research (ICMR) guidelines on surrogacy? (Q846992)

A. The surrogate mother must be under 45 years of age

B. The ART clinic is allowed to advertise for surrogate mothers

C. Surrogacy should only be considered for those physically or medically unable to carry a child

D. A woman can be a surrogate mother only once in her lifetime

See Answer in Part B → Q16

@Neet_pg_bot

Q17: A couple is considering artificial insemination with donor sperm (AID). What legal issue is most likely to arise if the procedure is performed without the husband's consent? (Q846985)

A. Genetic defects in the child

B. Legitimacy and paternity disputes

C. Transmission of infectious diseases

D. Increased risk of psychological issues in the child

See Answer in Part B → Q17

@Neet_pg_bot

Q18: A 32-year-old woman and her partner are struggling to conceive due to poor sperm motility. The doctor recommends assisted reproductive techniques. Which of the following methods is most likely to provide the highest chance of pregnancy for this couple? (Q846971)

A. Intracervical insemination (ICI)

B. Intrauterine insemination (IUI)

C. Intratubal insemination

D. Intrauterine tuboperitoneal insemination (IUTPI)

See Answer in Part B → Q18

@Neet_pg_bot

Q19: A 32-year-old woman arrives at the hospital in labour. During delivery, it is noted that one of her twins is white, while the other is black whereas both the parents are of Caucasian descent. The mother recalls having had intercourse with two different partners within a short timeframe during her ovulation. What phenomenon best explains this situation? (Q846969)

A. Superfetation

B. Superfecundation

C. Lithopedion

D. Fetus Papyraceus

See Answer in Part B → Q19

@Neet_pg_bot

Q20: A 30-year-old woman comes to the clinic with her newborn baby. She explains that her husband passed away six months ago, shortly after she became pregnant. The baby was born healthy, and she is excited to introduce him to the world. What type of child is this? (Q846967)

A. Atavism

B. Illegitimate child

C. Supposititious child

D. Posthumous child

See Answer in Part B → Q20

@Neet_pg_bot

Q21: Which of the following is not considered a ground for divorce under the Hindu Marriage Act, of 1955? (Q846965)

A. Change of religion

B. Cruelty

C. Financial disputes

D. Virulent leprosy

See Answer in Part B → Q21

@Neet_pg_bot

Q22: According to the Hindu Marriage Act, of 1955, which of the following is considered a ground for a void marriage? (Q846964)

A. Impotence

B. Bigamy

C. Unsoundness of mind

D. Consent obtained by force

See Answer in Part B → Q22

@Neet_pg_bot

• [08_Sexual Jurisprudence] 019 Previous Year Questions

« Back to Folder Directory

[08_Sexual Jurisprudence] 019 Previous Year Questions — Quick Jump

Q1 (p. 248)	*Q2 (p. 248)*	*Q3 (p. 249)*	*Q4 (p. 249)*	*Q5 (p. 249)*	*Q6 (p. 250)*
Q7 (p. 250)	*Q8 (p. 251)*	*Q9 (p. 251)*	*Q10 (p. 251)*	*Q11 (p. 252)*	*Q12 (p. 252)*
Q13 (p. 253)	*Q14 (p. 253)*	*Q15 (p. 253)*	*Q16 (p. 254)*	*Q17 (p. 255)*	*Q18 (p. 255)*
Q19 (p. 255)	*Q20 (p. 256)*				

Q1: A 10-year-old male child came to the casualty with difficulty in walking and pain in the perianal region. On subjecting the specimen from the perianal region to a test, it produces yellow needle-shaped rhombic crystals with picric acid. What is the test done? (Q855252)

A. Barberio test

B. Florence test

C. Teichmann test

D. Acid phosphatase test

See Answer in Part B → Q1

@Neet_pg_bot

Q2: Typically, what is the condition of the hymen in cases of sexual assault involving a young child? (Q854899)

A. Ruptured since it is located superficially

B. Ruptured since it is very thin

C. Unruptured since it is poorly developed

D. Unruptured since it is highly elastic

See Answer in Part B → Q2

@Neet_pg_bot

Q3: In the OPD, a 5-year-old child presenting with perianal pain is examined. Upon testing a sample obtained from the perianal region, it reveals the presence of yellow rhombic crystals of spermine picrate. What is the specific diagnostic procedure used to identify this condition? (Q854898)

A. Barberio test

B. Florence test

C. Takayama test

D. Teichmann test

See Answer in Part B → Q3

@Neet_pg_bot

Q4: As a medical officer, what actions should you take when a 14-year-old girl accompanied by her mother presents to the outpatient department (OPD) with a history of penovaginal penetration by a neighbor, with consent given by the girl? The girl expresses her refusal to undergo an examination. 1. Document informed refusal 2. Do not inform the police 3. Counsel the mother and daughter 4. Examine with necessary force 5. Inform the police (Q856869)

A. 1, 2, 3 are true

B. 2, 3, 4 are true

C. 1, 3, 5 are true

D. 3, 4, 5 are true

See Answer in Part B → Q4

@Neet_pg_bot

Q5: What is the appropriate term to describe a person who sits naked on their balcony, deriving sexual pleasure from observing others looking at them, while overlooking a park? (Q856313)

A. Voyeurism

B. Fetishism

C. Exhibitionism

D. Masochism

See Answer in Part B → Q5

@Neet_pg_bot

Q6: What is the appropriate IPC section for the act of inducing abortion without the consent of the woman? (Q857625)

A. 312

B. 313

C. 318

D. 317

See Answer in Part B → Q6

@Neet_pg_bot

Q7: All are grounds for divorce except : (Q857619)

A. Adultery

B. Incurable Leprosy

C. Poverty

D. Insanity

See Answer in Part B → Q7

@Neet_pg_bot

Q8: A 16-year-old girl was rescued from a village in Bihar where she had been sold off by her father for Rs. 25000 to a 45-year-old man. On examination, she was found to be 12 weeks pregnant. She was granted permission to abort the pregnancy, taking into consideration the age of the girl and the circumstances of her pregnancy. A doctor who will be eligible to perform the abortion for this girl should have performed at least how many MTP prior to this? (Q857035)

A. 10

B. 15

C. 25

D. 35

See Answer in Part B → Q8

@Neet_pg_bot

Q9: A 16-year-old girl and a 23-year-old boy undergo medical examination following allegations of rape made by the girl's parents. The girl states the sexual act was consensual, and no injuries are found on examination. According to the law, what is the legal status of the consent in this case? (Q866415)

A. Consent is invalid as the girl is under 18 years

B. No punishment since the act was consensual

C. No punishment since there are no injuries

D. Parents must prove the act was non-consensual

See Answer in Part B → Q9

@Neet_pg_bot

Q10: Which of the following procedures has been banned by the Supreme Court of India due to its association with sexual assault cases involving doctors? (Q860105)

A. Foley's catheter insertion

B. Colposcopy

C. PV speculum insertion

D. Two-finger test

See Answer in Part B → Q10

@Neet_pg_bot

Q11: During the forensic examination of semen from a rape victim, the identification of distinctive yellow needle-like crystals raises attention. What is the specific test employed to ascertain the presence of sperm? (Q860088)

A. Barberio test

B. Acid phosphatase test

C. Papanicolaou smear

D. Florence test

See Answer in Part B → Q11

@Neet_pg_bot

Q12: Declaration of Oslo by World Medical Association in 1970 deals with? (Q840088)

A. Therapeutic Abortion

B. Torture, degradation or cruel treatment of prisoners

C. Ethical aspects for Medical Researches

D. Hunger

See Answer in Part B → Q12

@Neet_pg_bot

Q13: Match the following sexual paraphilias:- A. Eonism B. Necrophilia C. Frotteurism D.Exhibitionism Sexual gratification by rubbing private parts against another person Exposure of one's genitals to an unsuspecting stranger Sexual gratification by intercourse with dead body Sexual pleasure by wearing clothes of the opposite sex (Q840085)

A. A4, B3, C1, D2

B. A2, B3, C4, D1

C. A4, B1, C3, D2

D. A1, B4, C2, D3

See Answer in Part B → Q13

@Neet_pg_bot

Q14: 27 weeks of gestation with congenital anomalies. whose presence is not required for authorisation of MTP? (Q844159)

A. Obstetrician

B. Lawyer

C. Pediatrician

D. Sonologist

See Answer in Part B → Q14

@Neet_pg_bot

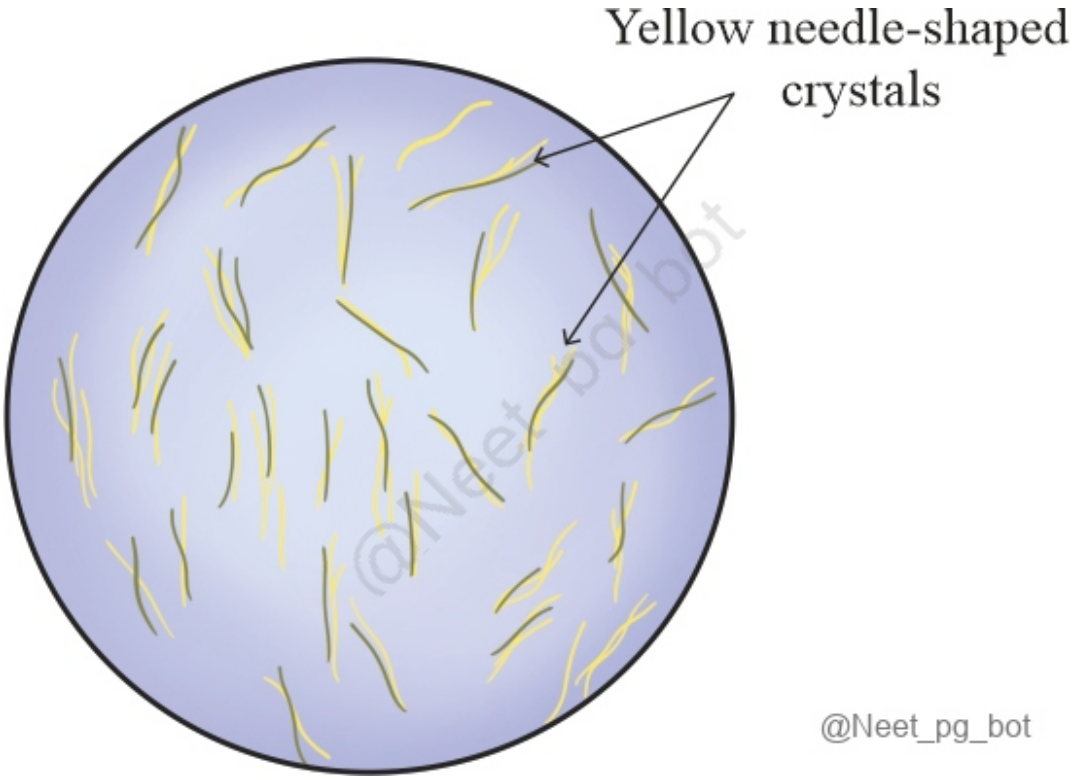
Q15: Examination of a suspicious stain shows the following finding. The test is? (Q844139)

A. Barberios test

B. Florence test

C. Teichman test

D. Takayama test



See Answer in Part B → Q15

@Neet_pg_bot

Q16: A child was born after 8 months of father's death. Grandparents filed a case that the baby is not their son's. DNA is positive. The child is called ? (Q844138)

A. Suppositious child

B. Fabricated child

C. Posthumous child

D. Illegitimate child

See Answer in Part B → Q16

@Neet_pg_bot

Q17: Recording of evidence of a female in sexual Assault in court is done in? (Q844102)

A. Open court proceedings

B. Closed court proceedings

C. Hearing on different location

D. Hearing on camera

See Answer in Part B → Q17

@Neet_pg_bot

Q18: A man wears a female dress and high heels and gets pleasure by doing so. He was not attracted to the same gender. This condition is? (Q844093)

A. Transvestic fetishism

B. Voyeurism

C. Sexual dysphoria

D. Gay orientation

See Answer in Part B → Q18

@Neet_pg_bot

Q19: What is the most appropriate term to describe the behavior of a man who consistently derives sexual pleasure from causing physical harm to his partner , often resulting in cuts and burns on their arms ? (Q793525)

A. Voyeurism

B. Fetishism

C. Sadism

D. Masochism

See Answer in Part B → Q19

@Neet_pg_bot

Q20: Which test is employed to distinguish human blood from blood of other species among the options provided? (Q793570)

A. Teichman test

B. Precipitin test

C. Barberio test

D. Takayama test

See Answer in Part B → Q20

@Neet_pg_bot

• [09_Medical Jurisprudence] 020 Medical Jurisprudence

« Back to Folder Directory

[09_Medical Jurisprudence] 020 Medical Jurisprudence — Quick Jump

Q1 (p. 257)	*Q2 (p. 257)*	*Q3 (p. 258)*	*Q4 (p. 258)*	*Q5 (p. 259)*	*Q6 (p. 259)*
Q7 (p. 259)	*Q8 (p. 260)*	*Q9 (p. 260)*	*Q10 (p. 261)*	*Q11 (p. 261)*	*Q12 (p. 261)*
Q13 (p. 262)	*Q14 (p. 262)*	*Q15 (p. 263)*	*Q16 (p. 263)*	*Q17 (p. 264)*	*Q18 (p. 264)*
Q19 (p. 264)	*Q20 (p. 265)*	*Q21 (p. 265)*	*Q22 (p. 266)*	*Q23 (p. 266)*	*Q24 (p. 266)*
Q25 (p. 267)	*Q26 (p. 267)*	*Q27 (p. 268)*	*Q28 (p. 268)*	*Q29 (p. 269)*	*Q30 (p. 269)*
Q31 (p. 270)	*Q32 (p. 270)*	*Q33 (p. 270)*	*Q34 (p. 271)*	*Q35 (p. 271)*	*Q36 (p. 272)*

Q1: A surgeon is performing an emergency appendectomy following all standard surgical protocols and with informed consent. During the procedure, the patient suffers a sudden, unpredictable anaphylactic shock to a standard anesthetic agent and dies despite all resuscitative efforts. Under which section of the Bharatiya Nyaya Sanhita is the surgeon protected from criminal liability? (Q885738)

A. Section 26

B. Section 80

C. Section 106

D. Section 115

See Answer in Part B → Q1

@Neet_pg_bot

Q2: A patient visits a Casualty Medical Officer with a minor bruise. The police officer present receives information about this non-cognizable offence. According to Section 195 of the Bharatiya Nagarik Suraksha Sanhita, what is the mandatory legal procedure for the officer? (Q885697)

A. Register an FIR and proceed with the arrest of the accused

B. Record the information in a station diary and refer the informant to the Magistrate

C. Conduct a mandatory forensic DNA collection within 24 hours

D. Ignore the complaint as it does not involve "Grievous Hurt"

See Answer in Part B → Q2

@Neet_pg_bot

Q3: A nurse administers a high-potency sedative to a patient without a doctor's prescription just to "keep the patient quiet" during a busy shift. The patient suffers a temporary drop in oxygen saturation but recovers fully without permanent injury. The nurse's act of rashness/negligence is punishable under which section of the Bharatiya Nyaya Sanhita? (Q885698)

A. Section 106

B. Section 115

C. Section 355

D. Section 110

See Answer in Part B → Q3

@Neet_pg_bot

Q4: A forensic expert is asked in court to explain the legal scope of "Injury." According to Section 2(17) of the Bharatiya Nyaya Sanhita, which of the following scenarios constitutes a legal "Injury"? (Q885722)

A. Physical trauma to the abdomen leading to a ruptured spleen

B. Intentional damage to a person's professional reputation via false social media posts

C. Unauthorised demolition of a person's boundary wall

D. All of the above

See Answer in Part B → Q4

@Neet_pg_bot

Q5: In a case of custodial death, it is found that the officer beat the victim with the knowledge that such an act was likely to cause death, but there was no specific evidence of a premeditated intent to kill. Under the Bharatiya Nyaya Sanhita, the punishment for this act of culpable homicide not amounting to murder is found under: (Q885725)

A. Section 103

B. Section 104

C. Section 111

D. Section 106

See Answer in Part B → Q5

@Neet_pg_bot

Q6: A surgeon tells a patient that if they do not undergo an immediate (but actually unnecessary) expensive surgery, they will "certainly die within 24 hours." The patient, terrified by this false claim, signs the consent form. This consent is legally invalid under which section of the Bharatiya Nyaya Sanhita? (Q885727)

A. Section 88

B. Section 89

C. Section 90

D. Section 92

See Answer in Part B → Q6

@Neet_pg_bot

Q7: A doctor informs a patient that their biopsy results confirm advanced Stage IV carcinoma. The patient, overwhelmed by the news, suffers a fatal myocardial infarction on the spot. Is the doctor liable for the death? (Q885728)

A. Yes, under Section 106 for causing death by negligence

B. Yes, under Section 104 for knowledge of the impact of the news

C. No, they are protected under Section 93 of the Bharatiya Nyaya Sanhita

D. No, but only if the doctor had a psychiatrist present during the disclosure

See Answer in Part B → Q7

@Neet_pg_bot

Q8: In a case involving an occupational health hazard, a pregnant worker is forced to work 14-hour shifts in a factory with toxic chemical exposure, leading to a miscarriage. Which Article of the Constitution of India is primarily violated regarding the State's duty toward maternity relief? (Q885731)

A. Article 21

B. Article 42

C. Article 44

D. Article 51A

See Answer in Part B → Q8

@Neet_pg_bot

Q9: A 16-year-old boy is accused of rape and murder. The Juvenile Justice Board (JJB) must decide whether he should be tried as an adult. According to Section 15 of the Juvenile Justice Act, what is the specific requirement for this decision? (Q885734)

A. He must be tried as an adult automatically if the victim is a woman

B. Juvenile Justice Board must conduct a "Preliminary Assessment" of his mental and physical capacity to commit the offence

C. He cannot be tried as an adult until he reaches the age of 21

D. The police must decide the trial venue based on the FIR

See Answer in Part B → Q9

@Neet_pg_bot

Q10: A Medical Officer, while conducting a post-mortem examination in a case of suspected poisoning, intentionally throws away the stomach wash samples to protect the accused, who is a close relative. Which section of the Bharatiya Nyaya Sanhita is the doctor liable under? (Q885696)

A. Section 206

B. Section 238

C. Section 115

D. Section 106

See Answer in Part B → Q10

@Neet_pg_bot

Q11: A complainant wishes to file a criminal case against a man for "enticing away" his wife with the intent of illicit intercourse. While the Supreme Court decriminalized Adultery, which specific provision remains in the Bharatiya Nyaya Sanhita to penalize the act of enticing or detaining a married woman with criminal intent? (Q885739)

A. Section 22

B. Section 84

C. Section 497

D. Section 108

See Answer in Part B → Q11

@Neet_pg_bot

Q12: A patient’s relative continuously harasses and insults a doctor, falsely accusing them of "killing" a patient in public. Overwhelmed by the humiliation and mental agony, the doctor commits suicide, leaving a note citing the harassment as the sole

reason. The relative may be charged under which section of the Bharatiya Nyaya Sanhita ? (Q885740)

A. Section 103

B. Section 108

C. Section 226

D. Section 111

See Answer in Part B → Q12

@Neet_pg_bot

Q13: A doctor in a private clinic treats a patient for a gunshot wound. The patient refuses to explain the injury. Under Section 33 of the Bharatiya Nagarik Suraksha Sanhita, what is the legal obligation of the doctor regarding the disclosure of this information? (Q885741)

A. The doctor is bound by medical secrecy and cannot inform the police

B. The doctor must inform the police only if the patient dies

C. Every person aware of the commission of certain offences is duty-bound to give information to the nearest Magistrate or police officer

D. Information is required only if the doctor is a Government Medical Officer

See Answer in Part B → Q13

@Neet_pg_bot

Q14: During a court testimony, a nurse states: "I did not see the doctor administer the wrong injection, but the ward boy told me he saw it happen." Under the Bharatiya Sakshya Adhiniyam , why is this testimony generally inadmissible? (Q885743)

A. It violates the Rule against Perjury

B. It violates the "Firsthand Knowledge Rule"

C. The nurse is not a "Medical Expert"

D. The statement was not recorded by a Magistrate

See Answer in Part B → Q14

@Neet_pg_bot

Q15: A person submits a written declaration before a statutory authority, which by law is admissible as evidence. It is later proved that the declaration was knowingly false, though it was not made on oath. Which legal provision is most appropriately attracted? (Q885745)

A. Giving false evidence under oath

B. Making a false declaration receivable as evidence

C. Fabrication of false evidence for judicial proceedings

D. Screening an offender by causing disappearance of evidence

See Answer in Part B → Q15

@Neet_pg_bot

Q16: Following an assault on a doctor during emergency duty, the accused is booked under a state legislation specifically enacted to protect healthcare workers and hospital property. Which of the following best reflects the nature and intent of this legislation? (Q885746)

A. It regulates ethical misconduct of medical professionals

B. It provides criminal penalties for violence against medical personnel and damage to medical institutions

C. It compensates patients for medical negligence

D. It governs the registration and licensing of doctors

See Answer in Part B → Q16

@Neet_pg_bot

Q17: During an inquiry into an allegation of professional misconduct, a registered medical practitioner fails to provide the requested medical records within the stipulated time despite repeated notices. This failure primarily constitutes: (Q885747)

A. Civil negligence

B. Criminal negligence

C. Professional misconduct

D. Deficiency of service

See Answer in Part B → Q17

@Neet_pg_bot

Q18: In a case of civil medical negligence, the burden of proof primarily lies on: (Q885749)

A. Treating doctor

B. Hospital administration

C. Patient

D. Medical Council

See Answer in Part B → Q18

@Neet_pg_bot

Q19: A patient is undergoing an elective hysterectomy. During the surgery, the surgeon inadvertently nicks a blood vessel, leading to excessive bleeding. The surgeon immediately identifies the issue and successfully controls the bleeding, preventing further complications. Despite the patient's stable recovery, the patient files a negligence claim against the surgeon. Which defense is most likely to be successful in this case? (Q846924)

A. Contributory negligence

B. Therapeutic misadventure

C. Error of judgment

D. Medical Maloccurence

See Answer in Part B → Q19

@Neet_pg_bot

Q20: A 78-year-old patient with terminal cancer is experiencing unbearable pain and requests to end their life peacefully. The patient's family consults with the medical team about options.Which of the following accurately describes the type of euthanasia they are considering? (Q846915)

A. Involuntary euthanasia

B. Passive euthanasia

C. Voluntary euthanasia

D. Active euthanasia

See Answer in Part B → Q20

@Neet_pg_bot

Q21: A 65-year-old patient in Mumbai wants to ensure their end-of-life wishes are respected if they become incapacitated. Which of the following statements about Living wills in India is correct? (Q846916)

A. Living wills are not legally recognized in India

B. A Living will must be verified by a Chief Judicial Magistrate

C. Can designate a person to make medical decisions on their behalf

D. If two living wills are made, the first one will be valid.

See Answer in Part B → Q21

@Neet_pg_bot

Q22: A 35-year-old bus driver is diagnosed with epilepsy during a routine medical check-up. The patient requests the doctor not to disclose this information to anyone. In this scenario, which of the following actions by the doctor would be most appropriate? (Q846917)

A. Maintain absolute confidentiality as requested by the patient

B. Immediately report the condition to the patient's employer

C. Explain the potential risks to the patient and persuade them to allow disclosure

D. Disclose the information without the patient's consent

See Answer in Part B → Q22

@Neet_pg_bot

Q23: Which of the following does not fall under an exception to informed consent? (Q846918)

A. A medical examination ordered by a police officer for an individual arrested on suspicion of drug trafficking

B. Emergency surgical treatment for a patient after a road traffic accident

C. A psychiatric evaluation ordered by a court for a prisoner showing signs of severe mental illness

D. A patient diagnosed with tuberculosis refusing treatment, and the physician administering medication under the guise of placebo treatment to manage the condition for public health reasons

See Answer in Part B → Q23

@Neet_pg_bot

Q24: A 65-year-old male with terminal cancer is being treated in a palliative care unit. The physician is aware that disclosing the full extent of his poor prognosis may cause severe distress and worsen his psychological state. However, his family is requesting

detailed information about his condition to be disclosed to the patient. Which of the following ethical principles is most appropriate for the physician to apply in this situation? (Q846920)

A. The physician should use full disclosure and inform the patient of all risks, benefits, and prognosis, allowing the patient to make an informed decision about further care.

B. The physician should apply therapeutic privilege, withholding certain information if it is believed that disclosing the full prognosis could harm the patient's emotional well-being.

C. The physician should rely on therapeutic privilege but must always seek approval from the patient's family before withholding any information.

D. The physician should provide the information to the family only, as full disclosure primarily concerns the patient's relatives in situations involving terminal illness.

See Answer in Part B → Q24

@Neet_pg_bot

Q25: Which BNS section denotes that consent given by an insane person is invalid? (Q846921)

A. 25 BNS / IPC 87

B. 26 BNS / IPC 88

C. 28 BNS / IPC 90

D. 30 BNS / IPC 9

See Answer in Part B → Q25

@Neet_pg_bot

Q26: A 50-year-old woman undergoes a surgical procedure and experiences severe postoperative complications due to the surgeon's failure to follow standard protocols. As a result, she files a lawsuit seeking compensation for her injuries. In this scenario, which of the following statements accurately describes the nature of the lawsuit? (Q846922)

A. The lawsuit is a criminal negligence case because it involves severe harm and a violation of medical standards.

B. The lawsuit is a civil negligence case because it seeks compensation for harm caused by the surgeon's actions.

C. The lawsuit cannot proceed because the patient consented to the surgery.

D. The lawsuit is a tort case that does not involve any financial compensation.

See Answer in Part B → Q26

@Neet_pg_bot

Q27: A 48-year-old patient with ischemic heart disease is discharged following a cardiac procedure. Upon discharge, the doctor prescribes medications without reviewing the patient's current medication list, resulting in reduced effectiveness of the new drug. The patient also fails to adhere to the regimen, taking the medication only when he "felt like it." This leads to a severe cardiac event, prompting the patient to file a lawsuit, alleging negligence on the doctor’s part. Which legal principle would most likely serve as the doctor's defense in this case? (Q846923)

A. Composite negligence

B. Vicarious liability

C. Contributory negligence

D. Res ipsa loquitur

See Answer in Part B → Q27

@Neet_pg_bot

Q28: Which of the following is NOT considered a type of infamous conduct or professional misconduct according to the guidelines for medical practitioners? (Q846911)

A. Performing an illegal abortion operation

B. Issuing false or misleading certificates for administrative purposes

C. Refusing emergency treatment to a patient

D. Advertising in the yellow pages of the telephone directory

See Answer in Part B → Q28

@Neet_pg_bot

Q29: A patient undergoes surgery for a broken leg. After the operation, the patient develops a severe infection due to the use of contaminated surgical instruments. The patient had no involvement in the handling of the instruments and did not contribute to the negligence. Which legal doctrine best applies to this situation regarding the surgeon's liability? (Q846945)

A. Doctrine of Res Ipsa Loquitur

B. Doctrine of Common Knowledge

C. Novus Actus Interveniens

D. Borrowed Servant Doctrine

See Answer in Part B → Q29

@Neet_pg_bot

Q30: A 68-year-old woman with severe coronary artery disease undergoes coronary bypass surgery. Prior to the operation, the surgeon discusses the potential complications, including a 2-5% risk of mortality due to inherent surgical risks. Despite the surgery being performed with appropriate care, the patient unfortunately dies during the procedure. Which legal principle best explains the surgeon's liability in this case? (Q846946)

A. Novus Actus Interveniens

B. Calculated Risk Doctrine

C. Vicarious Liability

D. Respondeat Superior

See Answer in Part B → Q30

@Neet_pg_bot

Q31: A 65-year-old female patient undergoes elective thyroidectomy due to hyperthyroidism. During the procedure, the surgeon inadvertently damages the recurrent laryngeal nerve, resulting in vocal cord paralysis. The patient had been fully informed of the risks involved and consented to the surgery. Which of the following best describes the outcome of this incident? (Q846947)

A. Therapeutic Misadventure

B. Borrowed Servant Doctrine

C. Products Liability

D. Composite Negligence

See Answer in Part B → Q31

@Neet_pg_bot

Q32: How long should the following types of medical records be retained in India: Outpatient Records (OPD), Inpatient Records (IPD), and Medico-legal Records? (Q846948)

A. 5 years, 15 years, 15 years

B. 10 years, 23 years, 25 years

C. 5 years,15 years, 10 years

D. 3 years, 10 years, 10 years

See Answer in Part B → Q32

@Neet_pg_bot

Q33: Which of the following statements is false regarding the Bolam Test and the Bolitho Test? (Q846949)

A. The Bolam Test allows a doctor to avoid negligence if their actions align with a responsible body of medical opinion.

B. The Bolitho Test requires that the accepted medical opinion is logically defensible.

C. The Bolam Test involves active scrutiny from the court regarding the logic of medical opinions.

D. The Bolitho Test allows a finding of negligence if an expert's opinion is indefensible, regardless of peer support.

See Answer in Part B → Q33

@Neet_pg_bot

Q34: Match the following International Declarations with their guidelines. 1. Geneva a. Terminal Illness 2. Venice b. Therapeutic abortion 3. Ottawa c. Hippocratic Oath 4. Oslo d. Child health. (Q846950)

A. 1-d, 2-c, 3-b, 4-a

B. 1-c, 2-a, 3-d, 4-b

C. 1-a, 2-c, 3-b, 4-d

D. 1-b, 2-c, 3-d, 4-a

See Answer in Part B → Q34

@Neet_pg_bot

Q35: A 30-year-old male is accused of assaulting a neighbour. During the incident, he was under the delusion that the neighbour was a "demon" sent to kill him and believed he was acting in self-defence, completely unaware that his act was against the law. Under which section of the Bharatiya Nyaya Sanhita (BNS) can he claim the defence of legal insanity? (Q885694)

A. Section 20

B. Section 22

C. Section 24

D. Section 25

See Answer in Part B → Q35

@Neet_pg_bot

Q36: A man establishes a sexual relationship with a woman by promising to marry her, despite having no intention of ever doing so. In another instance, he uses a false identity to secure her consent. Under the Bharatiya Nyaya Sanhita, which specific provision now separates such "deceitful means" from the general definition of rape? (Q885695)

A. Section 64

B. Section 70

C. Section 72

D. Section 74

See Answer in Part B → Q36

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• [09_Medical Jurisprudence] 021 Previous Year Questions

« Back to Folder Directory

[09_Medical Jurisprudence] 021 Previous Year Questions — Quick Jump

Q1 (p. 273)	*Q2 (p. 273)*	*Q3 (p. 274)*	*Q4 (p. 274)*	*Q5 (p. 274)*	*Q6 (p. 275)*
Q7 (p. 275)	*Q8 (p. 275)*	*Q9 (p. 276)*	*Q10 (p. 276)*	*Q11 (p. 277)*	*Q12 (p. 277)*
Q13 (p. 277)	*Q14 (p. 278)*	*Q15 (p. 278)*	*Q16 (p. 279)*	*Q17 (p. 279)*	*Q18 (p. 280)*
Q19 (p. 281)	*Q20 (p. 281)*	*Q21 (p. 282)*	*Q22 (p. 282)*	*Q23 (p. 283)*	*Q24 (p. 283)*
Q25 (p. 283)	*Q26 (p. 284)*	*Q27 (p. 284)*	*Q28 (p. 284)*	*Q29 (p. 285)*	*Q30 (p. 285)*
Q31 (p. 285)	*Q32 (p. 286)*	*Q33 (p. 286)*	*Q34 (p. 287)*	*Q35 (p. 287)*	*Q36 (p. 287)*
Q37 (p. 288)	*Q38 (p. 288)*	*Q39 (p. 289)*	*Q40 (p. 289)*	*Q41 (p. 289)*	*Q42 (p. 290)*
Q43 (p. 290)	*Q44 (p. 291)*	*Q45 (p. 291)*			

Q1: Who is responsible for handling the investigation in the case of a custodial death? (Q857952)

A. Police inspector

B. Jail superintendent

C. Superintendent of Police

D. Judicial magistrate

See Answer in Part B → Q1

@Neet_pg_bot

Q2: A married female died in unnatural condition within 3 years of marriage. Her father filed a report to police and inquiry will be done under which section? (Q852474)

A. 194 BNSS/174 CrPC

B. 296 BNSS/276 CrPC

C. 116 BNS & 194 BNSS

D. 106 BNS & 194 BNSS

See Answer in Part B → Q2

@Neet_pg_bot

Q3: Which of the following courts has the authority to commute a death sentence? (Q860121)

A. Session court

B. Additional session court

C. High court

D. Session court and additional session court

See Answer in Part B → Q3

@Neet_pg_bot

Q4: A 13-year-old girl is brought to the OPD by her mother with a complaint of abdominal pain. The patient's urine pregnancy test (UPT) is positive. What should be the first step by you as a medical officer? (Q854644)

A. Start physical examination

B. Inform the police

C. Take consent from the patient's mother

D. Preserve the patient's clothes

See Answer in Part B → Q4

@Neet_pg_bot

Q5: The authority who investigates the death of a 14-year-old girl who was abducted by a man and subsequently died while in police custody will be? (Q859873)

A. Coroner

B. Police

C. Medical examiner

D. Judicial magistrate

See Answer in Part B → Q5

@Neet_pg_bot

Q6: What is the minimum age at which a woman can give valid consent for Medical Termination of Pregnancy (MTP) in India? (Q865254)

A. 18 years

B. 16 years

C. 25 years

D. 20 years

See Answer in Part B → Q6

@Neet_pg_bot

Q7: As per the MTP (Amendment) Act, 2021, the opinion of two registered medical practitioners is required for termination of pregnancy at which gestational age? (Q865275)

A. 16-20 weeks

B. 20-24 weeks

C. Up to 12 weeks

D. 12-16 weeks

See Answer in Part B → Q7

@Neet_pg_bot

Q8: Who conducts inquest in Police custodial death? (Q860431)

A. Higher police official

B. Judicial magistrate

C. Medical examiner

D. Coroner

See Answer in Part B → Q8

@Neet_pg_bot

Q9: Section 314 IPC deals with (Q855262)

A. Causing miscarriage with the consent of the mother

B. Causing miscarriage without the consent of the mother

C. Death of the mother by act done with intent to cause miscarriage

D. Causing the death of the quick unborn child by an act amounting to culpable homicide

See Answer in Part B → Q9

@Neet_pg_bot

Q10: The court summons a member of the public who witnessed the incident to provide testimony and document their account. What kind of evidence does the witness offer to the court? (Q857939)

A. Oral evidence

B. Hearsay evidence

C. Subpoena

D. Circumstantial evidence

See Answer in Part B → Q10

@Neet_pg_bot

Q11: Who order the autopsy in case of RTA? (Q844176)

A. Forensic expert

B. Police

C. Lawyer

D. forensic doctor

See Answer in Part B → Q11

@Neet_pg_bot

Q12: When an individual commences employment with a second employer, the new employer assumes responsibility for the individual's actions, under which doctrine? (Q856686)

A. Vicarious liability

B. Doctrine of negligent choice

C. Contributory negligence

D. Borrowed servant doctrine

See Answer in Part B → Q12

@Neet_pg_bot

Q13: While recording evidence in the court of law, the opposing lawyer asked the witness, “Did A kill B in your presence?” The witness said, “Yes”. Which procedural route would this type of question be permitted in the court of law? (Q856324)

A. Examination-in-chief

B. Direct examination

C. Cross-examination

D. Re-direct examination

See Answer in Part B → Q13

@Neet_pg_bot

Q14: Which of the following defines rape under the Bharatiya Nyaya Sanhita (BNS)? (Q856887)

A. Section 63 BNS

B. Section 64 BNS

C. Section 65 BNS

D. Section 70 BNS

See Answer in Part B → Q14

@Neet_pg_bot

Q15: A 30 year old apparently healthy man who was carrying laxatives and enema apparatus developed abdominal pain at the airport and an x-ray was done which appears as shown below. Which of the following is the likely diagnosis? (Q866695)

A. Bezoar syndrome

B. Pica due to anaemia

C. Body packer syndrome

D. Constipation due to fecalith



See Answer in Part B → Q15

@Neet_pg_bot

Q16: A 68-year-old female presents with breathlessness, declining health, and is found to have multiple metastases. She is awake, alert, and visibly anxious. The medical team assesses that aggressive chemotherapy, radiotherapy, ICU care, and mechanical ventilation would not improve her condition and may cause harm. Despite this, the patient's daughter insists on pursuing all possible life-prolonging measures, including ICU admission. What is the most appropriate next step for the physician in managing this case? (Q866424)

A. Convene family meeting considering patient values and goals of care

B. Admit to ICU and initiate aggressive treatment

C. Discharge and shift to home palliative care

D. Start placebo treatment

See Answer in Part B → Q16

@Neet_pg_bot

Q17: 'A' kills 'B' with a knife. Another person 'Z' saw 'A' with a knife in the park a few minutes before the murder. 'Z' gives this statement in a court of law. What kind of evidence is it? (Q855795)

A. Direct

B. Indirect

C. Hostile

D. Hearsay

See Answer in Part B → Q17

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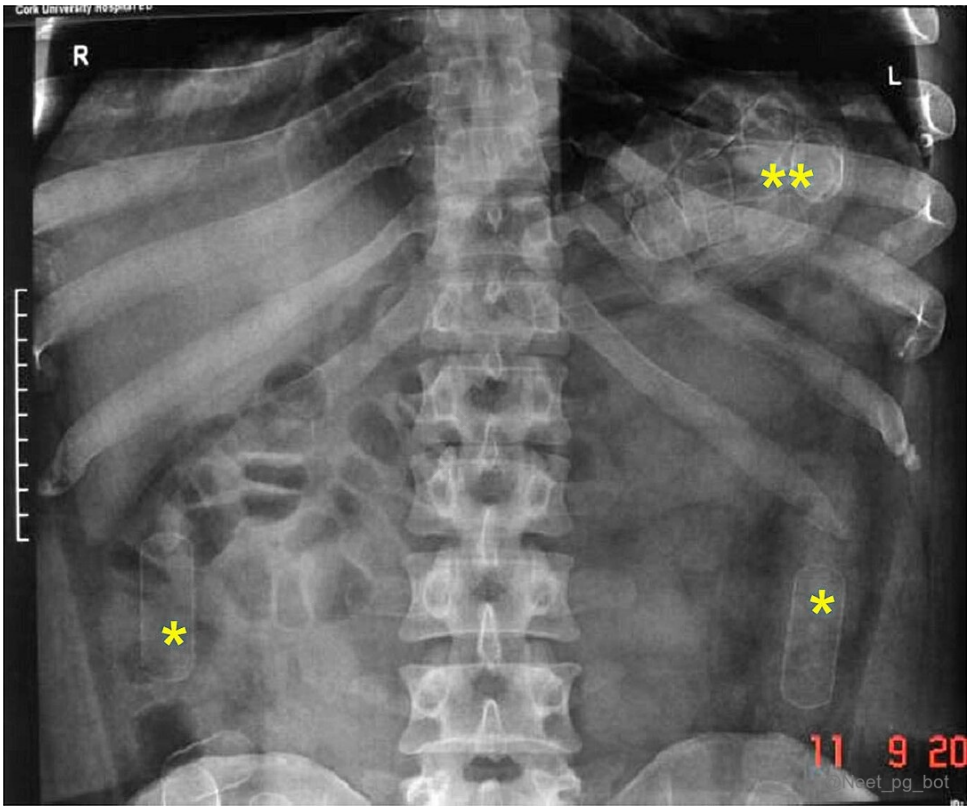
Q18: A 30-year-old apparently healthy man who was carrying laxatives and enema apparatus developed abdominal pain at the airport and an x-ray was done which appears as shown below. Which of the following is the likely diagnosis? (Q859418)

A. Bezoar syndrome

B. Pica due to anaemia

C. Body packer syndrome

D. Constipation due to fecalith



See Answer in Part B → Q18

@Neet_pg_bot

Q19: An 18 year old woman reports sexual assault by a 24 year old co-worker at her workplace. Her mother does not want to involve the police / medicolegal case. What is the appropriate course of action for a healthcare provider? (Q879130)

A. Take consent from the mother and proceed with examination

B. Take consent directly from the woman and proceed with examination

C. Document informed refused from parents

D. Don’t inform the police

See Answer in Part B → Q19

@Neet_pg_bot

Q20: A patient was experiencing delusions of persecution and killed a person he believed was trying to harm him. He was later diagnosed with schizophrenia. According to the McNaughton rule, which of the following is correct regarding his criminal liability? (Q879154)

A. The patient is not criminally liable

B. The patient is exempt from trial

C. The patient's liability depends on provocation

D. The patient's liability depends on intent reframe

See Answer in Part B → Q20

@Neet_pg_bot

Q21: In a civil negligence case against a doctor, who is responsible for providing evidence? (Q858468)

A. Patient

B. Police not under the rank of sub-inspector

C. Magistrate

D. Doctor

See Answer in Part B → Q21

@Neet_pg_bot

Q22: To perform MTP for a mentally challenged female, consent is obtained from? (Q860130)

A. Husband/ partner

B. Legal guardian

C. Doctor

D. Magistrate

See Answer in Part B → Q22

@Neet_pg_bot

Q23: Which of the following is punishable under the MTP Act? (Q860134)

A. MTP done up to 24 weeks

B. Done by government-authorized center

C. Done by experienced RMP

D. Non-entry in MTP-register, not sending report to DDHS

See Answer in Part B → Q23

@Neet_pg_bot

Q24: Medical termination of pregnancy can be done upto 24 weeks in case of? (Q857925)

A. Congenital malformation

B. Minors

C. Contraception failure

D. Rape victim

See Answer in Part B → Q24

@Neet_pg_bot

Q25: A doctor was summoned to the court to record his evidence in a medicolegal case . What is correct about this witness? (Q857926)

A. Oral evidence

B. Common witness

C. Expert witness

D. Hostile witness

See Answer in Part B → Q25

@Neet_pg_bot

Q26: Death registration in India done within? (Q857041)

A. 21 days

B. 28 days

C. 30 days

D. 40 days

See Answer in Part B → Q26

@Neet_pg_bot

Q27: What is the responsibility of the doctor in recording the dying declaration of a victim affected by a fire? (Q857634)

A. To assess compos mentis

B. To record the statement even in the presence of magistrate

C. Cross-examine the person

D. Put the person under oath before declaration

See Answer in Part B → Q27

@Neet_pg_bot

Q28: What is the appropriate course of action following the observation of cigarette burn marks on the forearm of a 14-year-old girl who presents to a doctor with a fractured forearm, claiming to have fallen and hit her hand? (Q856673)

A. To inform higher authorities

B. To do a complete physical examination

C. To tell or discuss with colleagues that she is a case of abuse

D. To call local social worker for help

See Answer in Part B → Q28

@Neet_pg_bot

Q29: Which organization is related to the Protection of Children from Sexual Offences (POCSO) Act? (Q856680)

A. Child and welfare committees

B. Women and child safety department

C. Children rights protection committee

D. All of the above

See Answer in Part B → Q29

@Neet_pg_bot

Q30: If a healthcare professional is found guilty of professional misconduct, they must provide the patient's records promptly upon request, within: (Q856683)

A. 72 hours

B. 48 hours

C. 24 hours

D. 7 days

See Answer in Part B → Q30

@Neet_pg_bot

Q31: A surgeon performs a hysterectomy for uterine fibroids after obtaining relevant informed consent from the patient. Despite adequate precautions, the ureter was injured intraoperatively. Under which of the following principles will the doctor not be held responsible for this act? (Q856331)

A. Novus actus interveniens

B. Medical maloccurrence

C. Res ipsa loquitur

D. Physician error

See Answer in Part B → Q31

@Neet_pg_bot

Q32: What is the penalty for causing the death of a patient due to the use of counterfeit medication/spurious drug? (Q856336)

A. 5 years

B. 7 years

C. Life imprisonment

D. 1 year

See Answer in Part B → Q32

@Neet_pg_bot

Q33: In relation to the punishment of perjury, which specific section of the BNS addresses this matter? (Q854897)

A. BNS 227

B. BNS 228

C. BNS 229

D. BNS 234

See Answer in Part B → Q33

@Neet_pg_bot

Q34: A man with multiple stab wounds is brought to the emergency department in a critical condition. He is conscious but not expected to survive for long. The Magistrate is not immediately available. According to medico-legal procedure, what should be done regarding the dying declaration? (Q852472)

A. Wait for the Magistrate to arrive before recording the statement

B. The attending doctor should record the dying declaration after certifying the patient's consciousness

C. Ask the police officer on duty to record the declaration under oath

D. Leading questions should be asked to clarify facts quickly

See Answer in Part B → Q34

@Neet_pg_bot

Q35: What type of consent is obtained when a patient agrees to a procedure after being informed about its benefits and complications? (Q855840)

A. Informed consent

B. Implied consent

C. Opt-out

D. Passive consent

See Answer in Part B → Q35

@Neet_pg_bot

Q36: A surgeon returns home from a party after many pegs of alcohol and was called to perform an emergency operation. During the operation, the assisting staff noticed the surgeon's hand shaking and instruments falling. He eventually nicks an artery and

the patient collapses. Under which of the following terms will this incident be tried? (Q855860)

A. Criminal negligence

B. Civil negligence not amounting to criminal negligence

C. Therapeutic misadventure

D. Dichotomy

See Answer in Part B → Q36

@Neet_pg_bot

Q37: A doctor receives two summons, one to appear in court in a murder case and another to provide expert medical opinion. Which of the following should the doctor prioritise? (Q866616)

A. Appearance in the murder case

B. Appearance for providing medical expert opinion

C. The summon received first

D. None of the above

See Answer in Part B → Q37

@Neet_pg_bot

Q38: A man was abducted from his home, and his son subsequently claimed rights to his father's property. As per Section 111 of the Bharatiya Sakshya Adhiniyam (BSA), until when is the son not entitled to claim inheritance? (Q866685)

A. 5 years

B. 6 years

C. 7 years

D. 10 years

See Answer in Part B → Q38

@Neet_pg_bot

Q39: According to the Bharatiya Nyay Sanhita (BNS), which of the following is not classified as grievous hurt? (Q865325)

A. Pain lasting for 5 days

B. Elbow dislocation

C. Emasculation

D. Fracture of a tooth

See Answer in Part B → Q39

@Neet_pg_bot

Q40: A forensic expert received a summons from the district court to record his evidence in a criminal case, but two days prior, he already received a summons for a civil case in the same district court for the same date. What should the doctor do? (Q852468)

A. Inform both courts and wait.

B. Attend the court for which the summons came first.

C. Attend the court for the criminal case.

D. Do not attend either court.

See Answer in Part B → Q40

@Neet_pg_bot

Q41: Which of the following statements is incorrect regarding cross-examination in a court of law? (Q793564)

A. The witness is questioned by the defense lawyer

B. Leading questions are not permitted

C. The purpose is to challenge or weaken the opponent’s case

D. There is no fixed time limit for cross-examination

See Answer in Part B → Q41

@Neet_pg_bot

Q42: As an internal medicine consultant at a private clinic, you are handling the case of a patient who has chronic renal disease and needs hemodialysis. You provide dietary and fluid management recommendations and closely monitor the patient. Unfortunately, the patient decides to take ayurvedic supplements and occasionally disregards your instructions without informing you. Consequently, the patient's condition deteriorates, leading to respiratory distress. Subsequently, the patient's attendant files a legal complaint, accusing the doctor of negligence. Which of the following can serve as a defense for the doctor in court? (Q793550)

A. Vicarious liability

B. Res Ipsa loquitur

C. Therapeutic misadventure

D. Contributory negligence

See Answer in Part B → Q42

@Neet_pg_bot

Q43: According to the amendment in the medical termination of pregnancy (MTP) Bill of 2020 , until what gestational age is it permissible to induce MTP in mentally ill rape victims? (Q793546)

A. 20 weeks

B. 22 weeks

C. 24 weeks

D. 28 weeks

See Answer in Part B → Q43

@Neet_pg_bot

Q44: A doctor was summoned as a public witness to appear and record his evidence in court. What is correct about this witness? (Q820282)

A. Oral evidence

B. Common witness

C. Expert witness

D. Hostile witness

See Answer in Part B → Q44

@Neet_pg_bot

Q45: Medical termination of pregnancy can be done upto 24 weeks in case of? (Q820252)

A. Congenital malformation

B. Minors

C. Contraception failure

D. Rape victim

See Answer in Part B → Q45

@Neet_pg_bot

• [10_Infanticide] 022 Infanticide

« Back to Folder Directory

[10_Infanticide] 022 Infanticide — Quick Jump

Q1 (p. 292) *Q2 (p. 292)* *Q3 (p. 293)* *Q4 (p. 293)* *Q5 (p. 293)* *Q6 (p. 294)*
Q7 (p. 294) *Q8 (p. 295)* *Q9 (p. 295)* *Q10 (p. 296)*

Q1: Regarding infanticide, feticide, and filicide in India, which of the following statement is incorrect? (Q847031)

A. Infanticide is punishable by death or imprisonment for life

B. Feticide is the killing of a fetus at any time prior to birth

C. The killing of a living child in the mother’s womb who has not yet breathed cannot be considered Feticide

D. Female feticide is the act of aborting a fetus because it is female

See Answer in Part B → Q1

@Neet_pg_bot

Q2: A stillborn fetus is discovered during a routine prenatal checkup. The fetus shows skin slippage on the face and back, soft and flaccid tissues, and a sweetish disagreeable smell, but no gas formation. The skull shows mild cranial compression but no overlapping of cranial sutures. Based on these findings, approximately how long ago did fetal death likely occur? (Q847036)

A. Less than 12 hours ago

B. Between 12-24 hours ago

C. Between 36-48 hours ago

D. More than 96 hours ago

See Answer in Part B → Q2

@Neet_pg_bot

Q3: A 35-year-old woman presents with suspected intrauterine fetal death at 36 weeks gestation. Which of the following findings would be LEAST useful in confirming recent fetal demise? (Q847040)

A. Spalding's sign on ultrasonography

B. Presence of skin slippage on the fetus's face and back

C. Robert's sign on ultrasonography

D. Absence of fetal heart sounds on electronic fetal monitoring

See Answer in Part B → Q3

@Neet_pg_bot

Q4: A newborn is delivered with no signs of life, and the forensic team must determine whether the baby was stillborn or liveborn. Which test is most appropriate for this purpose? (Q847042)

A. Hydrostatic test

B. Kleihauer–Betke test

C. Coombs test

D. Apgar score

See Answer in Part B → Q4

@Neet_pg_bot

Q5: A forensic pathologist is examining the lungs of a newborn during an autopsy. The lungs appear mottled in color and occupy most of the thoracic cavity. However, when subjected to the hydrostatic test, portions of the lung tissue sink while others float. Microscopically, some areas show expanded alveoli lined with flat squamous cells, while other areas show closed alveoli lined with cuboidal cells. What is the most likely explanation for these conflicting findings? (Q847044)

A. The infant was stillborn, and the floating lung portions are due to putrefaction

B. The infant was live-born but suffered from severe respiratory distress syndrome

C. The infant was live-born and partially breathed before death

D. The findings are inconclusive and could be due to artificial respiration attempts

See Answer in Part B → Q5

@Neet_pg_bot

Q6: A forensic examiner is evaluating two fetuses found under different circumstances. The examiner performs Breslau's First Life Test on Baby A and Breslau's Second Life Test on Baby B. The findings are as follows: For Baby A, after performing the hydrostatic test, the lungs sink when compressed and placed back in water. For Baby B, air bubbles are observed escaping from the stomach and intestines after an incision is made underwater. What do these findings suggest about the live birth status of both babies? (Q847048)

A. Baby A was stillborn, while Baby B was born alive and breathed

B. Baby A was born alive and breathed, while Baby B was stillborn

C. Both Baby A and Baby B were born alive and breathed

D. Both tests are inconclusive due to potential contamination

See Answer in Part B → Q6

@Neet_pg_bot

Q7: A newborn is examined shortly after delivery. The physician observes a localized swelling on the baby's head that appears several hours after birth. The swelling is confined to one side of the skull, is firm to the touch, and does not cross the suture lines. What is the most likely diagnosis for this condition? (Q847054)

A. Caput Succedaneum

B. Cephalhematoma

C. Hydrocephalus

D. Intracranial hemorrhage

See Answer in Part B → Q7

@Neet_pg_bot

Q8: A 3-month-old infant is found unresponsive in their crib by a caregiver early in the morning. The infant had been healthy and fed well the previous evening. The caregiver reports the baby typically sleeps on their stomach. An autopsy is performed, revealing no conclusive cause of death. Which of the following statements is most accurate based on the scenario? (Q847057)

A. Sleeping on the stomach significantly reduces the risk of death.

B. The autopsy typically reveals specific pathological findings.

C. Low birth weight or premature infants have an increased risk of sudden death.

D. Maternal smoking has no post-natal association with infant mortality.

See Answer in Part B → Q8

@Neet_pg_bot

Q9: A 6-year-old child is frequently admitted with gastrointestinal distress, including vomiting and abdominal pain. The mother provides elaborate details about the symptoms and insists on multiple tests despite negative results. Symptoms appear only when the mother is present, and the child seems healthy when separated. What is the most likely diagnosis for the child’s condition? (Q847067)

A. Gastroenteritis

B. Munchausen Syndrome by Proxy

C. Functional abdominal pain

D. Anxiety disorder

See Answer in Part B → Q9

Q10: A 2-year-old girl presents with persistent crying, refusal to eat, and multiple bruises. The parents report frequent falls. On exam, there are bruises on the abdomen and back, a healing burn on the thigh, and rib tenderness. X-ray done is shown below. The parents give vague explanations and claim the child "bruises easily." A CT scan reveals subdural hematoma without a clear trauma history. What is the most likely diagnosis? (Q847070)

A. Osteogenesis imperfecta

B. Battered Baby Syndrome

C. Munchausen syndrome by proxy

D. Hemophilia



See Answer in Part B → Q10

• [11_Forensic Toxicology] 023 Forensic Toxicology 1

« Back to Folder Directory

[11_Forensic Toxicology] 023 Forensic Toxicology 1 — Quick Jump

Q1 (p. 297)	*Q2 (p. 298)*	*Q3 (p. 298)*	*Q4 (p. 298)*	*Q5 (p. 299)*	*Q6 (p. 299)*
Q7 (p. 300)	*Q8 (p. 301)*	*Q9 (p. 302)*	*Q10 (p. 302)*	*Q11 (p. 303)*	*Q12 (p. 303)*
Q13 (p. 304)	*Q14 (p. 304)*	*Q15 (p. 305)*	*Q16 (p. 305)*	*Q17 (p. 306)*	*Q18 (p. 306)*
Q19 (p. 307)	*Q20 (p. 307)*	*Q21 (p. 308)*	*Q22 (p. 308)*		

Q1: What is the treatment of choice for the sting of the organism given below? (Q846960)

A. Prazosin

B. Atropine

C. Calcium gluconate

D. Scorpion antevenom



See Answer in Part B → Q1

@Neet_pg_bot

Q2: In which poisoning is cherry red hypostasis seen on post-mortem examination? (Q876262)

A. CO Poisoning

B. Hydrogen sulphide

C. Yellow phosphorus

D. Hydrogen cyanide

See Answer in Part B → Q2

@Neet_pg_bot

Q3: In which poisoning is cherry red hypostasis seen on post-mortem examination? (Q876012)

A. CO Poisoning

B. Hydrogen sulphide

C. Yellow phosphorus

D. Hydrogen cyanide

See Answer in Part B → Q3

@Neet_pg_bot

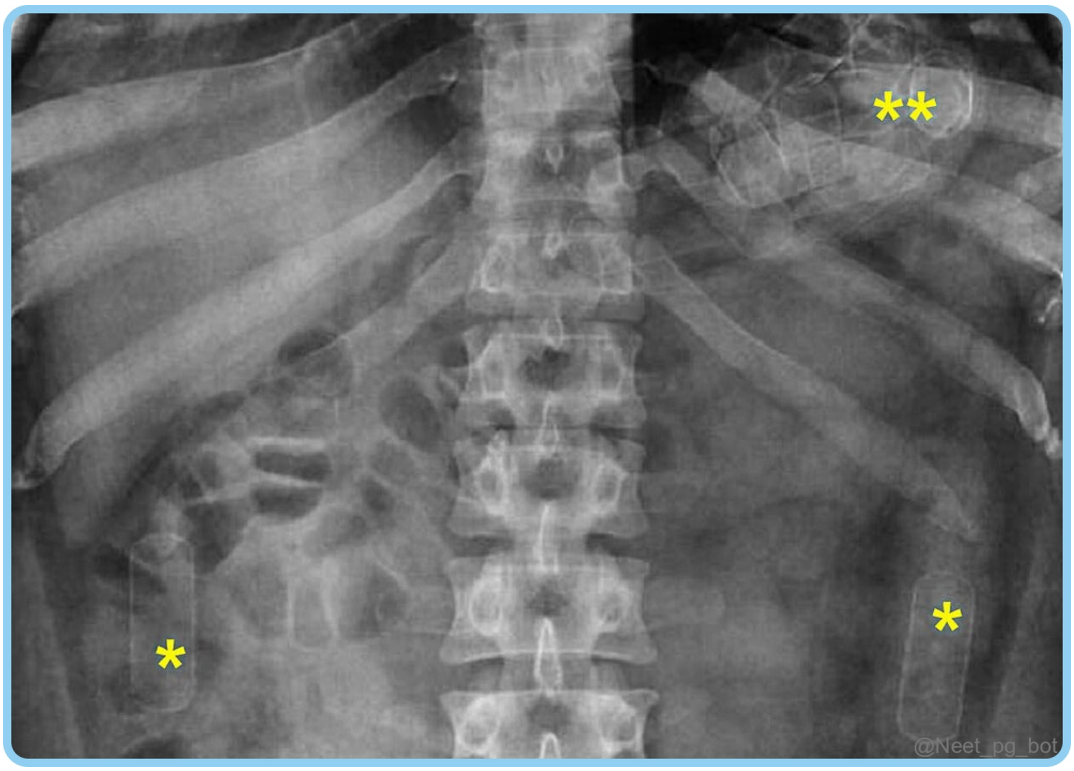
Q4: A police officer presents an X-ray of a suspect who is believed to be a body packer. Patient acts casual and his vitals are stable The X-ray is as given. What is the most critical initial management step for this patient? (Q847008)

A. Administer activated charcoal

B. Perform a laparotomy

C. Monitor and provide supportive care

D. Do an urgent MRI



See Answer in Part B → Q4

@Neet_pg_bot

Q5: A 40-year-old man is brought to the emergency department after taking an overdose of morphine. He is unresponsive with a respiratory rate of 6 breaths per minute. Which laboratory finding would you expect in this patient? (Q847005)

A. Elevated blood glucose levels

B. Hypoxemia

C. Metabolic alkalosis

D. Hypokalemia

See Answer in Part B → Q5

@Neet_pg_bot

Q6: A 24 year old female was brought to the emergency department in comatose state and on examination, the vitals were BP:80/40, HR:42/min, RR:8/min, Temperature 36 degree, Reflexes: sluggish, Miosis with conjunctival congestion, spO2:85%. Multiple skin scars were noted on her left forearm.The attenders gave a history of the frequent domestic strife and mood swings following which she would have a long unexplained absence from home. The duty doctor suspected drug abuse and started appropriate management. Which among the following chemical tests can be used for diagnosis in this case? (Q847001)

A. Marquis test

B. Marsh test

C. McNally's test

D. Gutzeit test

See Answer in Part B → Q6

@Neet_pg_bot

Q7: All among the following are true regarding the image except: (Q846998)

A. Obtained from a plant called Paper somniferum

B. Extracted via vertical incision from unripe poppy

C. Addictive potential is due to its action on Kappa (κ) receptors

D. Pruritus is a common adverse effect



See Answer in Part B → Q7

@Neet_pg_bot

Q8: Patient was brought to ED after being bitten by a snake as shown below. Which of the following steps are part of management in this patient? 1) Immobilize the limb by applying crepe bandages 2) Cauterize the bite wound 3) No test dose to be given before starting ASV 4) Dose of ASV should be halved in children 5) ASV given until clotting time becomes normal (Q846993)

A. 1, 3

B. 3, 5

C. 2, 4, 5

D. 3, 4, 5



See Answer in Part B → Q8

@Neet_pg_bot

Q9: Which of the following snakes is known for its myotoxic venom? (Q846991)

A. King Cobra

B. Sea Snake

C. Russell’s Viper

D. Banded Krait

See Answer in Part B → Q9

@Neet_pg_bot

Q10: Which of the following is a key difference between neurotoxic and vasculotoxic snake venoms? (Q846983)

A. Neurotoxic venom local reaction is extensive and vasculotoxic venom local reaction is minimal

B. Tongue paralysis is seen in vasculotoxic snakes.

C. Neurotoxic venom leads to severe swelling at the bite site, while vasculotoxic venom causes respiratory paralysis.

D. Neurotoxic venom causes wet gangrene , while vasculotoxic venom causes dry gangrene.

See Answer in Part B → Q10

@Neet_pg_bot

Q11: Which of the following is not a physical feature of a poisonous snake? (Q846962)

A. Small belly scales

B. Small head scales

C. Long fang

D. Compressed tail

See Answer in Part B → Q11

@Neet_pg_bot

Q12: What is the mechanism of action of the poison found in these seeds (image)? (Q846903)

A. Stimulation of anterior horn cells of spinal cord

B. Inhibition of anterior horn cells of spinal cord

C. Stimulation of posterior horn of spinal cord

D. Inhibition of posterior horn of spinal cord



See Answer in Part B → Q12

@Neet_pg_bot

Q13: Which of the following can cause priapism? (Q846958)

A. Spanish fly

B. Tumbu fly

C. Botfly

D. Screwworm fly

See Answer in Part B → Q13

@Neet_pg_bot

Q14: A forensic pathologist is conducting an autopsy on a 38-year-old male who died after an accidental exposure to hydrofluoric acid (HF) at an industrial plant. Which of

the following postmortem findings is most characteristic of HF poisoning? (Q846956)

A. Cherry-red discoloration of the blood

B. Black tarry stool

C. Severe hypocalcemia and calcium deposits in tissues

D. Widespread gastric mucosal erosion

See Answer in Part B → Q14

@Neet_pg_bot

Q15: A 32-year-old man is found unconscious with a strong odor of antiseptic on his breath. He is rushed to the emergency department where he develops hypotension and renal failure. On examination, his angle of mouth is stained gray, and he has burns on his esophagus. The patient had a history of greenish discoloration of urine. What is the most likely cause of these findings? (Q846943)

A. Oxalic acid poisoning

B. Sulfuricacid poisoning

C. Carbolicacid poisoning

D. Nitricacid poisoning

See Answer in Part B → Q15

@Neet_pg_bot

Q16: A forensic pathologist is performing autopsies on two individuals who died from chemical poisoning. One case involves nitric acid and the other oxalic acid. Which of the following postmortem findings is most consistent with oxalic acid poisoning rather than nitric acid poisoning? (Q846942)

A. Yellow discoloration of the skin with congestion of the larynx and trachea

B. Perforation of stomach

C. Soft, friable stomach wall with ulceration

D. Gelatinous brown stomach content with swollen, congested kidneys showing necrosis

See Answer in Part B → Q16

@Neet_pg_bot

Q17: A 40 year old man was found unconscious at home, with an open container of unknown acid nearby. He was rushed to the ER but died shortly after arrival. During autopsy, the police surgeon notes several injuries consistent with corrosive ingestion along with chalky white, brittleteeth. Which forensic finding would solidify the above finding in this case? (Q846914)

A. Bright red lividity

B. Blackish staining and necrosis of the lips and mouth

C. Greenish discoloration of the skin

D. Yellowish staining and necrosis of the lips and mouth

See Answer in Part B → Q17

@Neet_pg_bot

Q18: In cases of poisoning by corrosive substances, gastric lavage can be performed in which of the following situations? A) Sulphuric acid poisoning B) Hydrochloric acid poisoning C) Carbolic acid (Phenol) poisoning D) Ammonia poisoning E) Oxalic acid poisoning (Q846913)

A. All except D

B. All except A and B

C. Only C and E

D. Only E

See Answer in Part B → Q18

@Neet_pg_bot

Q19: What is the mechanism of action of the toxin present in this plant? (Q846910)

A. Causes extrasystoles

B. Paralyses respiratory muscles

C. Causes CNS depression

D. CNS hyperexcitation



See Answer in Part B → Q19

@Neet_pg_bot

Q20: Given is the image of a poisonous plant. Which part of this plant is poisonous? (Q846908)

A. Flower

B. All parts

C. Root

D. Seed



See Answer in Part B → Q20

@Neet_pg_bot

Q21: Which of the following statements on aconite is false? (Q846906)

A. All parts of the plant are poisonous

B. Easily detected postmortem

C. Affects voltage-sensitive sodium channels

D. 1-2 g of root is lethal

See Answer in Part B → Q21

@Neet_pg_bot

Q22: Which of the following statements on strychnine poisoning is wrong? (Q846904)

A. Rigor mortis sets in late

B. Delayed putrefaction

C. Strychnine can be detected in putrefied bodies and viscera

D. Brain and spinal cord should be preserved for analysis

See Answer in Part B → Q22

@Neet_pg_bot

• [11_Forensic Toxicology] 024 Forensic Toxicology 2

« Back to Folder Directory

[11_Forensic Toxicology] 024 Forensic Toxicology 2 — Quick Jump

Q1 (p. 310)	*Q2 (p. 310)*	*Q3 (p. 311)*	*Q4 (p. 311)*	*Q5 (p. 312)*	*Q6 (p. 312)*
Q7 (p. 312)	*Q8 (p. 313)*	*Q9 (p. 313)*	*Q10 (p. 314)*	*Q11 (p. 314)*	*Q12 (p. 315)*
Q13 (p. 316)	*Q14 (p. 316)*	*Q15 (p. 317)*	*Q16 (p. 318)*	*Q17 (p. 318)*	*Q18 (p. 319)*
Q19 (p. 319)	*Q20 (p. 320)*	*Q21 (p. 320)*	*Q22 (p. 320)*	*Q23 (p. 321)*	*Q24 (p. 321)*
Q25 (p. 322)					

Q1: A 30 year old construction manager presented with persistent abdominal pain, nausea, fatigue, and episodes of vomiting and diarrhoea over several months. His symptoms progressively worsened, and he developed skin changes, including darkening and hyperkeratosis on his palms and soles. Blood tests confirmed heavy metal poisoning. Which of the following is the preferred test and treatment for this condition? (Q847195)

A. Neutron activation analysis and Naloxone

B. Marsh test and BAL

C. Atomic absorption spectroscopy and BAL

D. Gutzeit test and Naloxone

See Answer in Part B → Q1

@Neet_pg_bot

Q2: A 39 year old man presents to the emergency department after consuming homemade alcohol, showing headache, dizziness, nausea, vomiting, blurred vision, confusion, and metabolic acidosis. Methanol poisoning is suspected, and treatment with fomepizole is initiated. Which mechanism explains how fomepizole mitigates methanol toxicity? (Q847207)

A. It is a competitive inhibitor to Methanol

B. Increases the excretion of Formic acid

C. Used in treating Metabolic acidosis

D. It inhibits alcohol dehydrogenase

See Answer in Part B → Q2

@Neet_pg_bot

Q3: A 35 year old male presents with confusion, disorientation, nystagmus and impaired vision with a history of chronic alcoholism. On examination, he had ataxia and ophthalmoplegia. What is the likely condition that is causing these symptoms? (Q847206)

A. Mallory-Weiss Syndrome

B. MarChiafava's Syndrome

C. Korsakoff Psychosis

D. Wernicke's Encephalopathy

See Answer in Part B → Q3

@Neet_pg_bot

Q4: A 45 year old man with a history of chronic alcohol use presents to the emergency department after abrupt cessation of drinking for three days. He exhibits agitation and tremors. On examination, he has diaphoresis. Which of the following symptoms may also occur in alcohol withdrawal 72 hours after cessation? (Q847205)

A. Hypotension

B. Severe Bradycardia

C. Sedation

D. Disorientation

See Answer in Part B → Q4

@Neet_pg_bot

Q5: A 32-year-old male weighing 100 kg was arrested for disorderly conduct at a market. Upon questioning, he confesses to consuming 100 grams of alcohol. Using the Widmark formula, calculate his Blood Alcohol Concentration (BAC). (The Widmark constant for men is 0.68) (Q847204)

A. 167 mg%

B. 127 mg%

C. 137 mg%

D. 147 mg%

See Answer in Part B → Q5

@Neet_pg_bot

Q6: A 28 year old male was brought to the ED after multiple episodes of vomiting, confusion, and irritability following alcohol consumption at a party. He had a flushed face, sensory impairment, and a heart rate of 105. He was suspected to be in the 2nd phase of intoxication. What is the likely blood alcohol concentration (BAC)? (Q847203)

A. 100 mg%

B. 300 mg%

C. 80 mg%

D. 150 mg%

See Answer in Part B → Q6

@Neet_pg_bot

Q7: A 30 year old male is brought to the emergency department by friends after acting erratically in public, hallucinating, and showing aggressive behaviour. He is agitated

and confused and has dilated pupils and a rapid heart rate. While his vital signs are stable, he becomes more aggressive when approached. Which substance might be abused in this case? (Q847202)

A. Hemlock

B. Chloral hydrate

C. Cocaine

D. Phencyclidine

See Answer in Part B → Q7

@Neet_pg_bot

Q8: A 25 year old male presents to the emergency department exhibiting severe agitation, hallucinations, and a heightened sense of paranoia after attending a rave. He reports feelings of overwhelming anxiety and visual distortions, claiming he sees colours and shapes that aren't there. Based on his symptoms, which substance is most likely responsible for his bad trip? (Q847201)

A. MDMA

B. Amphetamine

C. LSD

D. Heroin

See Answer in Part B → Q8

@Neet_pg_bot

Q9: A 35 year old man who works in a jewelry factory is brought to the emergency department drowsy, with sudden irritability, confusion, and vomiting over 24 hours. Examination shows a bluish line on his gums and pallor, and blood tests confirm acute heavy metal poisoning with cerebral oedema on the CT scan. Along with maintenance ofairway, breathing, and circulation, what is the immediate management? (Q847200)

A. Calcium gluconate

B. DMSA

C. D-penicillamine

D. Dimercaprol

See Answer in Part B → Q9

@Neet_pg_bot

Q10: A 5-year-old child presents with developmental delay, irritability, and abdominal pain. Laboratory investigations for lead poisoning are ordered. Which of the following is the definitive indicator of lead poisoning? (Q847199)

A. Microcytic-hypochromic anaemia with basophilic stippling

B. Increased levels of urinary coproporphyrin (>150 mcg/litre)

C. Blood lead level >40 micrograms/100 ml

D. Elevated Free Erythrocyte Protoporphyrin (FEP) levels

See Answer in Part B → Q10

@Neet_pg_bot

Q11: A 5-year-old girl is brought to the paediatrician due to irritability, decreased appetite, abdominal pain, and difficulty concentrating. She exhibits signs of anaemia and pallor, as depicted in the image below. Blood tests confirm heavy metal poisoning. Which clinical manifestations are not typically associated with this condition? (Q847198)

A. Burtonian lines

B. Basophilic stippling

C. Phossy jaw

D. Calcium deposition in bone ends



See Answer in Part B → Q11

@Neet_pg_bot

Q12: A 4-year-old boy is brought to the clinic for irritability, poor appetite, and stomach pain. The family recently moved into an old house that is under renovation. Examination reveals pallor and a blue line on the gums. Blood smear findings are noted. What is the most likely finding on the blood smear in this child with suspected lead poisoning? (Q847197)

A. Target cell

B. Basophilic stippling

C. Spherocytes

D. Rouleaux formation

See Answer in Part B → Q12

@Neet_pg_bot

Q13: A 6 year old girl was brought to the clinic by her parents, who reported symptoms including irritability, stomach pain, difficulty concentrating, decreased appetite, and fatigue. The examination showed signs of anaemia and facial circumoral pallor, leading the doctor to suspect heavy metal poisoning. What is the most common route of exposure to this poison in children? (Q847196)

A. Inhalation of lead-contaminated air

B. Ingestion of lead-contaminated water

C. Ingestion of lead dust or paint chips

D. Absorption through skin

See Answer in Part B → Q13

@Neet_pg_bot

Q14: A 32-year-old male presents to the emergency department after ingesting the seeds given in the image. He has severe abdominal pain, bloody vomiting, dizziness, and a rapid, weak pulse. What is the mechanism of action of the toxic compound present in the seeds? (Q847014)

A. Inhibits calcium ion channels, causing cell death.

B. Blocks RNA polymerase, preventing protein synthesis

C. Binds to ribosomal RNA, inhibiting protein synthesis.

D. Disrupts mitochondrial function, leading to energy failure.



See Answer in Part B → Q14

@Neet_pg_bot

Q15: A 45-year-old construction worker presented with severe health issues over several weeks, including abdominal pain, persistent nausea, throat pain, fatigue, and intermittent diarrhoea. During hospitalisation, he developed confusion, slurred speech, and distinctive skin changes (shown in the image below) indicative of heavy metal poisoning. Which of the following clinical features is commonly associated with this condition? (Q847194)



See Answer in Part B → Q15

@Neet_pg_bot

Q16: A 40-year-old man was found dead in his home with no signs of forced entry. Family members reported he had been unwell for weeks, experiencing throat and abdominal pain, vomiting, and purging. Autopsy findings indicated emaciation, keratosis, and white streaks on his nails, suggesting heavy metal poisoning. Which of the following postmortem findings is not true in this case? (Q847193)

A. Rigor mortis sets in quickly

B. Red velvety mucosa in the stomach

C. Subendocardial hemorrhage

D. Multiple haemorrhages in the stomach

See Answer in Part B → Q16

@Neet_pg_bot

Q17: A 28 year old man is brought to the emergency department in an altered mental state after reportedly using a speedball for a more intense high. His friends mention he often combines a powerful stimulant with another drug to enhance his experience. What is the composition of a speedball that he is likely using? (Q847192)

A. Heroin + LSD

B. Cocaine + Morphine

C. Cocaine + LSD

D. Heroin + Cocaine

See Answer in Part B → Q17

@Neet_pg_bot

Q18: A 30 year old male is brought to the emergency department after experiencing severe anxiety and chest pain following a night of partying. He reports using cocaine, and the medical team notes his elevated blood pressure and signs of agitation. Which of the following is the most likely complication of cocaine use? (Q847191)

A. Respiratory depression

B. Cardiac arrhythmia

C. Urinary retention

D. Optic neuritis and atrophy

See Answer in Part B → Q18

@Neet_pg_bot

Q19: Match the following drugs with their commonly known local names. Drugs Local names 1. Cocaine a. Smack 2. MDMA b. Weed 3. Heroin c. Molly 4. Cannabis d. White lady 5. LSD e. Acid (Q847190)

A. 1-c, 2-e, 3-a, 4-d, 5-b

B. 1-d, 2-c, 3-a, 4-b, 5-e

C. 1-c, 2-a, 3-b, 4-e, 5-d

D. 1-b, 2-d, 3-e, 4-a, 5-c

See Answer in Part B → Q19

@Neet_pg_bot

Q20: A 24-year-old male with no history of violent behavior suddenly becomes agitated and aggressive after consuming a high dose of cannabis. He attacks several people without warning and later has no recollection of the incident. This condition, triggered by excessive cannabis use, is known as? (Q847051)

A. Amotivational syndrome

B. Hashish psychosis

C. Run amok

D. Korsakoff psychosis

See Answer in Part B → Q20

@Neet_pg_bot

Q21: Which of the following options correctly orders the potency of cannabis products from most potent to least potent? (Q847047)

A. Charas > Hashish oil >Bhang > Ganja

B. Hashish oil > Bhang > Charas > Ganja

C. Hashish oil > Charas > Ganja > Bhang

D. Charas > Bhang > Ganja > Hashish oil

See Answer in Part B → Q21

@Neet_pg_bot

Q22: A 30-year-old man presents to the emergency department with symptoms of anticholinergic toxicity after ingesting an herbal preparation containing Datura seeds. Upon examination, he shows signs of confusion and dilated pupils. Which of the following statements about the seed morphology of Datura and Capsicum is incorrect? (Q847041)

A. Datura seeds are large and thick, while capsicum seeds are small and thin

B. Datura seeds are kidney-shaped, while capsicum seeds are rounded

C. Datura seed has a smooth surface, while capsicum seeds have numerous depressions

D. Datura seeds are dark yellowish-brown, while capsicum seeds are pale yellow

See Answer in Part B → Q22

@Neet_pg_bot

Q23: A 24-year-old male presents to the emergency room after ingesting kidney-shaped seeds while camping. Upon examination, he exhibits dry mouth, dilated pupils, blurred vision, flushed skin, tachycardia, hallucinations, agitation, and disorientation. What is the most appropriate antidote for this poisoning? (Q847038)

A. Naloxone

B. Physostigmine

C. Pyridostigmine

D. Fomepizole

See Answer in Part B → Q23

@Neet_pg_bot

Q24: A 40-year-old woman presents with blistering and severe itching on her arms after applying the juice from a black seed, as shown in the image. She also experiences nausea and abdominal pain. Which of the following statements is not true? (Q847033)

A. Often used in malingering for artificial bruises.

B. The toxic principle is Bhilawanol.

C. Commonly used for Arrow and Cattle poisoning.

D. Large oral doses can be potentially fatal



See Answer in Part B → Q24

@Neet_pg_bot

Q25: A 25-year-old female presents to the ER after ingesting seeds from a plant, as shown in the image. She reports severe abdominal pain, nausea, and bloody diarrhoea. Upon examination, she exhibits weakness, tachycardia, and dilated pupils. What is the primary active principle responsible for the toxic effects seen in this patient? (Q847029)

A. Abrin

B. Calotropin

C. Crotin

D. Ricin



See Answer in Part B → Q25

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• [11_Forensic Toxicology] 025 Previous Year Questions

« Back to Folder Directory

[11_Forensic Toxicology] 025 Previous Year Questions — Quick Jump

Q1 (p. 324)	*Q2 (p. 325)*	*Q3 (p. 325)*	*Q4 (p. 326)*	*Q5 (p. 326)*	*Q6 (p. 327)*
Q7 (p. 327)	*Q8 (p. 327)*	*Q9 (p. 328)*	*Q10 (p. 328)*	*Q11 (p. 329)*	*Q12 (p. 329)*
Q13 (p. 330)	*Q14 (p. 330)*	*Q15 (p. 330)*	*Q16 (p. 331)*	*Q17 (p. 331)*	*Q18 (p. 331)*
Q19 (p. 332)	*Q20 (p. 332)*	*Q21 (p. 333)*	*Q22 (p. 333)*	*Q23 (p. 334)*	*Q24 (p. 335)*
Q25 (p. 335)	*Q26 (p. 336)*	*Q27 (p. 336)*	*Q28 (p. 337)*	*Q29 (p. 337)*	*Q30 (p. 337)*
Q31 (p. 338)	*Q32 (p. 338)*	*Q33 (p. 339)*	*Q34 (p. 339)*	*Q35 (p. 339)*	*Q36 (p. 340)*
Q37 (p. 340)	*Q38 (p. 341)*	*Q39 (p. 341)*	*Q40 (p. 341)*	*Q41 (p. 342)*	*Q42 (p. 342)*
Q43 (p. 343)	*Q44 (p. 343)*	*Q45 (p. 344)*	*Q46 (p. 344)*	*Q47 (p. 344)*	*Q48 (p. 345)*
Q49 (p. 345)	*Q50 (p. 346)*	*Q51 (p. 346)*	*Q52 (p. 346)*	*Q53 (p. 347)*	*Q54 (p. 347)*
Q55 (p. 348)	*Q56 (p. 349)*	*Q57 (p. 349)*	*Q58 (p. 349)*	*Q59 (p. 350)*	*Q60 (p. 350)*
Q61 (p. 350)	*Q62 (p. 351)*	*Q63 (p. 351)*	*Q64 (p. 352)*	*Q65 (p. 352)*	*Q66 (p. 353)*

Q1: Which of the following is the incorrect statement regarding the image shown below? (Q855251)

A. Only the roots of this plant are poisonous

B. Causes AV block

C. Atropine is not specific for aconite poisoning

D. Grow in sub Himalayan range



See Answer in Part B → Q1

@Neet_pg_bot

Q2: A 50-year-old factory worker was brought to the emergency room with complaints of headache, vomiting and blurring of vision after he consumed local spirit. Which of the following is used for the treatment of his condition? (Q857931)

A. Fomepizole

B. Flumazenil

C. N-acetylcysteine

D. Naloxone

See Answer in Part B → Q2

@Neet_pg_bot

Q3: A child is brought to the hospital with pinpoint pupils and difficulty breathing after playing at home. What is the most likely substance the child accidentally ingested? (Q866632)

A. Organophosphate

B. Opioid

C. Atropine

D. Benzodiazepine

See Answer in Part B → Q3

@Neet_pg_bot

Q4: In which poisoning is cherry red hypostasis seen on post-mortem examination? (Q857944)

A. CO Poisoning

B. Hydrogen sulphide

C. Yellow phosphorus

D. Hydrogen cyanide

See Answer in Part B → Q4

@Neet_pg_bot

Q5: Hooch tragedy is related to: (Q855793)

A. Phosphorus

B. Mercury

C. Ethanol

D. Methanol

See Answer in Part B → Q5

@Neet_pg_bot

Q6: A male patient presented with a history of consuming an unknown substance. He exhibited increased sweating, lacrimation, diarrhea, and bradycardia. What is management? (Q855798)

A. Atropine

B. Calcium gluconate

C. Pralidoxime

D. Obidoxime

See Answer in Part B → Q6

@Neet_pg_bot

Q7: Which of the following are seen in patients with chronic arsenic poisoning? 1. Raindrop pigmentation 2. Peripheral neuritis 3. Mees line 4. Luminous vomit (Q855806)

A. 1, 2, 3 are correct

B. 2, 3 are correct

C. 1, 4 are correct

D. Only 1 is correct

See Answer in Part B → Q7

@Neet_pg_bot

Q8: Identify the given plant based on its features (Q855161)

A. Datura Alba

B. Argemone Mexicana

C. Nerium Odorum

D. Papaver Somniferum



See Answer in Part B → Q8

@Neet_pg_bot

Q9: What is the treatment of choice for acute arsenic poisoning? (Q855172)

A. Ipecac

B. Penicillamine

C. Activated charcoal

D. Dimercaprol

See Answer in Part B → Q9

@Neet_pg_bot

Q10: Which of these is not a cardiac poison? (Q855195)

A. Aconite

B. Cerbera thevetia

C. Nicotiana tabacum

D. Atropa belladonna

See Answer in Part B → Q10

@Neet_pg_bot

Q11: Gastric lavage, commonly known as stomach pumping or gastric irrigation, is a procedure performed to remove the contents of the stomach. It has been widely used since the early 19th century as a standard method to eliminate toxins from the stomach. This procedure is typically employed for individuals who have consumed poison or overdosed on substances like ethanol. Additionally, it may be performed prior to surgery to empty the digestive tract. In which of the following situations is gastric lavage not recommended? (Q857013)

A. Organo-Phosphosphate poisoning

B. Hydrocarbons

C. Ethanol poisoning

D. PCM toxicity

See Answer in Part B → Q11

@Neet_pg_bot

Q12: In case of corrosive acid ingestion, stomach is opened along the? (Q857630)

A. Lesser curvature

B. Greater curvature

C. Vertical

D. Pylorus

See Answer in Part B → Q12

@Neet_pg_bot

Q13: Inhaling the cloth soaked in drug is: (Q857631)

A. Bagging

B. Spraying

C. Huffing

D. Sniffing

See Answer in Part B → Q13

@Neet_pg_bot

Q14: A 72-year-old farmer was presented in the hospital with pinpoint pupil & increased secretions. The diagnosis is (Q857638)

A. Alcohol poisoning

B. Opioid poisoning

C. Organophosphorus poisoning

D. Datura poisoning

See Answer in Part B → Q14

@Neet_pg_bot

Q15: A patient with Pink color skin & mucosa, a bitter almond smell from breath, and frothy discharge. The cause of death is: (Q857640)

A. H2S poisoning

B. CO poisoning

C. HCN poisoning

D. OPC poisoning

See Answer in Part B → Q15

@Neet_pg_bot

Q16: Which poisoning is caused by a bullet retained inside the body? (Q857647)

A. Iron

B. Phosphorus

C. Nitrocellulose

D. Lead

See Answer in Part B → Q16

@Neet_pg_bot

Q17: Which of the following is not a symptom associated with chronic cocaine abuse? (Q857935)

A. Nasal or palatal perforation.

B. Black discoloration of tongue and teeth

C. Dilated pupils, rapid pulse and sweating.

D. Hallucination of insects crawling on the skin.

See Answer in Part B → Q17

@Neet_pg_bot

Q18: Match the following: i. Heroin 1. Ganja ii. MDMA 2. Acid iii. Joint 3. Brown sugar iv. LSD 4. Amphetamine (Q855375)

A. i -2, ii-1, ili-4, iv-3

B. i -3, ii-2, iii-1, iv-4

C. i -4, ii-2, iii-1, iv-3

D. i -3, ii-4, iii-1, iv-2

See Answer in Part B → Q18

@Neet_pg_bot

Q19: What is the cause of death in smoke inhalation ? (Q856675)

A. Histotoxic hypoxia

B. Ischemic hypoxia

C. Anemic hypoxia

D. All of the above

See Answer in Part B → Q19

@Neet_pg_bot

Q20: A little boy was playing in a garden. Suddenly, he collapsed and was rushed to the hospital. His friend who played with him in the garden informed the doctors that he ate one of the fruits in the garden post which he seemed to have developed these symptoms. He also had irritability, restlessness, dry hot skin, and was unable to pass urine and stools. Identify the poison and its appropriate antidote. (Q856264)

A. Datura, Pralidoxime

B. Datura, Physostigmine

C. Yellow oleander, Digoxin

D. Yellow oleander, Physostigmine

See Answer in Part B → Q20

@Neet_pg_bot

Q21: A young teenage boy with a history of drug abuse had been instilled with a shot of intravenous cocaine at a party. He is rushed to the emergency room by his friends. Some of the symptoms were diaphoresis, headache, and acute coronary spasm. Which of the following symptoms noted would go against the likely diagnosis of cocaine poisoning? (Q856276)

A. Myocardial ischemia

B. Bradycardia

C. Hyperthermia

D. Agitation

See Answer in Part B → Q21

@Neet_pg_bot

Q22: What is the active principle of the poison shown in the image? (Q856296)

A. Ricin

B. Bhilawanol

C. Abrin

D. Calotropin



See Answer in Part B → Q22

@Neet_pg_bot

Q23: Identify the seeds shown in the image below: (Q856883)

A. Tropicana canna

B. Nigella sativa

C. Datura seeds

D. Opium seeds



See Answer in Part B → Q23

@Neet_pg_bot

Q24: Which of the following statements is not true regarding the management of snakebite in India? (Q856330)

A. Atropine and neostigmine are very useful in the management of krait bite

B. Neostigmine and ventilatory support are used in treatment along with ASV

C. ASV is the mainstay of treatment

D. Current ASV in India is not effective against humped pit viper

See Answer in Part B → Q24

@Neet_pg_bot

Q25: Match the following poisons with their probable mechanism of action: A. Zinc chloride 1. Abortifacient B. Chloral hydrate 2. Irritant C. Quinine 3. Corrosive D. Potassium carbonate 4. Stupefying (Q856340)

A. A-2, B-4, C-1, D-3

B. A-4, B-3, C-2, D-1

C. A-4, B-2, C-1, D-3

D. A-2, B-3, C-4, D-1

See Answer in Part B → Q25

@Neet_pg_bot

Q26: What is the drug that commonly leads to physical dependence? (Q858465)

A. Ketamine

B. Heroin

C. LSD

D. Phencyclidine

See Answer in Part B → Q26

@Neet_pg_bot

Q27: Which of the following poisons can be found even in skeletonized remains of the body? (Q858472)

A. Arsenic

B. Carbon monoxide

C. Hydrogen sulphide

D. Phoshorus

See Answer in Part B → Q27

@Neet_pg_bot

Q28: A patient is brought to the emergency department with greenish skin discoloration and a rotten egg odor. Which of the following is the most likely cause of poisoning? (Q859424)

A. Carbon monoxide

B. Nitrite

C. Cyanide

D. Hydrogen sulfide

See Answer in Part B → Q28

@Neet_pg_bot

Q29: Cause of Opisthotonus is? (Q859884)

A. Cocaine

B. Codeine

C. Strychnine

D. Curare

See Answer in Part B → Q29

@Neet_pg_bot

Q30: Identify the active toxin extracted from the poisonous plant in the image below? (Q859888)

A. Calotropis gigantea

B. Digitalis

C. Ricin

D. 1-Hyoscyamine



See Answer in Part B → Q30

@Neet_pg_bot

Q31: A 56-year-old man presents with fatigue, pallor, abdominal pain, memory loss, and foot drop. He works at a battery recycling plant and has elevated blood lead levels. Which enzyme is affected in the given scenario? (Q855802)

A. Aminolevulinic acid (ALA) dehydratase

B. Uroporphyrinogen III Synthase

C. Uroporphyrinogen I Synthase

D. Pyruvate dehydrogenase

See Answer in Part B → Q31

@Neet_pg_bot

Q32: A patient presents with hair loss, behavioral changes, lateral eyebrow loss, and nail changes. What is the type of poisoning in this case? (Q855820)

A. Thallium

B. Arsenic

C. Mercury

D. Lead

See Answer in Part B → Q32

@Neet_pg_bot

Q33: A patient came to the hospital with muscle weakness, diarrhea, and bradycardia. He was diagnosed with organophosphate poisoning for which atropine was administered. After atropine administration, which of the following changes are not seen? (Q852476)

A. Bradycardia

B. Muscle weakness

C. Diaphoresis

D. Nasal discharge

See Answer in Part B → Q33

@Neet_pg_bot

Q34: Which of the following substances are antidotes for cyanide poisoning? Amyl nitrate Sodium nitrate Sodium thiosulphate Benzyl thiocyanate (Q840082)

A. 1, 2, and 3 only

B. 1, 2, 3, and 4

C. 1, and 2 only

D. 1, 3, and 4 only

See Answer in Part B → Q34

@Neet_pg_bot

Q35: In cases of alcohol abuse, in what substance is the blood typically preserved during an autopsy? (Q860497)

A. Sodium fluoride

B. Formalin

C. Rectified spirit

D. Sodium chloride

See Answer in Part B → Q35

@Neet_pg_bot

Q36: Which of the following is used for the treatment of Datura poisoning? (Q860493)

A. Physostigmine

B. Atropine

C. Sodium nitrite

D. Neostigmine

See Answer in Part B → Q36

@Neet_pg_bot

Q37: A patient was admitted with complaints of tachycardia and arrhythmias. On examination, multiple scratch marks were observed on the body. The probable drug of abuse in this patient is: (Q860483)

A. Cocaine

B. Morphine

C. Datura

D. Cannabis

See Answer in Part B → Q37

@Neet_pg_bot

Q38: A chronic alcoholic came with complaints of agitation, global confusion, disorientation, hallucination, fever, hypertension, diaphoresis, and autonomic hyperactivity after cessation of alcohol for 48 hours. Which of the following is the diagnosis? (Q860445)

A. Delirium tremens

B. Wernicke Encephalopathy

C. Korsakoff Psychosis

D. Magnan Phenomena

See Answer in Part B → Q38

@Neet_pg_bot

Q39: Acute liver failure is a clinical feature of which of the following? (Q860422)

A. OP poisoning

B. Amanita Phalloides poisoning

C. Belladonna poisoning

D. Morphine poisoning

See Answer in Part B → Q39

@Neet_pg_bot

Q40: Aldrich mees lines and raindrop pigmentation in hand is seen in which poisoning? (Q844185)

A. Arsenic

B. Thallium

C. Cadmium

D. Lead

See Answer in Part B → Q40

@Neet_pg_bot

Q41: Police brought a person from the railway track with features of dry dilated pupil, dry skin , slurring of speech , altered sensorium. The poisoning is? (Q844136)

A. Morphine

B. Cannabis

C. Datura

D. Alcohol

See Answer in Part B → Q41

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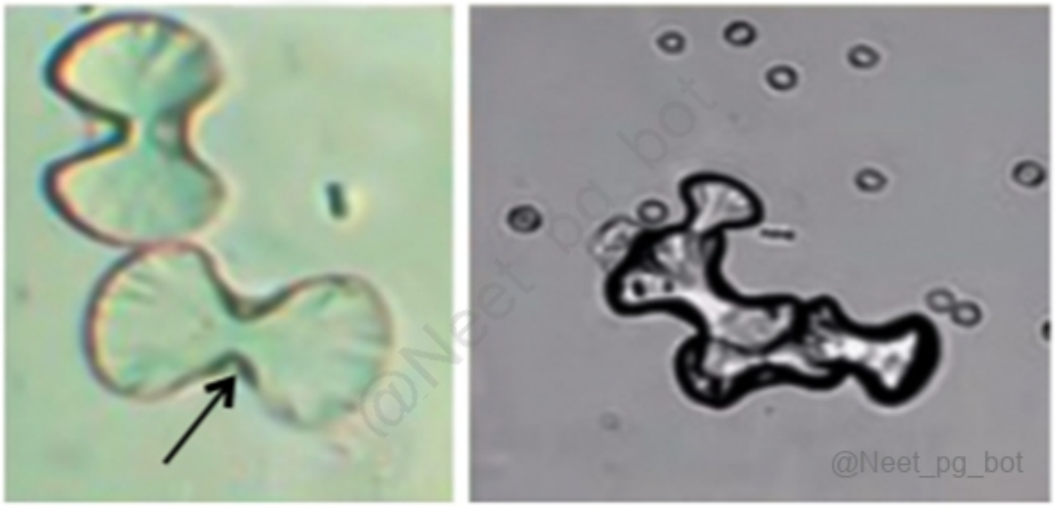
Q42: A patient presents with paraesthesia, tetany, muscle twitching, and muscle cramps, along with urinary crystals as shown in the image. These symptoms are typical of poisoning with what substance? (Q840090)

A. Cystine

B. Xanthine

C. Ammonium urate

D. Calcium oxalate



See Answer in Part B → Q42

@Neet_pg_bot

Q43: Which of the following pairs of antidotes and toxicities is correctly matched? (Q853111)

A. Organophosphorus - Physostigmine

B. Atropine - L-carnitine

C. Benzodiazepine - Flumazenil

D. Arsenic - Desferrioxamine

See Answer in Part B → Q43

@Neet_pg_bot

Q44: A patient is brought to the emergency department with acute onset of severe abdominal pain, throat irritation followed by vomiting that contains blood and bile, and diarrhea that initially appears bloody but later becomes colorless, odorless, and rice-water-like. On examination, a distinct garlicky odor is noted in the breath. Which of the following is the most likely agent responsible for the poisoning? (Q866413)

A. Arsenic

B. Phosphorus

C. Aluminium phosphide

D. Croton seeds

See Answer in Part B → Q44

@Neet_pg_bot

Q45: Which of the following is true regarding snake bites? a. Elapidae is myotoxic b. Viperidae is vasculotoxic c. Hyaluronidase is secreted by all snake toxins d. Toxins travel through lymphatics and superficial veins (Q865352)

A. c and d

B. b and d

C. a and d

D. b, c and d

See Answer in Part B → Q45

@Neet_pg_bot

Q46: Match the following types of poisons with their corresponding examples Effect Poisons a. Metallic irritant 1. Opioid b. Organic irritant 2. Lead c. CNS depressant 3. Cannabis d. Deliriant 4. Croton oil (Q865305)

A. a-2, b-4, c-1, d-3

B. a-1, b-4, c-2, d-3

C. a-4, b-2, c-1, d-3

D. a-2, b-1, c-4, d-3

See Answer in Part B → Q46

@Neet_pg_bot

Q47: Gastric lavage treated with silver nitrate gives a black colour in poisoning with which of the following? (Q865296)

A. Malathion

B. Mercury

C. Aluminium phosphide

D. Barbiturates

See Answer in Part B → Q47

@Neet_pg_bot

Q48: Which of the following features is characteristic of chronic mercury poisoning? (Q865287)

A. Hyperkeratosis and Mees' lines

B. Lead lines are visible on X-ray

C. Mad hatter's (intentional) tremor

D. Basophilic stippling of red blood cells

See Answer in Part B → Q48

@Neet_pg_bot

Q49: A deceased woman was sent for an autopsy. She was found dead in a locked room with a heat stove still running. What is the most likely cause of death? (Q866638)

A. CO poisoning

B. Cyanide poisoning

C. H 2 S poisoning

D. Aluminium phosphide poisoning

See Answer in Part B → Q49

@Neet_pg_bot

Q50: Black foot disease with peripheral neuropathy is seen in which metal poisoning? (Q857411)

A. Arsenic

B. Lead

C. Mercury

D. Cadmium

See Answer in Part B → Q50

@Neet_pg_bot

Q51: A patient was brought to casualty with seizures. He had multiple episodes and was taking herbal medicines for the same. He was conscious in between the episodes. During the episodes, he had an arching of his back. What is the likely cause? (Q855258)

A. Strychnine

B. Ricinus

C. Nerium odorum

D. Datura

See Answer in Part B → Q51

@Neet_pg_bot

Q52: A child before playing consumed fruit from the garden. After some time, he developed a high fever, confusion, photophobia, and was unable to urinate. What are the likely causative agent and the appropriate antidote used in this case of poisoning? (Q855231)

A. Datura, Pralidoxime

B. Datura, Physostigmine

C. Yellow oleander, Pralidoxime

D. Yellow oleander, Physostigmine

See Answer in Part B → Q52

@Neet_pg_bot

Q53: A patient presented with altered sensorium, hypotension, and constricted pinpoint pupils. Which of the following is likely responsible for this patient's presentation? (Q854647)

A. Opioids

B. Datura

C. Cocaine

D. Amphetamine

See Answer in Part B → Q53

@Neet_pg_bot

Q54: A 50-year-old man with a history of chronic alcoholism goes to a liquor store and purchases two bottles of liquor. Approximately one hour later, after consuming alcohol, he presents to the emergency department with complaints of abdominal discomfort, acute confusion, vision loss, and an unsteady gait. What is the most appropriate treatment for his condition? (Q820294)

A. Naloxone

B. Ethyl alcohol

C. Flumazenil

D. Atropine

See Answer in Part B → Q54

@Neet_pg_bot

Q55: A 28-year-old male patient was found unconscious in his backyard, the leaves of a plant similar to the one shown below were found scattered around him. He is now presenting with symptoms of nausea, vomiting, abdominal pain, diarrhea, and irregular heart rate. Identify the plant given below likely responsible for these symptoms? (Q820286)

A. Yellow oleander

B. Ricinus communis

C. Datura

D. Papaver somniferum



See Answer in Part B → Q55

@Neet_pg_bot

Q56: A farmer was sleeping in the field, and he felt a sting on his leg. He saw something moving away quickly. He then got drowsy and was taken to the hospital. He developed pain around the site and continued to bleed profusely from the wound site. The wound became red with blisters. Which of the following is the most likely cause? (Q855271)

A. Viper

B. Cobra

C. Wasp bite

D. Scorpion

See Answer in Part B → Q56

@Neet_pg_bot

Q57: A female was given morphine sulfate during labor for pain, following which she developed respiratory distress. Which of the following will be the correct antidote? (Q857407)

A. Naloxone

B. Atropine

C. Pralidoxime

D. Epinephrine

See Answer in Part B → Q57

@Neet_pg_bot

Q58: Among the listed options, which substance is not utilized as a chelating agent in cases of heavy metal poisoning? (Q857390)

A. Deferiprone

B. EDTA

C. Penicillamine

D. Oximes

See Answer in Part B → Q58

@Neet_pg_bot

Q59: Match the poisons and their site of action. A. Datura 1. CVS B. Nicotine 2. CNS C. Nitric acid 3. SKIN D. Nux vomica (strychnine) 4. SPINAL CORD (Q857381)

A. A-2, B-1, C-3, D-4

B. A-1, B-2, C-3, D-4

C. A-1, B-2, C-4, D-3

D. A-4, B-3, C-1, D-2

See Answer in Part B → Q59

@Neet_pg_bot

Q60: Unknown substance consumption leading to tachycardia and red-colored halo is seen with? (Q860114)

A. Cannabis

B. Crack/ cocaine

C. LSD

D. Heroin

See Answer in Part B → Q60

@Neet_pg_bot

Q61: Gastric lavage is contraindicated in which of the following poisonings? (Q860110)

A. Strychnine

B. Paraldehyde

C. Hydrocarbons

D. Iron tablets

See Answer in Part B → Q61

@Neet_pg_bot

Q62: A farmer presents with a painful snakebite wound on his right foot. There are two fang marks with swelling and bleeding at the bite site. What is the first step in management? (Q860076)

A. Polyvalent ASV

B. Sling or splint leading to immobilization

C. Venom suction

D. See the snake brought by a relative

See Answer in Part B → Q62

@Neet_pg_bot

Q63: A 40-year-old female consumed a white-colored rodenticide powder and presents with a potassium level of 2.5 mEq/L. On examination, she has an irregular pulse and muscle paralysis. ECG shows multiple ventricular ectopics. What is the suspected poison? (Q840094)

A. Aluminum phosphide

B. Zinc phosphide

C. Warfarin toxicity

D. Barium carbonate

See Answer in Part B → Q63

@Neet_pg_bot

Q64: A 28-year-old male is brought to the emergency room. On examination, his PR is 50 bpm, BP is 80/60 mmHg, RR is 7 breaths/min and his temperature is 95° F . He has a pinpoint pupil and is disoriented. What is the most probable diagnosis? (Q793586)

A. Benzodiazepine overdose

B. Cocaine intoxication

C. Opioid withdrawal

D. Opioid intoxication

See Answer in Part B → Q64

@Neet_pg_bot

Q65: A 23-year-old farm worker from a remote village was brought to the hospital 8 hours later, following a snake bite at 5 in the morning. The patient complained of headache, blurred vision, tingling sensation around the mouth, dizziness and vertigo and had multiple episodes of vomiting since the bite. He has signs of respiratory depression and bradycardia (HR<50). The local wound showed mild swelling and blistering. There are no apparent bleeding manifestations. He was administered 10 vials of antivenom. Which of the following is the subsequent step of management? (Q793515)

A. Check the blood coagulation profile

B. Neostigmine with atropine

C. Epinephrine injection

D. I.V hydrocortisone

See Answer in Part B → Q65

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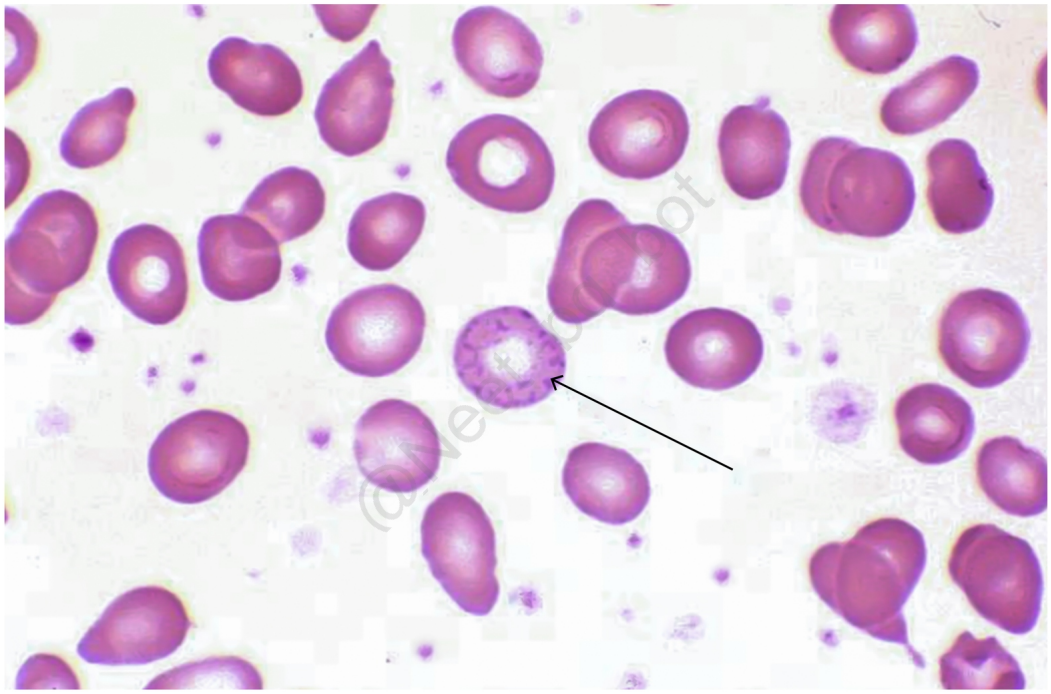
Q66: Which of the following diagnoses give the hematological picture as given below ? (Q793477)

A. Minamata disease

B. Saturnism

C. Chronic iron toxicity

D. Arsenic poisoning



See Answer in Part B → Q66

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• [12_Forensic Psychiatry] 026 Forensic Psychiatry

« Back to Folder Directory

[12_Forensic Psychiatry] 026 Forensic Psychiatry — Quick Jump

Q1 (p. 354) *Q2 (p. 354)* *Q3 (p. 354)* *Q4 (p. 355)* *Q5 (p. 355)* *Q6 (p. 356)*
Q7 (p. 356) *Q8 (p. 357)* *Q9 (p. 357)* *Q10 (p. 357)* *Q11 (p. 358)*

Q1: Which of the following best describes the core principle of the McNaughten Rule in determining legal insanity? (Q847160)

A. The accused was suffering from a delusion at the time of the offence

B. The accused could not control their actions due to a mental disorder

C. The accused could not understand the nature or wrongness of their actions due to a mental defect

D. The accused had a history of psychiatric illness before the offence

See Answer in Part B → Q1

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Q2: Which of the following is NOT a rule for criminally insane individuals? (Q847164)

A. Curren’s Rule

B. Durham’s Rule

C. American Law Institute Test

D. Morrison's Rule

See Answer in Part B → Q2

@Neet_pg_bot

Q3: Identify the FALSE statement on civil responsibilities of the insane from the following options: (Q847167)

A. A contract is void if one party lacks mental capacity at the time of the agreement.

B. Mentally ill individuals can serve as guardians for their own property.

C. The Hindu Marriage Act permits annulment if one party is mentally unfit at the time of the ceremony.

D. A holographic will must be entirely in the testator's handwriting and meet specific validity criteria.

See Answer in Part B → Q3

@Neet_pg_bot

Q4: Which of the following best differentiates hallucination from illusion in perception disorders? (Q847170)

A. Hallucination occurs with external stimuli, while illusion occurs without any stimuli.

B. Hallucination is a false perception without an external stimulus, while illusion is a misinterpretation of a real external stimulus.

C. Hallucination and illusion are both voluntary perceptions of external objects.

D. Hallucination is always visual, while illusion is always auditory.

See Answer in Part B → Q4

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Q5: Match the following types of delusions with their appropriate descriptions. 1. Othello Syndrome a) Belief that one is dead or putrefying. 2. Cotard Syndrome b) Belief that a spouse is unfaithful. 3. de Clérambault’s Syndrome c) Belief of being infested with parasites. 4. Ekbom Syndrome d) Belief that a higher-status person loves the individual. (Q847173)

A. 1-a, 2-c, 3-b, 4-a

B. 1-d, 2-c, 3-b, 4-a

C. 1-c, 2-a, 3-d, 4-b

D. 1-b, 2-a, 3-d, 4-c

See Answer in Part B → Q5

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Q6: A 45 y/o man is brought to the psychiatric clinic by his wife. He claims that his wife has been replaced by an impostor who looks exactly like her but is not his real wife. He reports feeling anxious and confused about why others cannot see the difference. His medical history includes a previous diagnosis of paranoid schizophrenia. What is the most likely diagnosis? (Q847175)

A. Delusion of doubles

B. Capgras syndrome

C. Fregoli's phenomenon

D. Schizoaffective disorder

See Answer in Part B → Q6

@Neet_pg_bot

Q7: A 25 y/o woman presents to the dermatologist with intense itching and anxiety, convinced that tiny insects are crawling on her skin. She frequently inspects her body and applies various lotions to prevent what she believes are infestations, although no evidence of insects or bites is found on examination. She is aware that her fear may be exaggerated, but she cannot stop feeling anxious about it. What is the most likely diagnosis? (Q847176)

A. Delusional parasitosis

B. Acarophobia

C. Acrophobia

D. Agoraphobia

See Answer in Part B → Q7

@Neet_pg_bot

Q8: Which of the following statements about the Mental Healthcare Act (MHCA) 2017 is NOT true? (Q847179)

A. The Act aims to align mental healthcare services with the United Nations Convention on the Rights of Persons with Disabilities.

B. It allows for both voluntary and involuntary admissions, with specific protocols for each.

C. The MHCA 2017 came into effect on July 7, 2020, replacing the previous Mental Health Act of 1987.

D. It introduces advance directives that enable individuals to express their treatment preferences in advance.

See Answer in Part B → Q8

@Neet_pg_bot

Q9: A 34-year-old man is brought to the psychiatric unit after assaulting a bystander without provocation. He reports months of auditory hallucinations with threatening voices, disorganized thoughts, and paranoid delusions. He is distressed, has poor hygiene, has a flat affect, and shows no signs of manipulation or substance abuse. What is the most likely explanation for his symptoms? (Q847180)

A. True insanity

B. Feigned insanity

C. Delusional disorder

D. Personality disorder

See Answer in Part B → Q9

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Q10: A 25 y/o man is brought to the ED after being found wandering outside his home late at night, appearing confused and disoriented. He has no recollection of the events that occurred while he was outside. This behaviour is consistent with which of the following? (Q847181)

A. Delirium

B. Somnambulism

C. Acute Psychosis

D. Hypnosis

See Answer in Part B → Q10

@Neet_pg_bot

Q11: Which of the following statements is true about Psychosis? (Q847183)

A. In psychosis, contact with reality is often preserved.

B. Individuals with psychosis typically exhibit empathy

C. Insight is always present

D. An organic causative factor is present.

See Answer in Part B → Q11

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• [12_Forensic Psychiatry] 027 Previous Year Questions

« Back to Folder Directory

[12_Forensic Psychiatry] 027 Previous Year Questions — Quick Jump

Q1 (p. 359) *Q2 (p. 359)* *Q3 (p. 359)* *Q4 (p. 360)*

Q1: A person who was mentally unsound at the time of committing a crime is exempt from liability if they were unaware of the nature of their actions or its consequences. What is this principle called? (Q860468)

A. McNaughton rule

B. Durham's rule

C. Currens rule

D. Irresistible impulse test

See Answer in Part B → Q1

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Q2: According to the law, nothing is an offense if a person is of an unsound mind and is not able to understand that the nature and consequences of his/her act are wrong. Which rule of insanity applies in this case? (Q857947)

A. Durham's rule

B. Mc Naughton's rule

C. Curren's rule

D. Irresistible impulse rule

See Answer in Part B → Q2

@Neet_pg_bot

Q3: McNaughten's rule is? (Q857616)

A. IPC 82

B. IPC 83

C. IPC 84

D. IPC 85

See Answer in Part B → Q3

@Neet_pg_bot

Q4: A man continues to call females. Achieves sexual gratification by talking obscenity & sharing obscene pictures.The condition is? (Q859422)

A. Frotteurism

B. Voyeurism

C. Scatologia

D. Coprophilia

See Answer in Part B → Q4

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• [13_Court of Law] 028 Previous Year Questions

« Back to Folder Directory

[13_Court of Law] 028 Previous Year Questions — Quick Jump

Q1 (p. 361) *Q2 (p. 361)* *Q3 (p. 361)* *Q4 (p. 362)* *Q5 (p. 362)* *Q6 (p. 363)*
Q7 (p. 363) *Q8 (p. 363)* *Q9 (p. 364)*

Q1: Section 314 IPC deals with (Q855262)

A. Causing miscarriage with the consent of the mother

B. Causing miscarriage without the consent of the mother

C. Death of the mother by act done with intent to cause miscarriage

D. Causing the death of the quick unborn child by an act amounting to culpable homicide

See Answer in Part B → Q1

@Neet_pg_bot

Q2: While recording evidence in the court of law, the opposing lawyer asked the witness, “Did A kill B in your presence?” The witness said, “Yes”. Which procedural route would this type of question be permitted in the court of law? (Q856324)

A. Examination-in-chief

B. Direct examination

C. Cross-examination

D. Re-direct examination

See Answer in Part B → Q2

@Neet_pg_bot

Q3: When an individual commences employment with a second employer, the new employer assumes responsibility for the individual's actions, under which doctrine? (Q856686)

A. Vicarious liability

B. Doctrine of negligent choice

C. Contributory negligence

D. Borrowed servant doctrine

See Answer in Part B → Q3

@Neet_pg_bot

Q4: Which of the following defines rape under the Bharatiya Nyaya Sanhita (BNS)? (Q856887)

A. Section 63 BNS

B. Section 64 BNS

C. Section 65 BNS

D. Section 70 BNS

See Answer in Part B → Q4

@Neet_pg_bot

Q5: The court summons a member of the public who witnessed the incident to provide testimony and document their account. What kind of evidence does the witness offer to the court? (Q857939)

A. Oral evidence

B. Hearsay evidence

C. Subpoena

D. Circumstantial evidence

See Answer in Part B → Q5

@Neet_pg_bot

Q6: Who is responsible for handling the investigation in the case of a custodial death? (Q857952)

A. Police inspector

B. Jail superintendent

C. Superintendent of Police

D. Judicial magistrate

See Answer in Part B → Q6

@Neet_pg_bot

Q7: Who conducts inquest in Police custodial death? (Q860431)

A. Higher police official

B. Judicial magistrate

C. Medical examiner

D. Coroner

See Answer in Part B → Q7

@Neet_pg_bot

Q8: What is the minimum age at which a woman can give valid consent for Medical Termination of Pregnancy (MTP) in India? (Q865254)

A. 18 years

B. 16 years

C. 25 years

D. 20 years

See Answer in Part B → Q8

@Neet_pg_bot

Q9: As per the MTP (Amendment) Act, 2021, the opinion of two registered medical practitioners is required for termination of pregnancy at which gestational age? (Q865275)

A. 16-20 weeks

B. 20-24 weeks

C. Up to 12 weeks

D. 12-16 weeks

See Answer in Part B → Q9

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• [14_IPC Sections] 029 Bns Sections - I

« Back to Folder Directory

[14_IPC Sections] 029 Bns Sections - I — Quick Jump

Q1 (p. 365) *Q2 (p. 365)* *Q3 (p. 366)* *Q4 (p. 366)* *Q5 (p. 366)* *Q6 (p. 367)*
Q7 (p. 367) *Q8 (p. 367)* *Q9 (p. 368)* *Q10 (p. 368)* *Q11 (p. 369)* *Q12 (p. 369)*
Q13 (p. 369) *Q14 (p. 370)* *Q15 (p. 370)* *Q16 (p. 371)* *Q17 (p. 371)* *Q18 (p. 372)*
Q19 (p. 372)

Q1: Match the BNS sections with the offense BNS Section Offense 1. 104 a. Attempt to commit suicide. 2. 107 b. Punishment for murder by life convict. 3. 109 c. Abetment of suicide of child or insane person. 4. 226 d. Attempt to murder. (Q846952)

A. 1-b, 2-c, 3-d, 4-a

B. 1-c, 2-d, 3-b, 4-a

C. 1-a, 2-b, 3-c, 4-d

D. 1-b, 2-a, 3-d, 4-c

See Answer in Part B → Q1

@Neet_pg_bot

Q2: Bestiality is a term given to which of the following unnatural sexual offenses? (Q846994)

A. Anal intercourse

B. Oral intercourse

C. Female homosexuality

D. Sexual intercourse with an animal

See Answer in Part B → Q2

@Neet_pg_bot

Q3: Which of the following acts cannot be considered as rape? (Q846988)

A. Inserting an article into the urethra

B. Manipulating any part of a woman’s body to cause penetration

C. Penetrating wife (aged >18 years) without consent

D. Hugging or kissing without sexual penetration

See Answer in Part B → Q3

@Neet_pg_bot

Q4: Match the BNS sections with the offences BNS Section Offense 1. 97 a. Importing a girl under 21 years into India from a foreign country for illicit intercourse 2. 137 (1) (b) b. Abducting a minor from lawful guardianship 3. 96 c. Abducting a child under 10 years to take any moveable property 4. 141 d. Procuring a girl under 18 years for illicit intercourse (Q846970)

A. 1-a, 2-b, 3-c, 4-d

B. 1-c, 2-b, 3-d, 4-a

C. 1-d, 2-c, 3-b, 4-a

D. 1-b, 2-c, 3-a, 4-d

See Answer in Part B → Q4

@Neet_pg_bot

Q5: A man attacks a woman in public and tries to disrobe her. What is the punishment he will get for this? (Q846968)

A. 3-7 years of imprisonment and fine

B. 1-3 years of imprisonment

C. 7-10 years of imprisonment

D. 4-7 years of imprisonment

See Answer in Part B → Q5

@Neet_pg_bot

Q6: Acid attack comes under which of the following BNS sections? (Q846966)

A. BNS 124

B. BNS 119 (1)

C. BNS 123

D. BNS 119 (2)

See Answer in Part B → Q6

@Neet_pg_bot

Q7: A 32 year old man gets into an argument and intentionally causes severe injuries to another person, resulting in a broken arm and significant physical pain. The police decided to charge him under the appropriate section of the BNS. Which section of the BNS is appropriate in this context? (Q846961)

A. He is charged under the section BNS 115 (1)

B. He is charged under the section BNS 115 (2)

C. He is charged under the section BNS 117 (2)

D. He is charged under the section BNS 124 (2)

See Answer in Part B → Q7

@Neet_pg_bot

Q8: A 35 year old man was assaulted, leading to several injuries and is hospitalized. You are tasked with determining whether the case fits the legal classification of grievous hurt under BNS 116 for some of the expected events. Which of the following

scenarios would NOT be classified as grievous hurt? (Q846959)

A. The person dies due to an injury that, under normal circumstances, was not intended to cause death.

B. The person suffers an abdominal injury causing the intestines to protrude and is hospitalized for 22 days.

C. The person sustains a deep injury with a fracture

D. The person is in a coma for 20 days following a severe head injury.

See Answer in Part B → Q8

@Neet_pg_bot

Q9: A 40-year-old man sustained multiple injuries during a fight. According to Bharatiya Nyaya Sanhita (BNS) Section 116, which of the following does not qualify as grievous hurt? (Q846957)

A. Permanent impotence from a serious genital injury

B. Loss of a single tooth from a punch to the face

C. A facial cut that temporarily alters appearance

D. Fracture of the wrist from a heavy fall

See Answer in Part B → Q9

@Neet_pg_bot

Q10: Which of the following correctly defines the term "injury" as per legal terminology? (Q846954)

A. Harm caused to a person’s reputation, body, or property, irrespective of legality.

B. Any harm legally or illegally caused to a person's mind, body, or property.

C. Any harm caused to a person's physical body.

D. Any harm illegally caused to a person, in body, mind, reputation, or property.

See Answer in Part B → Q10

@Neet_pg_bot

Q11: A 11-year old child accused of murder was let go free after the trial. What could be the likely explanation in this case? (Q846905)

A. BNS 20 - depending on the mental maturity

B. BNS 20 - never held liable

C. BNS 21 - depending on the mental maturity

D. BNS 21 - never held liable

See Answer in Part B → Q11

@Neet_pg_bot

Q12: A 60 year old man gets into a heated argument with his neighbor during a community event. In a fit of rage, he pushes the neighbour hard, causing him to fall and hit his head on a concrete surface. The neighbor sustains a severe head injury and dies a few hours later in the hospital. He did not intend to kill but was reckless during the confrontation. Which section of the BNS would he be most likely be charged under? (Q846951)

A. BNS 301

B. BNS 104

C. BNS 105

D. BNS 102

See Answer in Part B → Q12

@Neet_pg_bot

Q13: A driver intentionally runs his car into a pedestrian after a personal dispute, fully aware that the impact is likely to cause death. The pedestrian dies on the spot. Under which section of the BNS would the driver be liable? (Q846944)

A. BNS 304

B. BNS 103

C. BNS 303

D. BNS 109

See Answer in Part B → Q13

@Neet_pg_bot

Q14: Match the BNS sections with the offense BNS Section Offense 1.274 a. Adulteration of food or drink intended for sale 2. 275 b. Sale of adulterated drugs 3. 276 c. Sale of noxious food or drink 4. 277 d. Adulteration of drugs (Q846941)

A. 1-a, 2-c, 3-d, 4-b

B. 1-c, 2-d, 3-b, 4-a

C. 1-a, 2-b, 3-c, 4-d

D. 1-b, 2-a, 3-d, 4-c

See Answer in Part B → Q14

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Q15: A 32-year-old man, unaware that he is HIV positive, has been in a relationship with a woman for the past year. Neither of them has undergone recent medical check-ups, and they have engaged in unprotected intercourse. She subsequently tests positive for HIV. Under which section of the Bharatiya Nyaya Sanhita (BNS) does this act fall? (Q846925)

A. BNS Section 271

B. BNS Section 272

C. BNS Section 106A

D. BNS Section 109

See Answer in Part B → Q15

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Q16: Match the Following (Based on BNS Sections): Code Description 1) BNS 227 a) Giving false evidence under oath 2) BNS 229 b) Punishment for giving false evidence under oath 3) BNS 234 c) Punishment for issuing a false certificate 4) BNS 238 d) Punishment for causing disappearance of vital evidence (Q846919)

A. 1-b, 2-a, 3-c, 4-d

B. 1-b, 2-a, 3-d, 4-c

C. 1-a, 2-b, 3-c, 4-d

D. 1-a, 2-b, 3-d, 4-c

See Answer in Part B → Q16

@Neet_pg_bot

Q17: Person presented to ED with complaints of severe chest pain for 1 hour. CT chest done revealed the presence of Aortic dissection. Patient was taken up for an emergency endovascular surgery without obtaining consent as there were no caregivers present at the time of presentation. Patient succumbed to hypotensive shock during the procedure. The surgeon will not be held liable under which legal provision? (Q846912)

A. BNS 26

B. BNS 27

C. BNS 28

D. BNS 30

See Answer in Part B → Q17

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Q18: BNS 27 deals with (Q846909)

A. Act done in good faith for the benefit of a child (<12 years) with guardian's consent

B. Act done in good faith for a person's benefit after obtaining lawful consent

C. Act not intended to cause death/grievous hurt done by a person >18 years of age

D. Consent is not valid when it is given by fear/misconception

See Answer in Part B → Q18

@Neet_pg_bot

Q19: Husband physically assaults his wife following a verbal altercation between them. On enquiry, it is known that the Husband was under the influence of alcohol during this act and his wife reveals that he is a chronic alcoholic, drinks on a daily basis. Which section deals with the liable act done by her husband? (Q846907)

A. BNS 20

B. BNS 22

C. BNS 23

D. BNS 24

See Answer in Part B → Q19

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• [14_IPC Sections] 030 Previous Year Questions

« Back to Folder Directory

[14_IPC Sections] 030 Previous Year Questions — Quick Jump

Q1 (p. 373) *Q2 (p. 373)* *Q3 (p. 373)*

Q1: The Protection of Children from Sexual Offences (POCSO) Act covers which of the following groups? (Q866423)

A. Girls below 18 years

B. All children below 18 years

C. Girls below 16 years

D. All children below 16 years

See Answer in Part B → Q1

@Neet_pg_bot

Q2: A case of death of a married female within three years of marriage is reported. Who is primarily responsible for conducting the inquest and inquiry into the cause of death in such cases? (Q852467)

A. Judicial

B. Police

C. Coroner

D. Magistrate

See Answer in Part B → Q2

@Neet_pg_bot

Q3: Which of the following does not constitute grievous hurt under Section 320 of the Indian Penal Code (IPC)? (Q854641)

A. Emasculation

B. Fracture of femur

C. Permanent privation of hearing

D. 7 days hospital admission

See Answer in Part B → Q3

@Neet_pg_bot

• [15_General Toxicology] 031 General Toxicology

« Back to Folder Directory

[15_General Toxicology] 031 General Toxicology — Quick Jump

Q1 (p. 375)	*Q2 (p. 376)*	*Q3 (p. 376)*	*Q4 (p. 377)*	*Q5 (p. 377)*	*Q6 (p. 378)*
Q7 (p. 378)	*Q8 (p. 378)*	*Q9 (p. 379)*	*Q10 (p. 379)*	*Q11 (p. 380)*	*Q12 (p. 380)*
Q13 (p. 381)	*Q14 (p. 381)*	*Q15 (p. 381)*	*Q16 (p. 382)*	*Q17 (p. 382)*	*Q18 (p. 383)*
Q19 (p. 383)	*Q20 (p. 383)*	*Q21 (p. 384)*	*Q22 (p. 384)*	*Q23 (p. 385)*	*Q24 (p. 385)*
Q25 (p. 386)	*Q26 (p. 386)*	*Q27 (p. 386)*	*Q28 (p. 387)*	*Q29 (p. 387)*	

Q1: A 30-year-old military officer suffered a burn to his back from the mishandling of hand grenades. He presents to the emergency department with severe pain, blistering, and a garlicky odor coming from the burn site as shown below. which of the following is inconsistent with it? (Q847156)

A. Phosphorescent vomit

B. Kidney failure

C. Hypertrophy of the liver

D. Full-thickness burn



See Answer in Part B → Q1

@Neet_pg_bot

Q2: A police officer is accused of sexually assaulting a child under the age of 12. The case is prosecuted under the POCSO Act. According to POCSO 2019, what is the potential punishment for the officer if convicted? (Q847188)

A. 20 years to the death penalty

B. 10 years to life imprisonment

C. 5 years to 10 years imprisonment

D. Life imprisonment without parole

See Answer in Part B → Q2

@Neet_pg_bot

Q3: When a patient is already dead upon arrival at the hospital, which of the following actions is incorrect? (Q847187)

A. Only Death Report Form 2 is sent

B. A post-mortem is necessary in this case

C. The doctor informs the police

D. The doctor fills out MCCD Form 4A

See Answer in Part B → Q3

@Neet_pg_bot

Q4: Under the Registration of Birth and Death Act, 10(3), who is obligated to certify the cause of death when a patient passes away after being attended by a medical practitioner? (Q847186)

A. Any licensed healthcare provider who saw the patient

B. RMP who attended the patient’s last illness

C. A medical officer appointed by the government

D. A registered nurse who provided care

See Answer in Part B → Q4

@Neet_pg_bot

Q5: A 70-year-old man with poorly controlled diabetes mellitus develops a foot ulcer that becomes infected. Despite treatment, the infection worsens, leading to gangrene of the affected foot. He is later admitted to the hospital with septicemia and unfortunately succumbs to the illness. What is the antecedent cause of death in this scenario? (Q847185)

A. Diabetes mellitus

B. Gangrene

C. Septicemia

D. Foot ulcer

See Answer in Part B → Q5

@Neet_pg_bot

Q6: Which of the following statements regarding the Human Organ Transplantation Act (HOTA) is incorrect? (Q847184)

A. Authorized by any donor above 18 years of sound mind

B. The most commonly donated organ is kidney

C. The most commonly donated tissue is skin

D. Commercial dealing in organs can result in imprisonment for up to 5 years.

See Answer in Part B → Q6

@Neet_pg_bot

Q7: In the case of children in conflict with the law, the Juvenile Justice Board consists of three members. Which of the following statements about the Board's composition is correct? (Q847182)

A. All members must be magistrates

B. The Board must include a female social worker

C. The Board must include a judge from the Supreme Court

D. Only two members are necessary to form the Board

See Answer in Part B → Q7

@Neet_pg_bot

Q8: A sewer worker is brought to the emergency department after collapsing inside a sewage tank. He has respiratory failure, mydriasis, confusion, and a characteristic

rotten egg odor. Which of the following is not useful in treating this patient? (Q847178)

A. Sodium thiosulfate

B. Sodium nitrite

C. Amyl nitrite

D. High-flow oxygen

See Answer in Part B → Q8

@Neet_pg_bot

Q9: A 38-year-old man is brought to the emergency department after collapsing in a closed warehouse where he was working with industrial chemicals. Upon arrival, the patient is unconscious with a blood pressure of 80/40 mmHg, rapid breathing, and oxygen saturation of 95% on room air. His skin is noted to have a flushed, "brick-red" discoloration. ABG analysis shows severe metabolic acidosis with a pH of 7.05 and elevated lactate levels. The patient's coworkers reported a strong odor of burning plastic in the warehouse at the time of the incident. Lee-Jones test confirms the diagnosis. The medical team prepares to administer the antidote. Which of the following treatments is incorrect for this patient? (Q847177)

A. Inhalation of Amyl nitrite

B. Intravenous Hydroxocobalamin

C. Hyperbaric oxygen

D. Intravenous Methylene blue

See Answer in Part B → Q9

@Neet_pg_bot

Q10: A 50-year-old woman is found dead in her apartment after a fire broke out in her house building. At autopsy, her skin and mucosal membranes are noted to have a cherry red discoloration, and there are cutaneous bullae on her wrists and calves.

What is the most likely cause of these findings? (Q847174)

A. Cyanide poisoning

B. Thermal burns from the fire

C. Carbon monoxide poisoning

D. Severe dehydration

See Answer in Part B → Q10

@Neet_pg_bot

Q11: A 9-year-old child is found dead after being intentionally neglected by caregivers, showing signs of severe malnutrition and wasting. Autopsy reveals a distended gallbladder and a complete absence of subcutaneous fat. What postmortem finding is least likely to be present in this case of starvation? (Q847172)

A. Brown atrophy of the heart

B. Ankle edema

C. Enlarged liver

D. Tissue-paper-like intestinal wall

See Answer in Part B → Q11

@Neet_pg_bot

Q12: A 55-year-old male worker in the battery industry presents with muscle cramps, Parkinson-like tremors, yellow teeth, and bronchitis. Blood tests show elevated levels of both cadmium and manganese. Urine analysis shows hematuria and proteinuria. Despite removal from exposure, his neurological symptoms worsen. Which treatment option would be particular for neurological symptoms? (Q847169)

A. Dimercaprol (BAL)

B. CaNa2 EDTA

C. DMSA

D. Sodium para-aminosalicylic acid

See Answer in Part B → Q12

@Neet_pg_bot

Q13: Hatter's shake is seen in which of the following? (Q847166)

A. Mercury poisoning

B. Iron poisoning

C. Lead poisoning

D. Arsenic poisoning

See Answer in Part B → Q13

@Neet_pg_bot

Q14: A 43-year-old man presents with abdominal pain, diarrhea, and progressive numbness in his limbs after consuming food at a barbecue. Over the next few weeks, he develops hair loss and severe neurological deficits, including confusion and muscle weakness. He is non-hypertensive and diabetic. What is the most likely diagnosis? (Q847163)

A. Acute gastroenteritis

B. Guillain-Barré Syndrome

C. Thallium poisoning

D. Diabetic neuropathy

See Answer in Part B → Q14

@Neet_pg_bot

Q15: A 35-year-old male vineyard worker presents with abdominal pain, increased salivation, and bluish-green vomiting. His laboratory tests indicate hemolysis. Which of the following statements regarding the poisoning is incorrect? (Q847159)

A. Shows ptyalism

B. Interstitial pulmonary fibrosis may occur

C. D-penicillamine is the chelating agent

D. Never affects the eyes

See Answer in Part B → Q15

@Neet_pg_bot

Q16: Which of the following is not a characteristic of an ideal homicidal poison? (Q847082)

A. Highly toxic

B. Has an antidote

C. Causes no noticeable postmortem changes

D. Dissolves in food or drink without altering its appearance

See Answer in Part B → Q16

@Neet_pg_bot

Q17: A body is brought for autopsy. On postmortem examination, a garlic odor was detected in the stomach. Which of the following findings is inconsistent with this observation? (Q847155)

A. Luminous in dark

B. Opaque appearance

C. Inflammable

D. Highly toxic

See Answer in Part B → Q17

@Neet_pg_bot

Q18: A 30-year-old male farm worker presents to the emergency department with respiratory distress, excessive salivation, miosis, and bradycardia (heart rate 50 bpm). His blood pressure is 100/60 mmHg. What is the next best step in management? (Q847152)

A. Administer intravenous atropine

B. Provide activated charcoal orally

C. Start pralidoxime

D. Administer beta-blockers

See Answer in Part B → Q18

@Neet_pg_bot

Q19: A 5-year-old child presents with abdominal pain, irritability, and developmental delays. On examination, the child shows a wrist drop. Which of the following chelating agents is the most appropriate first-line treatment for this condition? (Q847150)

A. Dimercaprol (BAL)

B. Succimer (meso-DMSA)

C. D-penicillamine

D. Calcium disodium EDTA (Ca Na 2 EDTA)

See Answer in Part B → Q19

@Neet_pg_bot

Q20: A 35-year-old man presents to the emergency department after ingesting ethylene glycol. His symptoms include confusion, metabolic acidosis, and renal

impairment. What is the most appropriate antidote for this patient? (Q847148)

A. Sodium Thiosulfate

B. Prussian Blue

C. Fomepizole

D. Naloxone

See Answer in Part B → Q20

@Neet_pg_bot

Q21: A 55-year-old male presents to the emergency department with altered mental status. The medical team is considering administering the "coma cocktail." Which of the following is not a component of the traditional coma cocktail? (Q847145)

A. Dextrose

B. Naloxone

C. Flumazenil

D. Midazolam

See Answer in Part B → Q21

@Neet_pg_bot

Q22: A 30-year-old male presents with suspected poisoning from an unknown substance. Which statement about the universal antidote is true? (Q847143)

A. It consists of only activated charcoal

B. Tannic acid is safe for all types of poisoning

C. Its use has declined due to ineffectiveness and hepatotoxicity

D. Gastric lavage is recommended for all poisonings

See Answer in Part B → Q22

@Neet_pg_bot

Q23: Which of the following statements about gastric lavage is false? (Q847140)

A. Gastric lavage is most effective if performed within 1 hour of poison ingestion

B. It is contraindicated in patients with esophageal varices

C. Tap water should never be used for gastric lavage in adults

D. Lavage can cause complications such as aspiration

See Answer in Part B → Q23

@Neet_pg_bot

Q24: A 45-year-old man is found dead at home. On examination, his postmortem staining is as shown in the image. Which of the following is the most likely cause of death? (Q847117)

A. Opium poisoning

B. Hydrogen sulfide poisoning

C. Carbon monoxide poisoning

D. Organochlorine poisoning



See Answer in Part B → Q24

@Neet_pg_bot

Q25: A forensic pathologist is examining a deceased individual and notes a garlic-like odor around the mouth. Which of the following poisons is most likely associated with this characteristic smell? (Q847114)

A. Hydrogen cyanide (HCN)

B. Zinc Phosphide

C. Phosphorus

D. Methyl salicylates

See Answer in Part B → Q25

@Neet_pg_bot

Q26: A 30-year-old male is brought to the emergency department with suspected poisoning after ingesting an unknown substance. A toxicological analysis is performed, and the following specimens are collected: blood, urine, gastric contents, and liver tissue. Which of the following specimens is most crucial for detecting heavy metal poisoning analysis? (Q847110)

A. Blood

B. Urine

C. Hair

D. Liver

See Answer in Part B → Q26

@Neet_pg_bot

Q27: A 28-year-old man is brought to the emergency department for acute intoxication after using an illegal narcotic drug. Upon examination, he is found to be in possession of 300 mg of heroin. According to the Narcotic Drugs and Psychotropic

Substances Act, 1985, what is the most appropriate legal consequence he would face for this offense? (Q847107)

A. Rigorous imprisonment for up to 5 years and a fine of ■1 lakh to ■2 lakh

B. Rigorous imprisonment for 10 to 20 years and a fine of ■1 lakh to ■2 lakh

C. Rigorous imprisonment for 15 to 25 years and a fine of ■1 lakh to ■2 lakh

D. Rigorous imprisonment for 20 to 30 years and a fine of ■1 lakh to ■2 lakh

See Answer in Part B → Q27

@Neet_pg_bot

Q28: A 45-year-old woman is admitted to the emergency room after ingesting an unknown substance. The doctor provides immediate supportive care and stabilizes her condition. Upon suspicion of homicidal poisoning, what is the next legal duty of the doctor (in India)? (Q847100)

A. Notify the patient's family before taking any further action

B. Preserve evidence such as food, vomitus, and stomach wash samples

C. Immediately report the case to the nearest police station or magistrate

D. Administer activated charcoal as the first step in treatment

See Answer in Part B → Q28

@Neet_pg_bot

Q29: Which of the following statements about an ideal suicidal poison is false? (Q847084)

A. It should have no known antidote

B. It should be easily accessible

C. It should be highly palatable and sweet-tasting

D. It should be highly toxic

See Answer in Part B → Q29

@Neet_pg_bot

• [15_General Toxicology] 032 Previous Year Questions

« Back to Folder Directory

[15_General Toxicology] 032 Previous Year Questions — Quick Jump

Q1 (p. 389) *Q2 (p. 389)* *Q3 (p. 390)* *Q4 (p. 390)* *Q5 (p. 391)* *Q6 (p. 392)*
Q7 (p. 393) *Q8 (p. 393)* *Q9 (p. 394)*

Q1: An alcoholic patient is admitted to the hospital 48 hours after his last drink. He presents with altered consciousness, disorientation, and severe agitation. What is the most likely diagnosis? (Q866635)

A. Delirium tremens

B. Alcohol withdrawal symptoms

C. Cocaine intoxication

D. Korsakoff psychosis

See Answer in Part B → Q1

@Neet_pg_bot

Q2: The compound shown in the image can be used in the treatment of which of the following poisonings? (Q853109)

A. Aluminum Phosphide

B. Mercury

C. Phosphorus

D. Arsenic



See Answer in Part B → Q2

@Neet_pg_bot

Q3: A student presents with shock, pulmonary edema, and a positive silver nitrate breath test after consuming an unknown substance. What is the antidote? (Q853110)

A. BAL

B. Pralidoxime

C. MgSO■

D. Atropine

See Answer in Part B → Q3

@Neet_pg_bot

Q4: A 10-year-old child was brought to the emergency department after consuming a significant quantity of iron tablets at home. The child is presenting with severe abdominal pain, profuse gastrointestinal bleeding episodes, and lethargy. What is the preferred treatment for this case? (Q820300)

A. Pencillamine

B. BAL

C. Activated charcoal

D. Deferoxamine Mesylate

See Answer in Part B → Q4

@Neet_pg_bot

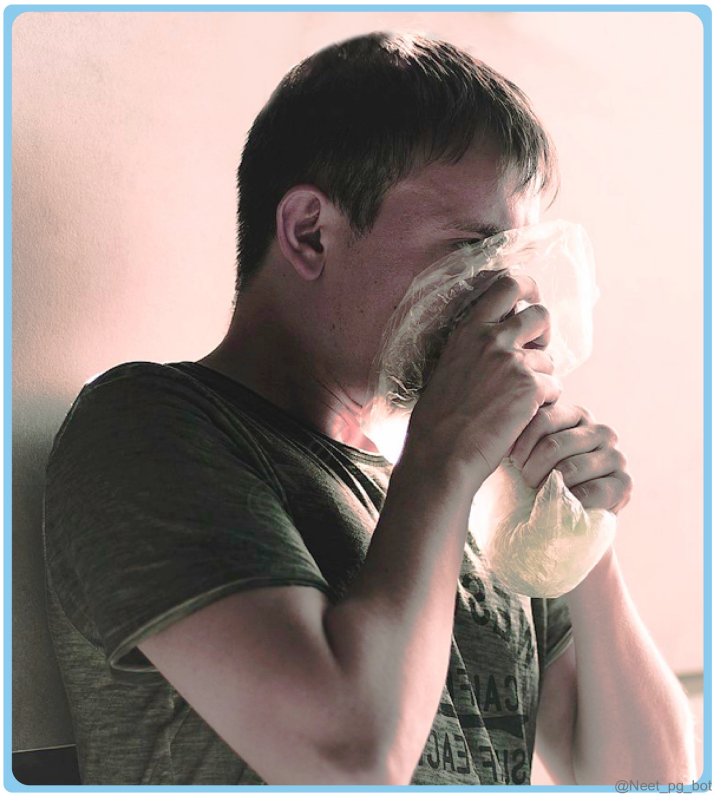
Q5: Identify the method of substance abuse as shown in the image below. (Q859429)

A. Snorting

B. Bagging

C. Sniffing

D. Huffing



See Answer in Part B → Q5

@Neet_pg_bot

Q6: A man was found to be lying dead on the ground. His friend saw a snake passing in the area and took a picture of it and showed it to the doctor (image below). What is the most probable cause of death of this man? (Q859430)

A. Shock

B. Respiratory failure

C. Coagulopathy

D. Renal failure



See Answer in Part B → Q6

@Neet_pg_bot

Q7: Match the following substances with their appropriate antidotes: Substance Antidote 1 Benzodiazepines i BAL 2 Alcohol ii Naloxone 3 Opioid iii Flumazenil 4 Arsenic iv Fomepizole (Q879110)

A. 1-iii, 2-iv, 3-ii, 4-i

B. 1-ii, 2-iii, 3-iv, 4-iv

C. 1-iii, 2-i, 3=ii, 4-iv

D. 1-iv, 2-iii, 3-ii, 4-i

See Answer in Part B → Q7

@Neet_pg_bot

Q8: A girl is found dead in a bathroom. On examination cherry red hypostasis is noted. Her parents report a geyser malfunction and poor ventilation in the bathroom.

What is the most likely cause of death? (Q879150)

A. Carbon monoxide

B. OP

C. Nitrites / Methane

D. Hydrogen sulphide

See Answer in Part B → Q8

@Neet_pg_bot

Q9: Match the drug with its primary effect: Drugs Effects 1. Datura A) Deliriant 2. LSD B) Hallucinogen 3. Opioids C) Depressant / somniferous 4. Alcohol D) Inebriant\ (Q879151)

A. 1-A, 2-B, 3-C, 4-D

B. 1-B, 2-A, 3-C, 4-D

C. 1-C, 2-B, 3-A, 4-D

D. 1-A, 2-C, 3-B, 4-D

See Answer in Part B → Q9

@Neet_pg_bot

• [16_Sexual Jurisprudence] 033 Previous Year Questions

« Back to Folder Directory

[16_Sexual Jurisprudence] 033 Previous Year Questions — Quick Jump

Q1 (p. 395)

Q1: During the visit to the outpatient department, a female patient aged 18 years was examined. The genital examination disclosed the following observations. These observations suggest: 1. Labia majora - separated 2. Labia minora - flabby 3. Fourchette tear present 4. Roomy vagina seen with intact hymen (Q855311)

A. True virgin

B. False virgin

C. Premenstrual stage

D. Molestation

See Answer in Part B → Q1

@Neet_pg_bot

• [17_Indian Legal System _ Medical Jurisprudence] 034 Previous Year Questions

« Back to Folder Directory

[17_Indian Legal System _ Medical Jurisprudence] 034 Previous Year Questions — Quick Jump

Q1 (p. 396) *Q2 (p. 396)* *Q3 (p. 397)* *Q4 (p. 397)* *Q5 (p. 397)* *Q6 (p. 398)*
Q7 (p. 398) *Q8 (p. 398)* *Q9 (p. 399)* *Q10 (p. 399)* *Q11 (p. 400)* *Q12 (p. 400)*
Q13 (p. 401) *Q14 (p. 401)*

Q1: Who order the autopsy in case of RTA? (Q844176)

A. Forensic expert

B. Police

C. Lawyer

D. forensic doctor

See Answer in Part B → Q1

@Neet_pg_bot

Q2: A forensic expert received a summons from the district court to record his evidence in a criminal case, but two days prior, he already received a summons for a civil case in the same district court for the same date. What should the doctor do? (Q852468)

A. Inform both courts and wait.

B. Attend the court for which the summons came first.

C. Attend the court for the criminal case.

D. Do not attend either court.

See Answer in Part B → Q2

@Neet_pg_bot

Q3: A man with multiple stab wounds is brought to the emergency department in a critical condition. He is conscious but not expected to survive for long. The Magistrate is not immediately available. According to medico-legal procedure, what should be done regarding the dying declaration? (Q852472)

A. Wait for the Magistrate to arrive before recording the statement

B. The attending doctor should record the dying declaration after certifying the patient's consciousness

C. Ask the police officer on duty to record the declaration under oath

D. Leading questions should be asked to clarify facts quickly

See Answer in Part B → Q3

@Neet_pg_bot

Q4: A married female died in unnatural condition within 3 years of marriage. Her father filed a report to police and inquiry will be done under which section? (Q852474)

A. 194 BNSS/174 CrPC

B. 296 BNSS/276 CrPC

C. 116 BNS & 194 BNSS

D. 106 BNS & 194 BNSS

See Answer in Part B → Q4

@Neet_pg_bot

Q5: A 13-year-old girl is brought to the OPD by her mother with a complaint of abdominal pain. The patient's urine pregnancy test (UPT) is positive. What should be the first step by you as a medical officer? (Q854644)

A. Start physical examination

B. Inform the police

C. Take consent from the patient's mother

D. Preserve the patient's clothes

See Answer in Part B → Q5

@Neet_pg_bot

Q6: The authority who investigates the death of a 14-year-old girl who was abducted by a man and subsequently died while in police custody will be? (Q859873)

A. Coroner

B. Police

C. Medical examiner

D. Judicial magistrate

See Answer in Part B → Q6

@Neet_pg_bot

Q7: According to the Bharatiya Nyay Sanhita (BNS), which of the following is not classified as grievous hurt? (Q865325)

A. Pain lasting for 5 days

B. Elbow dislocation

C. Emasculation

D. Fracture of a tooth

See Answer in Part B → Q7

@Neet_pg_bot

Q8: A doctor receives two summons, one to appear in court in a murder case and another to provide expert medical opinion. Which of the following should the doctor prioritise? (Q866616)

A. Appearance in the murder case

B. Appearance for providing medical expert opinion

C. The summon received first

D. None of the above

See Answer in Part B → Q8

@Neet_pg_bot

Q9: A man was abducted from his home, and his son subsequently claimed rights to his father's property. As per Section 111 of the Bharatiya Sakshya Adhiniyam (BSA), until when is the son not entitled to claim inheritance? (Q866685)

A. 5 years

B. 6 years

C. 7 years

D. 10 years

See Answer in Part B → Q9

@Neet_pg_bot

Q10: According to the amendment in the medical termination of pregnancy (MTP) Bill of 2020 , until what gestational age is it permissible to induce MTP in mentally ill rape victims? (Q793546)

A. 20 weeks

B. 22 weeks

C. 24 weeks

D. 28 weeks

See Answer in Part B → Q10

@Neet_pg_bot

Q11: As an internal medicine consultant at a private clinic, you are handling the case of a patient who has chronic renal disease and needs hemodialysis. You provide dietary and fluid management recommendations and closely monitor the patient. Unfortunately, the patient decides to take ayurvedic supplements and occasionally disregards your instructions without informing you. Consequently, the patient's condition deteriorates, leading to respiratory distress. Subsequently, the patient's attendant files a legal complaint, accusing the doctor of negligence. Which of the following can serve as a defense for the doctor in court? (Q793550)

A. Vicarious liability

B. Res Ipsa loquitur

C. Therapeutic misadventure

D. Contributory negligence

See Answer in Part B → Q11

@Neet_pg_bot

Q12: Which of the following statements is incorrect regarding cross-examination in a court of law? (Q793564)

A. The witness is questioned by the defense lawyer

B. Leading questions are not permitted

C. The purpose is to challenge or weaken the opponent’s case

D. There is no fixed time limit for cross-examination

See Answer in Part B → Q12

@Neet_pg_bot

Q13: Medical termination of pregnancy can be done upto 24 weeks in case of? (Q820252)

A. Congenital malformation

B. Minors

C. Contraception failure

D. Rape victim

See Answer in Part B → Q13

@Neet_pg_bot

Q14: A doctor was summoned as a public witness to appear and record his evidence in court. What is correct about this witness? (Q820282)

A. Oral evidence

B. Common witness

C. Expert witness

D. Hostile witness

See Answer in Part B → Q14

@Neet_pg_bot

Part B — All Answers & Explanations

• [01_Forensic Identification] 001 Forensic Identification - I

« Back to Folder Directory

[01_Forensic Identification] 001 Forensic Identification - I — Quick Jump

Q1 (p. 402)	*Q2 (p. 403)*	*Q3 (p. 403)*	*Q4 (p. 404)*	*Q5 (p. 405)*	*Q6 (p. 406)*
Q7 (p. 408)	*Q8 (p. 408)*	*Q9 (p. 409)*	*Q10 (p. 410)*	*Q11 (p. 411)*	*Q12 (p. 412)*
Q13 (p. 413)	*Q14 (p. 414)*	*Q15 (p. 415)*	*Q16 (p. 416)*	*Q17 (p. 418)*	*Q18 (p. 418)*
Q19 (p. 419)	*Q20 (p. 419)*	*Q21 (p. 420)*	*Q22 (p. 421)*	*Q23 (p. 421)*	*Q24 (p. 422)*
Q25 (p. 423)	*Q26 (p. 423)*	*Q27 (p. 424)*	*Q28 (p. 425)*	*Q29 (p. 425)*	*Q30 (p. 426)*
Q31 (p. 426)	*Q32 (p. 427)*	*Q33 (p. 428)*	*Q34 (p. 429)*	*Q35 (p. 430)*	*Q36 (p. 433)*
Q37 (p. 434)	*Q38 (p. 435)*	*Q39 (p. 436)*	*Q40 (p. 436)*	*Q41 (p. 437)*	*Q42 (p. 438)*
Q43 (p. 439)	*Q44 (p. 440)*	*Q45 (p. 441)*	*Q46 (p. 442)*	*Q47 (p. 443)*	*Q48 (p. 444)*
Q49 (p. 445)	*Q50 (p. 446)*	*Q51 (p. 447)*	*Q52 (p. 448)*	*Q53 (p. 450)*	*Q54 (p. 451)*
Q55 (p. 452)	*Q56 (p. 453)*	*Q57 (p. 454)*	*Q58 (p. 455)*	*Q59 (p. 455)*	*Q60 (p. 456)*
Q61 (p. 457)	*Q62 (p. 457)*	*Q63 (p. 458)*			

Q1: Pearson’s formula is most commonly applied in forensic investigations to determine which of the following characteristics from skeletal remains? (Q884198)

A. Approximate height of an individual

B. Biological age

C. Gender determination

D. Ethnic origin

Correct Answer: A. Approximate height of an individual

Explanation: Pearson’s formula is a regression formula used in forensic anthropology to estimate an individual’s stature (height) from the measured length of long bones such as the femur, tibia, or humerus. It does not provide information about age, sex, or ethnic origin, which are determined using different morphological and metric methods. Biological age (Option B): Determined using features like epiphyseal fusion, dental eruption, and pubic symphysis changes, not Pearson’s formula. Gender determination (Option C): Based on morphological differences in pelvis and skull, rather than long-bone regression formulas. Ethnic origin (Option D): Estimated from cranial and facial skeletal characteristics, not from stature estimation formulas like Pearson’s.

References:

Review of Forensic Medicine and Toxicology by Gautam Biswas, 3rd Edition, Page 118

↑ *Back to this question in Part A*

@Neet_pg_bot

Q2: In a medico-legal examination of skeletal remains of an individual older than 25 years, which of the following findings provides the most dependable estimate of age? (Q884144)

A. Ectocranial fusion of skull sutures

B. Endocranial fusion of skull sutures

C. Morphological changes of the pubic symphysis

D. Degenerative changes in teeth

Correct Answer: C. Morphological changes of the pubic symphysis

Explanation: After 25 years of age , epiphyseal fusion is complete and age estimation relies on degenerative and morphological changes in bones. The pubic symphysis shows progressive, age-related changes in its surface texture, contour, and rim formation, which follow a fairly predictable sequence , making it the most reliable indicator of adult age . Ectocranial fusion of skull sutures (Option A) is highly variable and influenced by genetic and environmental factors, making it unreliable for accurate age estimation in adults. Endocranial fusion of skull sutures (Option B) occurs earlier than ectocranial fusion but still shows wide individual variation and cannot be used as a dependable sole indicator of age. Degenerative changes in teeth (Option D) such as attrition and secondary dentin formation are affected by diet, habits, and oral hygiene, reducing their reliability compared to pubic symphysis changes.

References:

The Essentials of Forensic Medicine and Toxicology by Narayan Reddy, 35th Edition, Page 53

↑ *Back to this question in Part A*

@Neet_pg_bot

Q3: Which of the following bones develops from a secondary ossification centre? (Q884145)

A. Shaft of femur

B. Shaft of tibia

C. Distal end of femur

D. Body of calcaneus

Correct Answer: C. Distal end of femur

Explanation: Secondary ossification centers develop at the epiphyses of long bones and are useful in age estimation. D istal femur forms from a secondary ossification center called Beclard's nucleus , which appears in late fetal life (around 36-38 weeks) . In contrast, the shaft of the femur, shaft of the tibia, and body of the calcaneus arise from primary ossification centers that appear much earlier during intrauterine development. Primary Ossification Centres (Shaft) Secondary Ossification Centres (Ends) Appear first, usually in fetal life; form the shaft of long bones Appear later; form epiphyses and apophyses Shaft of femur (Option A ruled out) Shaft of tibia (Option B ruled out) Shaft of fibula Shaft of humerus Shaft of radius Shaft of ulna Body of calcaneus (Option D ruled out) Talus Shafts of metacarpals Shafts of phalanges Distal end of femur (Beclard's nucleus) (Option C) Proximal end of tibia Distal end of tibia Proximal end of humerus Distal end of radius Distal end of ulna Calcaneal epiphysis Navicular bone Iliac crest Medial end of clavicle

References:

The Essentials of Forensic Medicine and Toxicology by Narayan Reddy, 35th Edition, Page 52

https://radiopaedia.org/articles/ossification-centers-1

https://www.ncbi.nlm.nih.gov/books/NBK539718/

↑ *Back to this question in Part A*

@Neet_pg_bot

Q4: Which of the following is the first carpal bone to ossify? (Q884146)

A. Capitate

B. Hamate

C. Lunate

D. Scaphoid

Correct Answer: A. Capitate

Explanation: Capitate is the earliest carpal bone to ossify , appearing at around 1-3 months after birth , followed by the hamate . The remaining carpal bones ossify later in a predictable sequence and are useful for pediatric age estimation . Carpal Bone Age of Ossification (approx.) Capitate (Option A) 1-3 months Hamate (Option B ruled out) 2-4 months Triquetral 2-3 years Lunate (Option C ruled out) 2-4 years Scaphoid (Option D ruled out) 4-6

years Trapezium 4-6 years Trapezoid 4-6 years Pisiform 8-12 years

References:

The Essentials of Forensic Medicine and Toxicology by Narayan Reddy, 35th Edition, Page 54-55
https://radiopaedia.org/articles/ossification-centres-of-the-hand

↑ *Back to this question in Part A*

@Neet_pg_bot

Q5: A child is brought for medico-legal age assessment. An X-ray of the hand is shown. What is the most likely age of the child? (Q884149)

A. 1 year

B. 2 years

C. 3 years

D. 6 years



Correct Answer: C. 3 years

Explanation: The X-ray shows ossification of the capitate, hamate, triquetral, and lunate , which normally appear by 2–3 years of age . The absence of the scaphoid, trapezium, and trapezoid suggests the child is younger than 4 years. Carpal Bone Age of Ossification (approx.) Capitate 1-3 months Hamate 2-4 months Triquetral 2-3 years Lunate 2-4 years Scaphoid 4-6 years Trapezium 4-6 years Trapezoid 4-6 years Pisiform 8-12 years 1 year (Option A): At 1 year, only capitate and hamate are ossified; triquetral and lunate are not yet visible. 2 years (Option B): Triquetral just begins to appear around 2 years; presence of both triquetral and lunate favors a slightly older age. 6 years (Option D): By 6 years, the scaphoid, trapezium, and trapezoid would also be ossified, which are absent in this X-ray.

References:

The Essentials of Forensic Medicine and Toxicology by Narayan Reddy, 35th Edition, Pages 54-55.
https://www.sciencedirect.com/science/article/abs/pii/S0887217118300933
https://radiopaedia.org/articles/ossification-centres-of-the-hand

↑ *Back to this question in Part A*

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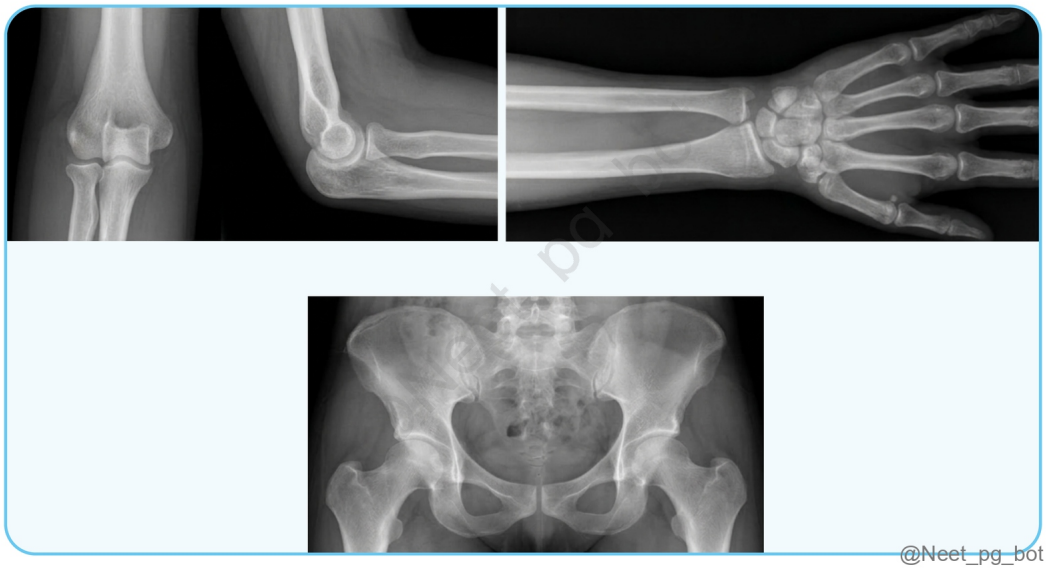
Q6: A female is produced before the court for age determination in a legal dispute. Radiographs of the elbow, wrist, and pelvis show complete fusion of epiphyses at the elbow and wrist, with recent fusion of the iliac crest and ischial tuberosity. What is the most likely age of the girl? (Q884150)

A. 15-16 years

B. 16-17 years

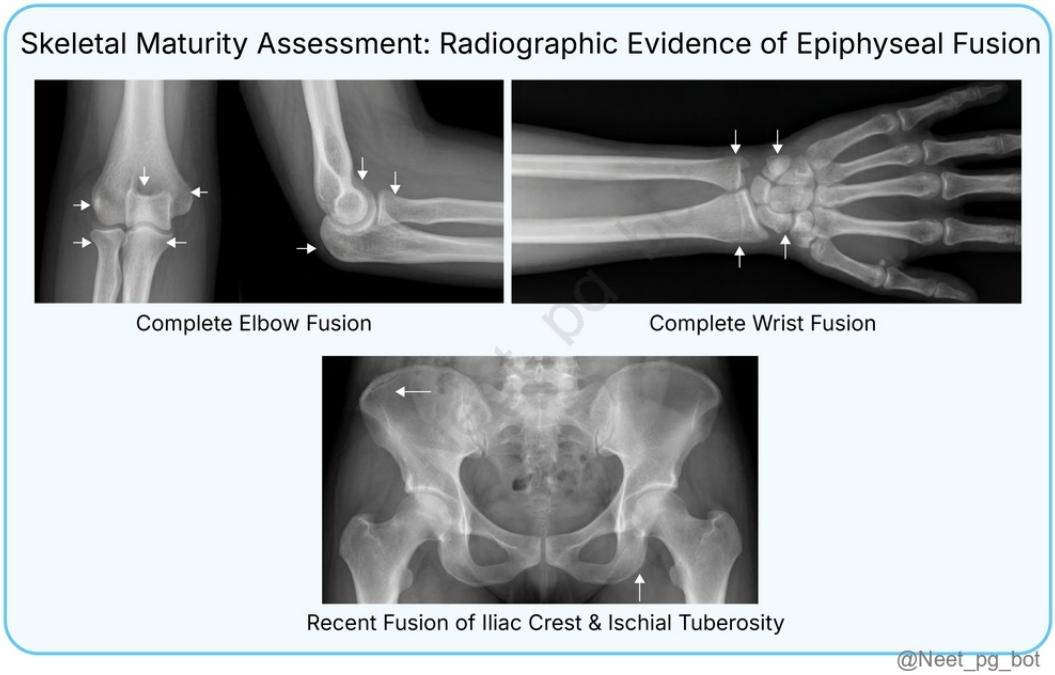
C. 18-19 years

D. 21-22 years


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Correct Answer: C. 18-19 years

Explanation: Radiographs show complete epiphyseal fusion at the elbow and wrist , indicating an age above 17 years . Recent fusion of the iliac crest and ischial tuberosity , which occurs around 18-19 years , best matches the findings.



UPPER LIMB	AGE (YEARS)	LOWER LIMB	AGE (YEARS)
Shoulder	18	Hip	17-18
Elbow	16	Knee	18
Wrist	18	Ankle	16-17

@Neet_pg_bot

References:

https://radiopaedia.org/articles/bone-age-radiograph

Reddy K. S. Narayan, Essentials of Forensic Medicine and Toxicology, 36th Edition, Page 54-55.

↑ *Back to this question in Part A*

@Neet_pg_bot

Q7: In forensic identification, photo-superimposition is sometimes used to compare skeletal remains with antemortem records. Which of the following statements regarding this technique is TRUE? (Q884153)

A. Primarily used to positively identify an individual

B. Can be carried out using two-dimensional images

C. Does not require any antemortem photographs

D. Commonly applied to bones of the lower limb

Correct Answer: B. Can be carried out using two-dimensional images

Explanation: Photo-superimposition is a technique in which an antemortem facial photograph is overlaid on an image of a skull , usually using two-dimensional images . It is mainly an exclusionary method and cannot independently confirm identification. The technique requires antemortem photographs and is used primarily for skull analysis , not for lower-limb bones. Primarily used to positively identify an individual (Option A): Photo-superimposition is mainly an exclusionary method ; it helps rule out identity but cannot confirm it with certainty. Does not require any antemortem photographs (Option C): An antemortem photograph of the person is essential for performing photo-superimposition. Commonly applied to bones of the lower limb (Option D): Photo-superimposition is primarily applied to the skull , not to lower-limb bones.

References:

https://pmc.ncbi.nlm.nih.gov/articles/PMC7219178/

https://www.sciencedirect.com/science/article/abs/pii/0379073885900349

↑ *Back to this question in Part A*

@Neet_pg_bot

Q8: In forensic anthropology, the cranial shape of an adult Indian male is most commonly classified as: (Q884155)

A. Long-headed (dolichocephalic)

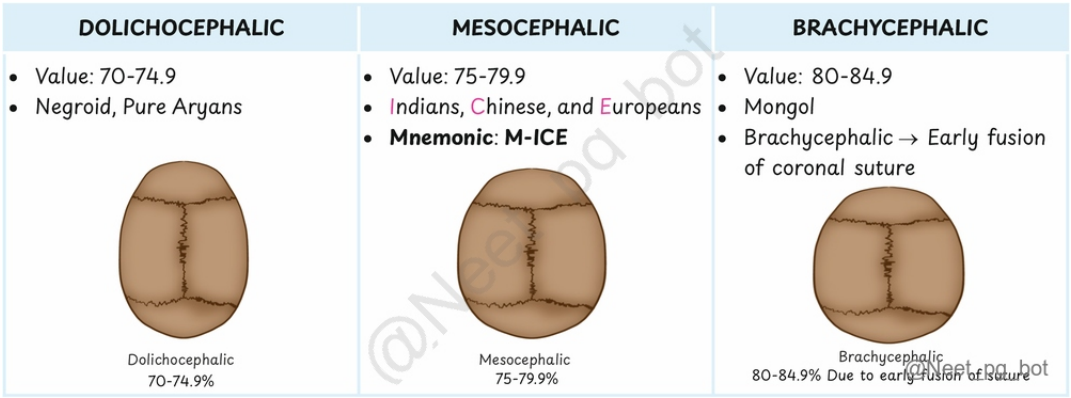
B. Medium-headed (mesaticephalic)

C. Broad-headed (brachycephalic)

D. Flat-headed (platycephalic)

Correct Answer: B. Medium-headed (mesaticephalic)

Explanation: The average adult Indian male skull is mesaticephalic , meaning it has a medium cranial index (neither long nor broad). Dolichocephalic (long-headed) (Option A) is characterised by a narrow, elongated skull and is less common in Indian populations, being more frequently seen in European and some African populations. Brachycephalic (broad-headed) (Option C) is short and wide, rare among Indians, and commonly found in Central European and some East Asian populations. Platycephalic (flat-headed) (Option D) is very flat or low, not typical in Indian males, and occurs occasionally in Polynesian and Southeast Asian populations.



References:

https://www.britannica.com/science/skull

↑ *Back to this question in Part A*

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Q9: During a forensic examination of recovered human remains, the scalp hair is observed to have a round cross-section with little to no pigmentation variation. Based on hair morphology, what is the most likely racial affinity of the individual? (Q884158)

A. African (Negroid)

B. East Asian (Mongoloid)

C. European (Caucasoid)

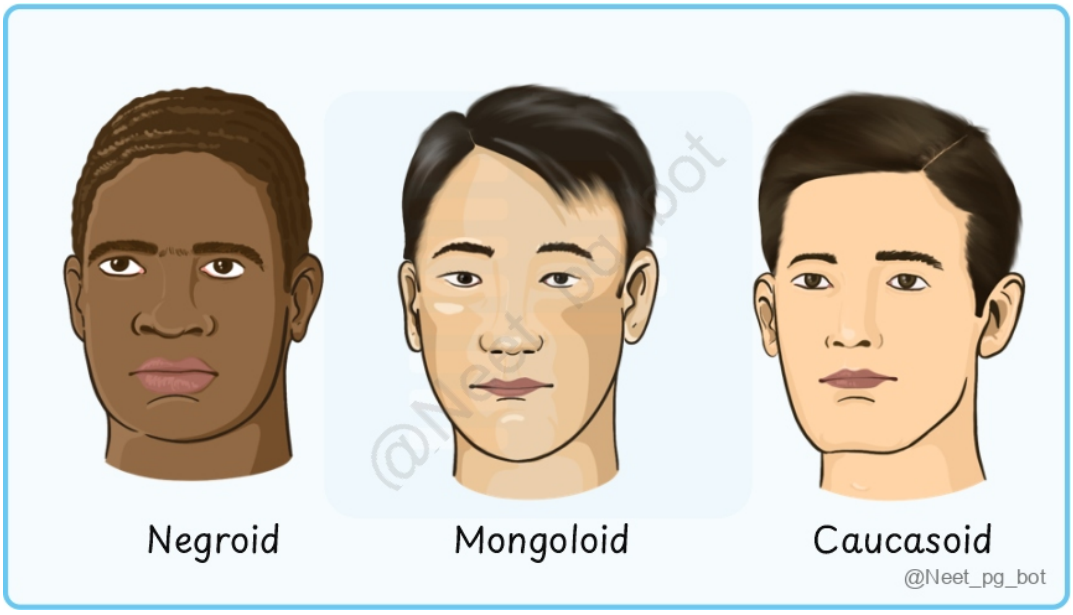
D. Cannot be determined

Correct Answer: B. East Asian (Mongoloid)

Explanation: The cross-sectional shape of human hair is an important morphological feature used in forensic race estimation. In this case, the hair shows a round cross-section with minimal pigmentation variation , which is characteristic of Mongoloid (East Asian) populations . Negroid (African) (Option A): This type of hair is elliptical or oval in cross-section, often with more pronounced pigmentation and tightly coiled texture. Caucasoid (European) (Option C): This type of hair has an oval cross-section with variable pigmentation and wavy or straight texture. Cannot be determined (Option D): When hair is highly degraded or morphological features are ambiguous, race may not always be reliably determined , but in this example, the shape and pigmentation point clearly to Mongoloid ancestry.

FEATURE	MONGOL	CAUCASIAN	NEGRO
Cross section	Cylindrical/ Round	Round-oval	Elliptical
Medulla	Non-fragmented	Fragmented	Fragmented
Cuticle	Thick	Medium	Absent

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References:

https://ebooks.inflibnet.ac.in/antp07/chapter/395/

↑ *Back to this question in Part A*

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Q10: In forensic odontology, certain dental traits are associated with different ethnic groups. Which of the following statements is TRUE? (Q884159)

A. Shovel-shaped incisors are commonly seen in Mongoloid populations.

B. Carabelli's cusp is a feature of Africans.

C. Upper third molars are most frequently absent in Caucasians.

D. Prominent lingual and labial ridges are typical in Caucasians.

Correct Answer: A. Shovel-shaped incisors are commonly seen in Mongoloid populations.

Explanation: Shovel-shaped incisors, which have pronounced marginal ridges and a scooped lingual surface , are a classic dental trait of Mongoloid populations and are useful in forensic ethnicity estimation. Carabelli's cusp is a feature of Africans (Option B): Carabelli's cusp is a small extra cusp on the upper first molar, and it is seen in Caucasian populations, not Africans. Upper third molars are most frequently absent in Caucasians. (Option C): Upper third molars may be absent in various populations, but they are more frequently missing in Mongoloid groups, not Caucasians. Prominent lingual and labial ridges are typical in Caucasians (Option D): Prominent lingual and labial ridges are features of Mongoloid teeth rather than Caucasians.

CAUCASIAN	MONGOL	NEGRO
Carabelli cusp (maxillary molar)	• Shovel-shaped incisor • Enamel pearl (Pre-molar) • Taurodontism (Bull tooth) • Absence of 3rd molar	More cusp

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References:

Reddy K. S. Narayan, Essentials of Forensic Medicine and Toxicology, 36th Edition, Pages 42, 43

↑ *Back to this question in Part A*

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Q11: Which of the following forensic applications is the preauricular sulcus most commonly used for? (Q884160)

A. Estimating age at death

B. Identifying biological sex

C. Determining ancestry

D. Assessing stature

Correct Answer: B. Identifying biological sex

Explanation: Preauricular sulcus is a groove on the ilium near the sacroiliac joint that appears more frequently and more prominently in female pelvises on skeletal remains. Its presence (especially when broad and deep) supports a sex assessment leaning toward female, whereas it is rare and usually less pronounced in males. Function in forensics: Primarily helps estimate sex from pelvic bones. Not reliable for: age, race, or height estimation. Interpretation caution: Absence alone doesn't prove male sex, but presence increases the likelihood of female. Estimating age at death (Option A): Age estimation uses pubic symphysis, auricular surface, cranial sutures, and dental wear; the preauricular sulcus is unreliable for age assessment. Determining ancestry (Option C): Ancestry is assessed using craniofacial and dental features; the preauricular sulcus is a pelvic trait and not ancestry-specific. Assessing stature (Option D): Stature estimation relies on long bone lengths (femur, tibia, humerus) using regression formulas; the preauricular sulcus has no relation to height.

References:

Review of Forensic Medicine and Toxicology by Gautam Biswas, 3rd Edition, Page 64

https://pubmed.ncbi.nlm.nih.gov/7255707/

https://europepmc.org/article/med/11806146

↑ *Back to this question in Part A*

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Q12: Which of the following pelvic measurements are routinely used as indices for determining the sex of skeletal remains? Ischiopubic (Washburn) index Sciatic notch index Sacral index Sternal index Corporobasal index Kimura Base-wing index Chilotic line (Q884161)

A. 1, 2, 3, 5, 6, and 7

B. 1, 2, 3, 6, and 7

C. 1, 2, 3, and 6

D. All of the above

Correct Answer: A. 1, 2, 3, 5, 6, and 7

Explanation: Sex determination is most accurate using pelvic indices reflecting pubic length, sciatic notch morphology, and sacral proportions. Ischiopubic (Washburn) index: Based on the ratio of pubic length to ischial length. Females show a higher index due to a longer pubis → very reliable pelvic sex indicator . (Option 1) Sciatic notch index: Calculated from the width and depth of the greater sciatic notch. Females have a wider and shallower notch , giving a higher index. (Option 2) Sacral index: Ratio of sacral breadth to sacral length. Female sacrum is shorter and wider , resulting in a higher sacral index. (Option 3) Corporobasal index: Compares the breadth of the

body of the first sacral vertebra to the breadth of the sacral base. Shows consistent sexual dimorphism . (Option 5) Kimura Base-wing index): Assesses the relationship between the sacral base and alae (wings). Higher in females due to flared sacral alae. (Option 6) Chilotic line: A morphological pelvic landmark separating iliac and pelvic portions of the sacrum. Its position and curvature differ between sexes and assist in sex estimation. (Option 7) Sternal index (Option 4): Although useful for sex determination , it is derived from the sternum , not the pelvis. Hence, it is not a pelvic index and is excluded from the correct combination.

Diagnostic Indexes for Determination of Sex

S.No.	Index	Formula	Male	Female
1	Washburn / Ischiopubic index	(Length of pubis / Length of ischium) × 100	73-94	91-115
2	Sciatic notch index	(Width of sciatic notch / Depth of sciatic notch) × 100	4-5	5-6
3	Sternal index	(Length of manubrium / Length of body) × 100	46.2	54.3
4	Corporobasal index[31]	(Breadth of body of 1st sacral vertebra / Breadth of base of sacrum) × 100	> 42	< 42
5	Sacral index	(Transverse diameter of base of sacrum / Anterior length of sacrum) × 100	< 114	> 114

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References:

Review of Forensic Medicine and Toxicology by Gautam Biswas, 3rd Edition, Pages 64, 91

↑ *Back to this question in Part A*

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Q13: During forensic examination of unidentified skeletal remains, which bone provides the highest accuracy for determining biological sex? (Q884163)

A. Skull

B. Pelvis

C. Femur

D. Sternum

Correct Answer: B. Pelvis

Explanation: Pelvis exhibits the greatest sexual dimorphism due to adaptation for childbirth in females. Key discriminatory features include: Subpubic angle (wide in females, narrow in males) Greater sciatic notch (wide and shallow in females Ischiopubic (Washburn) index Shape of pelvic inlet (oval/round in females, heart-shaped in males) Provides ~95% accuracy , making it the gold standard for skeletal sex determination. Pelvis > Skull > Long

bones for sex determination accuracy. Skeletal Material Examined Accuracy of Sexing (%) Entire skeleton 100 Skull + Pelvis 98 Pelvis alone (best single bone) (Option B) 95 Skull alone (Option A ruled out) 92 Long bones alone (Option C ruled out) 80-85 Long bones + Pelvis 98 Sternum (Option D) assists sex estimation through the sternal index but has lower accuracy and is mainly supportive rather than definitive.

References:

Review of Forensic Medicine and Toxicology by Gautam Biswas, 3rd Edition, Page 64

↑ *Back to this question in Part A*

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Q14: A hip bone is submitted for medico-legal examination. Which combination of features most strongly supports that the pelvis belongs to a male individual? Deep, funnel-shaped pelvic cavity Broad subpubic angle Narrow and deep greater sciatic notch Large acetabulum Large, oval obturator foramen with upward-directed base Broad, shallow greater sciatic notch (Q884164)

A. 1, 3, 4, and 5

B. 2, 4, and 6

C. Only 5

D. 2 , 3, 5, and 6

Correct Answer: A. 1, 3, 4, and 5

Explanation: A male pelvis is typically deep and funnel-shaped, with a large acetabulum, narrow and deep greater sciatic notch, and a large oval obturator foramen with an upward-directed base. Features like a broad subpubic angle and broad, shallow sciatic notch are female characteristics. Feature Male Pelvis Female Pelvis General Appearance Massive, rougher, prominent muscular markings Less massive, slender, smoother, muscular markings not prominent Shape Deep funnel (Option 1) Flat bowl Acetabulum Large, 52 mm diameter (Option 4) Small, 46 mm diameter Obturator foramen Large, oval, base upwards (Option 5) Small, triangular, apex forwards Greater sciatic notch Narrow, deep, small (Option 3) Broad, shallow, large (Option 6 ruled out) Ischial tuberosity Inverted Everted Body of pubis Narrow, triangular Broad, square, pits on the posterior surface, if borne children Subpubic angle V-shaped, sharp angle, 70°-75° U-shaped, rounded, broader angle, 90°-100° (Option 2 ruled out) Pelvic brim or inlet Heart-shaped Circular or elliptical-shaped Pelvic cavity Conical, funnel-shaped Broad, round Pelvic outlet Smaller Larger

References:

Review of Forensic Medicine and Toxicology by Gautam Biswas, 3rd Edition, Pages 63-67

The Essentials of Forensic Medicine and Toxicology, K S Narayan Reddy, OP Murty, 35th Edition, Pages 43-49

↑ *Back to this question in Part A*

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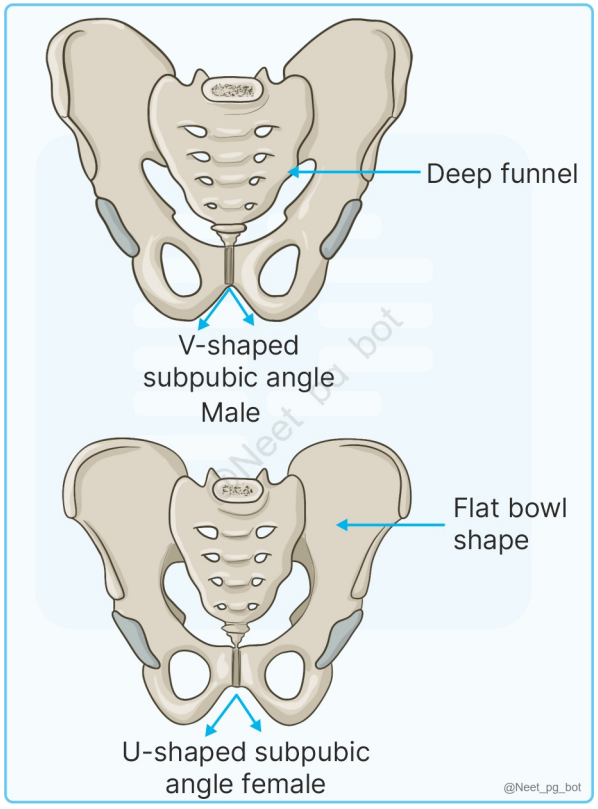
Q15: Identify the sex from the given pelvic bones: (Q884165)

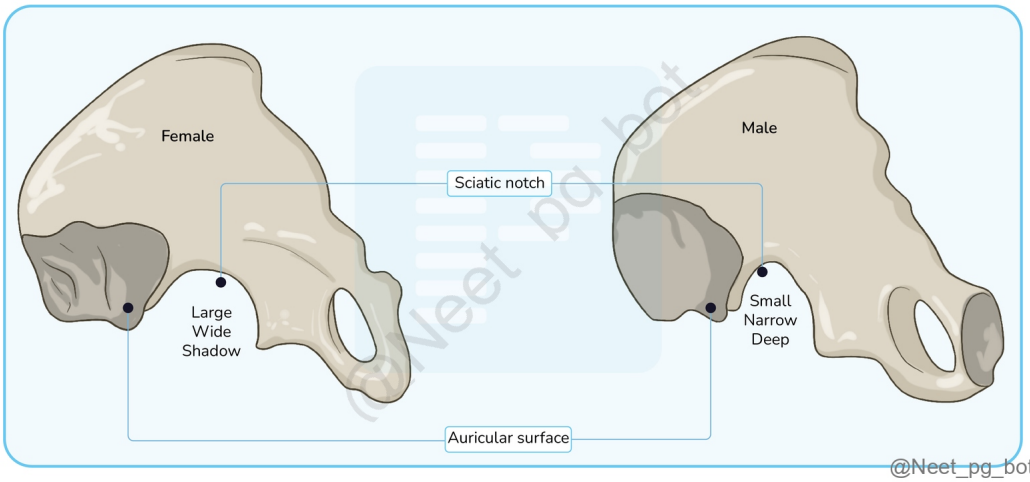
A. A- Female, B- Male, C- Female, D- Male

B. A- Male, B- Female, C- Male, D- Female

C. A- Male, B- Female, C- Female, D- Male

D. A- Female, B- Male, C- Male, D- Female





Correct Answer: C. A- Male, B- Female, C- Female, D- Male

Explanation: Specimen A and D: Male pelvis — narrow subpubic angle, deep greater sciatic notch, funnel-shaped cavity. Specimen B and C: Female pelvis — wide subpubic angle, broad sciatic notch, and round, spacious pelvic inlet for childbirth. Feature Male Pelvis Female Pelvis General Appearance Massive, rougher, prominent muscular markings Less massive, slender, smoother, muscular markings not prominent Shape Deep funnel Flat bowl Acetabulum Large, 52 mm diameter Small, 46 mm diameter Obturator foramen Large, oval, base upwards Small, triangular, apex forwards Greater sciatic notch Narrow, deep, small Broad, shallow, large Ischial tuberosity Inverted Everted Body of pubis Narrow, triangular Broad, square, pits on the posterior surface, if borne children Subpubic angle V-shaped, sharp angle, 70°-75° U-shaped, rounded, broader angle, 90°-100° Pelvic brim or inlet Heart-shaped Circular or elliptical-shaped Pelvic cavity Conical, funnel-shaped Broad, round Pelvic outlet Smaller Larger

References:

Review of Forensic Medicine and Toxicology by Gautam Biswas, 3rd Edition, Pages 63-67

The Essentials of Forensic Medicine and Toxicology, K S Narayan Reddy, OP Murty, 35th Edition, Pages 43-49

↑ *Back to this question in Part A*

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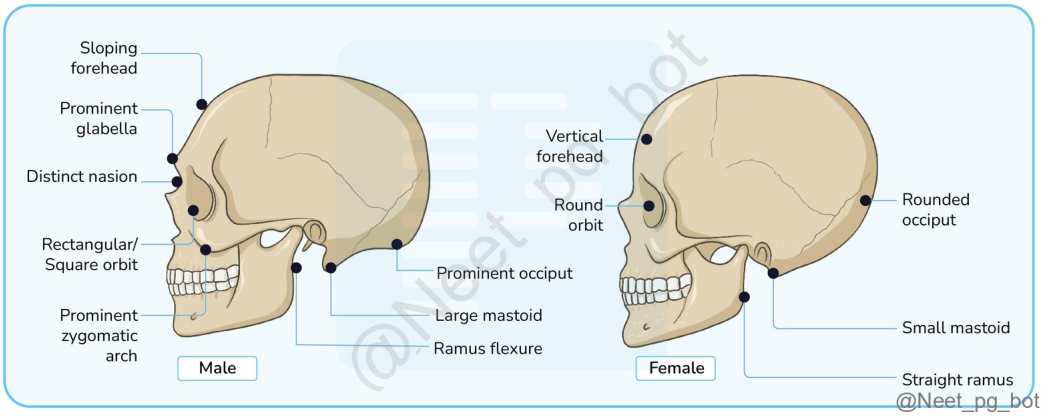
Q16: The image below shows two human skulls labelled A and B . Identify the sex of Skull A and Skull B. (Q884166)

A. A - Female, B - Male

B. A - Male, B - Female

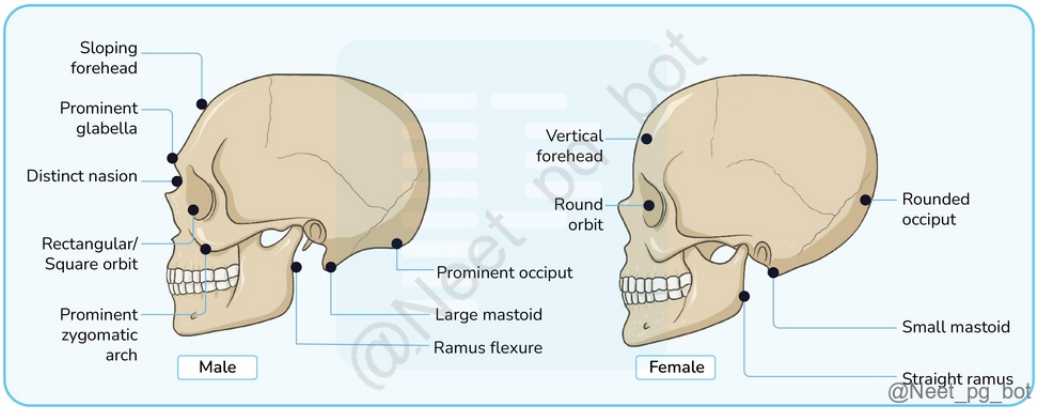
C. A - Male, B - Male

D. A - Female, B - Female



Correct Answer: B. A - Male, B - Female

Explanation: Skull A: Male features - prominent glabella and supraorbital ridges, large mastoid process, U-shaped palate. Skull B: Female features - smooth vertical forehead, less prominent brow ridges, small mastoid process, parabolic palate. Feature Male Skull Female Skull General appearance Larger, heavier, rugged, marked muscular ridges Smaller, lighter, thinner walls, smoother Forehead Receding, irregular, rough, less rounded Vertical, round, smooth, infantile Cranial capacity More capacious (1450-1550 cc) Less capacious (1300-1350 cc) Glabella Prominent Less prominent Supraorbital / supraciliary ridge Prominent Less prominent Frontonasal junction Distinct angulation Smoothly curved Orbits Square, rounded margins, small Rounded, sharp margins, large Frontal & parietal eminence Less prominent Prominent Zygomatic arch Prominent Not prominent Occipital area (muscle markings & protuberance) Prominent Not prominent Mastoid process Large, round, blunt Small, smooth, pointed Digastric groove Deep Shallow Condylar facet Long, narrow Short, broad Palate Large, U-shaped, broad Small, parabolic Foramen magnum Relatively large Small, round External auditory meatus Long; bony ridge along upper border prominent Short; ridge often absent



References:

Review of Forensic Medicine and Toxicology by Gautam Biswas, 3rd Edition, Pages 64-65.

↑ *Back to this question in Part A*

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Q17: A forensic expert examines radiographs of a young female to determine whether her age is above 16 years. Which of the following skeletal findings would most reliably support this conclusion? (Q884143)

A. Fusion of distal radius

B. Fusion of proximal ulna

C. Fusion of iliac crest apophysis

D. Fusion of medial end of clavicle

Correct Answer: C. Fusion of iliac crest apophysis

Explanation: In forensic age estimation, epiphyseal fusion occurs at different ages for different bones , and females generally show earlier fusion than males . The iliac crest apophysis begins to fuse at around 16-17 years in females , making its fusion a reliable indicator that the individual is older than 16 years. Distal end of radius and Proximal end of ulna fuse earlier, usually before 16 years, and therefore cannot reliably confirm an age above 16 years. (Option A and B ruled out) Fusion of medial end of clavicle (Option D): Medial end of clavicle is the last epiphysis to fuse, typically around 22-25 years, making it unsuitable for assessing whether a person has just crossed 16 years.

References:

https://journals.sagepub.com/doi/10.1177/09710973251388722

↑ *Back to this question in Part A*

@Neet_pg_bot

Q18: A fetus has a crown-rump length of 24 cm and a lower limb length of 12 cm. Based on these measurements, the estimated gestational age is: (Q884199)

A. 5 to 6 months

B. 6 to 7 months

C. 7 to 8 months

D. Full term

Correct Answer: C. 7 to 8 months

Explanation: Crown-heel length (CHL) is calculated by adding crown-rump length (CRL) and the length of the lower limb . Here, CRL = 24 cm Length of lower limb = 12 cm CHL = 24 cm + 12 cm = 36 cm . According to Haase's rule , fetal age in lunar months can be estimated from crown-heel length as follows: First 5 months: Age (months) = √CHL (in cm) Last 5 months: Age (months) = CHL ÷ 5 (when CHL > 25 cm) Since the crown-heel length is 36 cm (>25 cm) , the second part of Haase's rule is applied. Therefore, Gestational age = 36 ÷ 5 = 7.2 ≈ 7-8 months .

References:

https://forensicindia.com/ugteaching/ageoffetus.htm

↑ *Back to this question in Part A*

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Q19: The vertebral column contributes approximately what percentage to the total stature of an adult individual? (Q884200)

A. 15%

B. 25%

C. 35%

D. 50%

Correct Answer: C. 35%

Explanation: The vertebral column contributes about 35% of an adult's total height, with the remaining stature coming mainly from the limbs and skull. This proportion is useful in forensic estimation of height from skeletal remains. Bone Approximate % Contribution to Stature Humerus 20% Tibia 22% Femur 27% Vertebral column (spine) 35% (Option C)

References:

Review of Forensic Medicine and Toxicology by Gautam Biswas, 3rd Edition, Page 78
https://www.pagepressjournals.org/jbr/article/download/3671/3190/13458

↑ *Back to this question in Part A*

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Q20: While examining unidentified skeletal remains, a forensic anthropologist focuses on the pelvic girdle to determine the individual's sex. Which pelvic component

provides the most reliable indicator for sex estimation? (Q884201)

A. Ilium

B. Pubis

C. Ischial tuberosity

D. Sacrum

Correct Answer: B. Pubis

Explanation: The pubis is the most reliable bone for sex determination because it shows the most consistent sexual dimorphism. Male: Narrow, triangular pubic body and V-shaped subpubic angle (70°-75°) Female: Broad, square pubic body and U-shaped subpubic angle (90°-100°). Ilium (Option A): Shows sexual differences, but features are less specific and less reliable than pubic traits. Ischial tuberosity (Option C): Differences (inverted in males, everted in females) exist but are not as consistent for sex estimation. Sacrum (Option D): Varies in shape between sexes, but its features overlap significantly and are less precise for accurate determination.

References:

Review of Forensic Medicine and Toxicology by Gautam Biswas, 3rd Edition, Page 64-66

↑ *Back to this question in Part A*

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Q21: Edmond Locard is most famously associated with which foundational concept in forensic science? (Q884202)

A. Principle of individuality

B. Exchange principle

C. Principle of probability

D. Principle of comparison

Correct Answer: B. Exchange principle

Explanation: Edmond Locard proposed the Exchange Principle, which states that whenever two objects come into contact, there is a mutual transfer of material. This principle forms the cornerstone of modern forensic science, explaining the presence of trace evidence like hair, fibers, fingerprints, and biological material at crime scenes. Exchange principle explains why trace evidence is inevitable in physical contact crimes. Principle of individuality (Option A): States that no two objects are exactly alike, highlighting uniqueness, but was not proposed by Locard and does not involve material transfer. Principle of probability (Option C): Deals with the statistical evaluation of

evidence and does not explain physical transfer between objects. Principle of comparison (Option D): A procedural step comparing unknown and known samples, not a foundational forensic principle.

References:

Reddy K. S. Narayan, Essentials of Forensic Medicine and Toxicology, 36th Edition, Page 25

↑ *Back to this question in Part A*

@Neet_pg_bot

Q22: The ridge patterns that form the basis of fingerprints become permanently established during which period of intrauterine life? (Q884203)

A. 6-8 weeks

B. 10-12 weeks

C. 16-20 weeks

D. At birth

Correct Answer: C. 16-20 weeks

Explanation: Fingerprint ridge patterns originate from dermal papillae in the developing skin. By 16-20 weeks of gestation , the ridges are fully formed and permanent, remaining unchanged in pattern throughout life (they only grow proportionally with the fingers). This permanence makes fingerprints a highly reliable tool for personal identification in forensic investigations.

References:

Essentials of Forensic Medicine and Toxicology, Reddy K. S. Narayan, 36th Edition, Page 92

↑ *Back to this question in Part A*

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Q23: A fingerprint impression showing no delta formation is classified as which pattern? (Q884204)

A. Plain arch

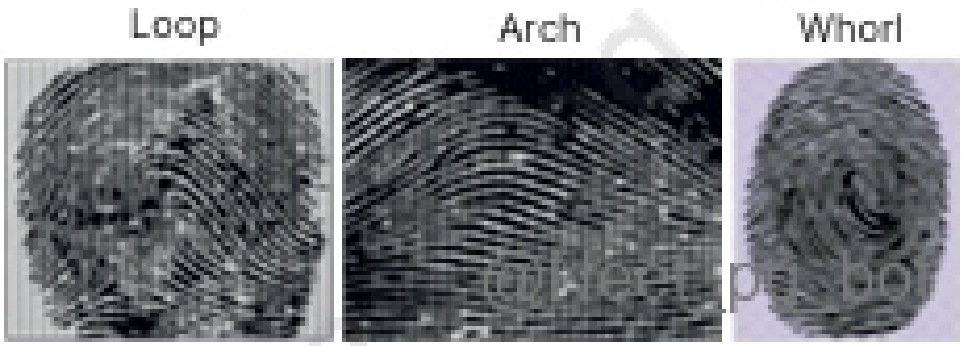
B. Tented arch

C. Loop

D. Whorl

Correct Answer: A. Plain arch

Explanation: Plain arches are the simplest fingerprint pattern and are characterized by the absence of delta formation. Ridges pass from one side to the other without recurving, making this pattern relatively uncommon but easy to identify. Tented arch (Option B): The tented arch has a central upthrust and may show a rudimentary delta. Loop (Option C): Loops have one core and one delta. Whorl (Option D): Whorls have a half core and two deltas.



References:

Reddy K. S. Narayan, Essentials of Forensic Medicine and Toxicology, 36th Edition, Page 96

↑ *Back to this question in Part A*

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Q24: The approximate depth of fingerprint ridges into the skin, which must be reached to cause permanent destruction of the pattern, is: (Q884205)

A. 0.01 mm

B. 0.1 mm

C. 0.6 mm

D. 1 mm

Correct Answer: C. 0.6 mm

Explanation: Fingerprint ridges extend into the dermal papillae to a depth of approximately 0.6 mm, which explains their permanence. Superficial injuries affecting only the epidermis (the outer layer) do not alter fingerprint patterns, as they will regenerate perfectly.

References:

Reddy K. S. Narayan, Essentials of Forensic Medicine and Toxicology, 36th Edition, Page 93

↑ *Back to this question in Part A*

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Q25: Identical (monozygotic) twins share similarities in all of the following, except: (Q884206)

A. DNA profile

B. Blood group

C. Fingerprints

D. Sex

Correct Answer: C. Fingerprints

Explanation: Although identical twins share the same DNA, blood group, and sex, their fingerprints differ due to random environmental influences during fetal development. Hence, fingerprints remain a gold standard for individual identification. DNA is identical in monozygotic twins. (Option A) Blood group is genetically determined and therefore the same. (Option B) Identical twins are always of the same sex. (Option D)

References:

Reddy K. S. Narayan, Essentials of Forensic Medicine and Toxicology, 36th Edition, Page 94

↑ *Back to this question in Part A*

@Neet_pg_bot

Q26: Complete absence of fingerprints is characteristically seen in which condition? (Q884207)

A. Ichthyosis vulgaris

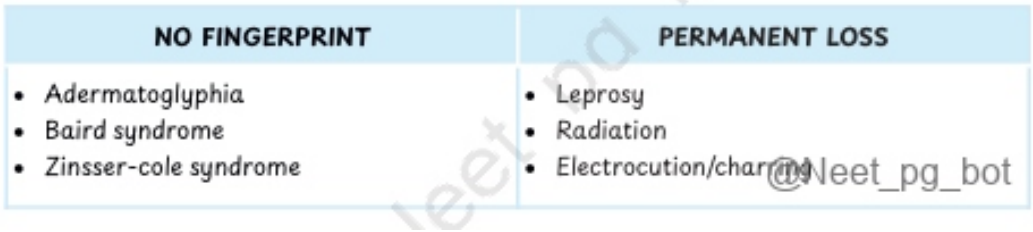
B. Scleroderma

C. Adermatoglyphia

D. Psoriasis

Correct Answer: C. Adermatoglyphia

Explanation: Adermatoglyphia is a rare congenital condition characterized by the complete absence of fingerprint ridges. It is also known as immigration delay disease and can cause significant forensic identification challenges. Ichthyosis (Option A) causes scaling, but fingerprints remain present. Scleroderma (Option B) causes skin tightening without complete loss of ridges. Psoriasis (Option D) does not cause a complete absence of fingerprints.



References:

Reddy K. S. Narayan, Essentials of Forensic Medicine and Toxicology, 36th Edition, Page 98

↑ *Back to this question in Part A*

@Neet_pg_bot

Q27: Edgeoscopy in fingerprint analysis primarily evaluates which feature? (Q884208)

A. Ridges

B. Shape and contour of ridge edges

C. Sweat pore number

D. Fingerprint pattern type

Correct Answer: B. Shape and contour of ridge edges

Explanation: Edgescopy is the study of the shape, contour, and characteristics of ridge edges of fingerprints. It provides additional individuality when minutiae points are insufficient, especially in high-quality latent prints. Analysis of ridges (Option A) is a general part of minutiae analysis Sweat pore analysis (Option C) is poroscopy, not edgoscopy. Fingerprint pattern type (Option D) does not relate to microscopic analysis.

References:

Reddy K. S. Narayan, Essentials of Forensic Medicine and Toxicology, 36th Edition, Page 101

↑ *Back to this question in Part A*

@Neet_pg_bot

Q28: Which of the following is not a standard method used for tattoo removal? (Q884209)

A. Laser ablation

B. Dermabrasion

C. Chemical cauterization

D. Radiofrequency ablation

Correct Answer: D. Radiofrequency ablation

Explanation: Common tattoo removal techniques include laser therapy, dermabrasion, and chemical cauterization. Radiofrequency ablation is not a standard or recommended method for tattoo removal in forensic practice. Laser ablation, dermabrasion, and chemical cauterization are all established tattoo removal methods. (Options A, B, and C ruled out)

References:

Reddy K. S. Narayan, Essentials of Forensic Medicine and Toxicology, 36th Edition, Page 141

↑ *Back to this question in Part A*

@Neet_pg_bot

Q29: Which tattoo pigment is most resistant to fading over time? (Q884210)

A. Yellow

B. Red

C. Blue

D. Black

Correct Answer: D. Black

Explanation: Black tattoo pigment, usually carbon-based, penetrates deeper into the dermis and is most resistant to photodegradation, making it persist longer than other colors. Yellow pigment (Option A) fades the fastest. Red pigment (Option B) fades moderately over time. Blue pigment (Option C) shows intermediate fading.

References:

Reddy K. S. Narayan, Essentials of Forensic Medicine and Toxicology, 36th Edition, Page 142

↑ *Back to this question in Part A*

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Q30: Which method is most useful for visualizing a faded or obliterated tattoo? (Q884211)

A. Ultraviolet light examination

B. Diascopy

C. Wood’s lamp examination

D. Dermoscopy

Correct Answer: A. Ultraviolet light examination

Explanation: Ultraviolet light examination is the most useful method for detecting faded or partially obliterated tattoos, as residual tattoo pigments fluoresce differently under ultraviolet illumination, making them visible even when they are not apparent to the naked eye. Diascopy (Option B) is used to differentiate vascular from non-vascular skin lesions and has no role in identifying tattoo pigments. Wood’s lamp examination (Option C) is primarily used to detect fungal infections and pigmentary disorders. Dermoscopy (Option D) helps in the evaluation of pigmented skin lesions, but it is not reliable for detecting residual tattoo pigments.

References:

Reddy K. S. Narayan, Essentials of Forensic Medicine and Toxicology, 36th Edition, Page 142

↑ *Back to this question in Part A*

@Neet_pg_bot

Q31: If a tattoo is claimed in history but no cutaneous evidence is visible, which structure should be examined for confirmation? (Q884212)

A. Liver

B. Kidney

C. Spleen

D. Regional lymph nodes

Correct Answer: D. Regional lymph nodes

Explanation: Tattoo pigments are transported via lymphatics and can be found in regional lymph nodes, even when the tattoo has been surgically removed or has faded completely. Tattoo pigment is phagocytosed by macrophages and transported through lymphatic channels to regional lymph nodes , where it may persist for life. Pigment deposition in lymph nodes may cause dark discoloration or enlargement , which can be mistaken for pathological lymphadenopathy or melanoma during examination. Liver, kidney, and spleen do not accumulate tattoo pigment. (Options A, B, and C)

References:

Reddy K. S. Narayan, Essentials of Forensic Medicine and Toxicology, 36th Edition, Page 143

↑ *Back to this question in Part A*

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Q32: Which microscopic feature of human hair is most useful in distinguishing human hair from animal hair? (Q884213)

A. Medullary index

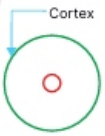
B. Cuticular scale pattern

C. Cortical pigmentation

D. Hair shaft diameter

Correct Answer: B. Cuticular scale pattern

Explanation: Human hair shows imbricate (flattened) cuticular scales, whereas animal hair often shows coronal or spinous patterns. This feature is crucial in species differentiation during forensic examination. Medullary index (Option A) supports differentiation but is not definitive alone. Cortical pigmentation (Option C) varies widely among individuals. Hair shaft diameter (Option D) often overlaps between species.

ANIMAL HAIR	HUMAN HAIR
• Medulla: Wide, Continuous	• Narrow
	
• Cortex :Narrow	• Wide
• Cuticle :Coarse and thick	• Fine and thin
• Pigment - Centre (Medulla)	• Periphery
• Scales : Coronal	• Imbricate
• Medullary index (MI) >0.5	• Medullary index (MI) ≤0.33

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References:

Reddy K. S. Narayan, Essentials of Forensic Medicine and Toxicology, 36th Edition, Page 167

↑ *Back to this question in Part A*

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Q33: A team of forensic anthropologists is excavating a site where multiple sets of human remains have been discovered. They need to take precise measurements of various bones to aid in identification and analysis. As they set up their equipment, a junior member of the team asks about the best tool for taking linear measurements of long bones like femurs and tibias. Which instrument should the senior anthropologist recommend for this task? (Q847091)

A. Sliding caliper

B. Spreading caliper

C. Hepburn-type osteometric board

D. Digital radiography system

Correct Answer: C. Hepburn-type osteometric board

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The lengths of bones are measured using a Hepburn-type osteometric board . The Hepburn-type osteometric board is a specialized tool used in forensic anthropology and bioarchaeology to take accurate linear measurements of bones. It typically consists of a flat board with a fixed end block and a sliding block , allowing

for precise measurements of bone length. Sliding callipers (Option A) are used in forensic anthropology but for smaller, more precise measurements up to 300mm. They are ideal for bone diameters or cranial dimensions, not for measuring full lengths of long bones like femurs or tibias. Spreading callipers (Option B) are used in forensic anthropology to measure curved surfaces or rounded structures' diameters. They are less precise for linear measurements of long bones compared to osteometric boards. Digital radiography system (Option D): While useful in forensic anthropology for non-invasive examination, age estimation, and identifying pathologies, digital radiography is not the primary tool for taking linear measurements of bones.



References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 78

↑ *Back to this question in Part A*

@Neet_pg_bot

Q34: A young male is brought to the emergency department unconscious after a car accident. Despite resuscitation efforts, he is declared dead. The medical examiner is called to conduct a post-mortem examination. The patient has no identification, and his body was found far from any populated area. During the autopsy, the cephalic index (CI) of the skull is calculated to be 83. Based on this information, which population ancestry does this person most likely belong to? (Q847012)

A. Aboriginal

B. Central European

C. Mongolian

D. Caucasian

Correct Answer: C. Mongolian

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Anthropometric measurements, such as the cephalic index (CI) , are valuable in determining ancestry, which assists forensic teams in narrowing down the possible identity of the deceased. Cephalic index is calculated as: CI = (Maximum Skull Breadth/Maximum Skull Length)*100 The skull breadth is measured between the two parietal eminences and the length is measured between the glabella and the external occipital protuberances with a calipers and not a mesuring tape. Skull Shape Cephalic Index (CI) Population Dolichocephalic (Long-headed) 70-74.99 Pure Aryans, Aborigines, African (Negroid) (Option A) Mesaticephalic (Medium-headed) 75-79.99 European (Caucasoid), Chinese, Indians (Option D) Brachycephalic (Short-headed) 80-84.99 East Asian (Mongoloid) (Option C) Hyperbrachycephalic (CI > 85): Extremely broad skulls, sometimes seen in Central European populations (Option B) In this scenario, a cephalic index of 83 falls into the brachycephalic range , which is typical of East Asian (Mongoloid) populations. This measurement, combined with other forensic evidence such as stature, skin color, and dental patterns, could guide the investigation toward identifying the deceased.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 57

The Essentials of Forensic Medicine and Toxicology, K S Narayan Reddy, OP Murty, 35th Edition, Page 42

↑ *Back to this question in Part A*

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Q35: An unidentified male body is brought to the mortuary for forensic examination. Upon evaluation, it is noted that the orbits of the skull are rounded, the palate is broad, and the teeth exhibit shovel-shaped incisors. The hair recovered from the body is straight and coarse. Based on the forensic findings, what is the most likely racial group of this individual? (Q847023)

A. African descent

B. Caucasian descent

C. Asian descent

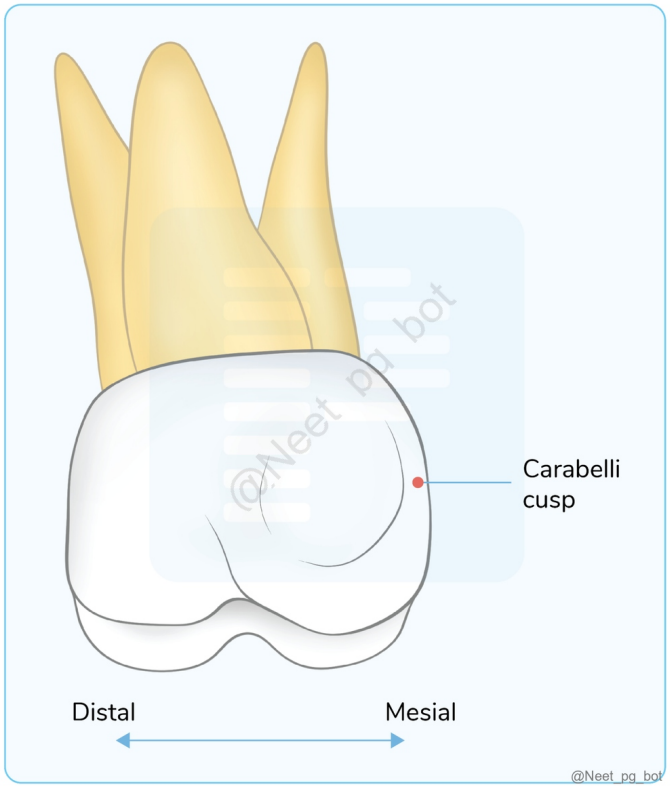
D. Hispanic descent

Correct Answer: C. Asian descent

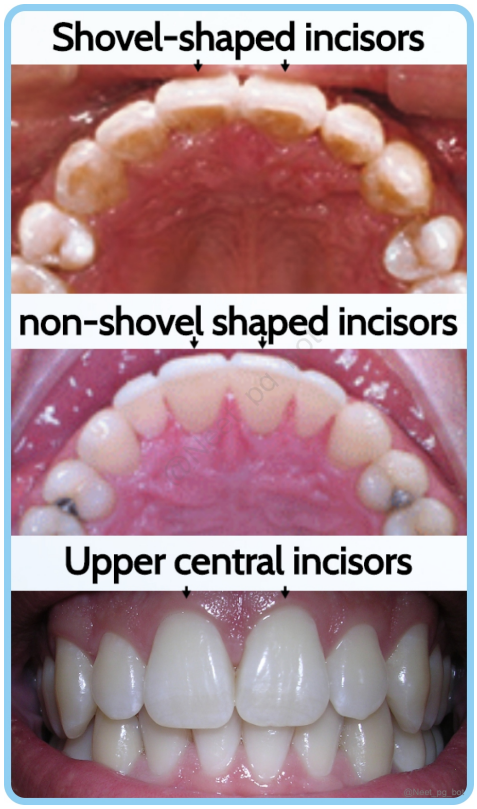
■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The observed features of rounded orbits, broad palate, and shovel-shaped incisors point towards Mongoloids - East Asians. Feature Caucasian (White) Mongolian (Yellow) Negro (Black) Skull Rounded (Mesaticephalic) Square (Brachycephalic) Narrow and elongated (Dolicocephalic) Face Straight lower face - orthognathism Large and flattened, malar bones prominent Jaw projecting - prognathism, malar bones prominent Hair Cross section Round to oval Cylindrical/ Round Elliptical Medulla Fragmented Non-fragmented Fragmented Cuticle Medium Thick Absent Palate Triangular Rounded Rectangular Teeth Chisel-shaped Incisors Carabelli's Cusp -accessory cusp in maxillary first molar. Total of 5 cusps. Smaller Teeth Narrower Dental Arches Shovel-shaped Incisors Peg-shaped Teeth Taurodontism-body of the tooth is enlarged at the expense of the roots Larger Teeth Hypocone- a cusp on the upper molars Larger Teeth Less Frequent Shovel-shaped Incisors Limbs Proportional to body Smaller Longer Individuals of African descent (Option A) typically have rectangular orbits, a broader nasal aperture, and tightly coiled hair. Shovel-shaped incisors and straight hair are not characteristic features of African populations. Caucasian individuals (Option B) usually have oval orbits, a narrower V-shaped palate, and wavy or straight hair that tends to be finer in texture. Shovel-shaped incisors are not a common finding in this group. Hispanic individuals (Option D) can present with a combination of features from both Caucasian and Native American ancestries. While some may exhibit broad palates or rounded orbits, the combination of shovel-shaped incisors and coarse, straight hair is more characteristic of Asian descent than Hispanic populations.







References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page. 57.

The Essentials of Forensic Medicine and Toxicology, K S Narayan Reddy, OP Murty, 35th Edition, Page. 42.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4541412/#R36

↑ *Back to this question in Part A*

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Q36: A 30-year-old individual with ambiguous genitalia presents for forensic sex determination. Both sex chromatin (Barr body) study and gonadal biopsy are performed. After a thorough examination, it was noted that no Barr bodies were identified, and the gonadal tissue revealed immature seminiferous tubules. Based on this information, which of the following is the most appropriate interpretation? (Q847026)

A. The absence of Barr bodies indicates Turner syndrome.

B. The individual is chromosomally male but may have androgen insensitivity syndrome (AIS).

C. The presence of seminiferous tubules confirms chromosomal female sex.

D. The absence of Barr bodies automatically excludes mosaicism.

Correct Answer: B. The individual is chromosomally male but may have androgen insensitivity syndrome (AIS).

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Sex Chromatin (Barr Body) : Barr bodies represent the inactivated X chromosome in individuals with two X chromosomes (typically females, 46, XX) In males (46, XY), there is only one X chromosome, so Barr bodies are absent The presence or absence of Barr bodies can help distinguish chromosomal sex, though it cannot detect mosaicism or some intersex conditions Gonadal Biopsy : A gonadal biopsy allows for histological examination of the gonads. In this case, the presence of seminiferous tubules suggests the presence of testicular tissue, which is typical of male gonads. However, disorders such as AIS can result in ambiguous genitalia despite the presence of testicular structures. Androgen Insensitivity Syndrome (AIS) : In AIS, individuals with a 46, XY karyotype have testes and produce androgens, but their bodies are unable to respond to these hormones. This results in underdeveloped or ambiguous male genitalia or the appearance of female external genitalia despite having male gonads and a male chromosome pattern. The absence of Barr bodies and the finding of seminiferous tubules support the interpretation of the gonadal male sex. However, the ambiguous genitalia suggests a disorder of sexual development (DSD), and AIS is a possible

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 59-63.

The Essentials of Forensic Medicine and Toxicology, K S Narayan Reddy, OP Murty, 35th Edition, Page 43, 44.

↑ *Back to this question in Part A*

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Q37: A forensic anthropologist is tasked with determining the biological sex of skeletal remains found at an excavation site. The skeleton is relatively well-preserved, and specific morphological features are noted. The pelvis shows a wide subpubic angle, a broad sciatic notch, and a wide, circular pelvic inlet. Additionally, the skull has a smaller mastoid process and rounded chin. Based on these skeletal characteristics, which of the following is the most likely biological sex of the individual? (Q847030)

A. Male

B. Female

C. Cannot be determined without DNA analysis

D. Hermaphroditic

Correct Answer: B. Female

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The skeletal features described, such as the wide subpubic angle, broad sciatic notch, wide circular pelvic inlet, smaller mastoid process, and rounded chin, are characteristic of a female skeleton. These differences are primarily due to the role of the female pelvis in childbirth, requiring a wider structure for accommodating fetal passage. Other sexually dimorphic traits, such as a smaller mastoid process and a more rounded chin, are also commonly associated with female skeletons. Feature Male skull Female skull General Appearance Larger, heavier, rugged, marked muscular ridges Smaller, lighter, walls thinner, smoother Forehead Receding, irregular, rough, less rounded Vertical, round, full, infantile, smooth Cranial capacity More capacious (1450–1550 cc) Less capacious (1300–1350 cc) Glabella Prominent Less prominent Orbits Square, rounded margins, small Rounded, sharp margins, large Frontal and parietal eminence Less prominent Prominent Zygomatic arch Prominent Not prominent Occipital area Prominent Not prominent Mastoid process Large, round, blunt Small, smooth, pointed Digastric groove Deep Shallow Palate Large, U-shaped, broad Small, parabolic Foramen magnum Relatively large, long Small, round External auditory meatus Bony ridge along upper border prominent Often absent Feature Male Pelvis Female Pelvis General Appearance Massive, rougher, prominent muscular markings Less massive, slender, smoother, muscular markings not prominent Shape Deep funnel Flat bowl Acetabulum Large, 52 mm diameter Small, 46 mm diameter Obturator foramen Large, oval, base upwards Small, triangular, apex forwards Greater sciatic notch Narrow, deep, small Broad, shallow, large Ischial tuberosity Inverted Everted Body of pubis Narrow, triangular Broad, square, pits on the posterior surface, if borne children Subpubic angle V-shaped, sharp angle, 70°–75° U-shaped, rounded, broader angle, 90°–100° Pelvic brim or inlet Heart-shaped Circular or elliptical-shaped Pelvic cavity Conical, funnel-shaped Broad, round Pelvic outlet Smaller Larger Male skeletons

(Option A) generally exhibit a narrower subpubic angle (less than 70 degrees), a narrow sciatic notch, and a heart-shaped pelvic inlet. Additionally, male skulls tend to have more prominent mastoid processes, a square chin, and more pronounced brow ridges. While DNA analysis (Option C) is an advanced and definitive method for determining biological sex, in this case, the pelvic and skull features are distinctive enough to strongly suggest that the individual was female. Hermaphroditism (Option D) , or intersex conditions, presents with skeletal features that are ambiguous or a blend of both male and female characteristics. Intersex conditions are diagnosed with more advanced techniques (e.g., genetic analysis or histology), and the skeletal features described in this scenario fit within the normal range for a biologically female individual.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 63-67

The Essentials of Forensic Medicine and Toxicology, K S Narayan Reddy, OP Murty, 35th Edition, Page 43-49

↑ *Back to this question in Part A*

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Q38: A forensic anthropologist is analyzing skeletal remains to determine the sex of an individual. Based on the following rules, which statement is TRUE? (Q847035)

A. According to Ashley's Rule, females have a sternum length greater than 149 mm.

B. Hyrtl's Law states that males have a sternum body length more than twice the length of the manubrium.

C. Krogman's Table indicates that long bones alone provide 100% accuracy in sexing remains.

D. The skull has a higher accuracy rate than the pelvis.

Correct Answer: B. Hyrtl's Law states that males have a sternum body length more than twice the length of the manubrium.

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Hyrtl's Law states that males have a sternum body length more than twice the length of the manubrium. Ashley's Rule Used for Sternum bone. Sternum length in males >149mm. Sternum length in females <149mm. (Option A ruled out) Hyrtl's Law Body is longer and more than twice the length of Manubrium in males. Shorter and less than twice the length of manubrium in females. Krogman's Table The degree of accuracy in sexing adult skeletal remains. Entire skeleton 100% Pelvis alone 95% Skull alone 90% (Option D ruled out) Pelvis plus skull 98% Long bones alone 80% (Option C ruled out)

References:

https://journals.viamedica.pl/folia_morphologica/article/download/FM.a2018.0002/42756

https://www.sciencedirect.com/science/article/abs/pii/S0379073809005507

↑ *Back to this question in Part A*

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Q39: A pregnant woman has an ultrasound that measures her fetus's Crown Heel Length (CHL) as 40 cm. What is the estimated age of the fetus in months? (Q847037)

A. 7 months

B. 8 months

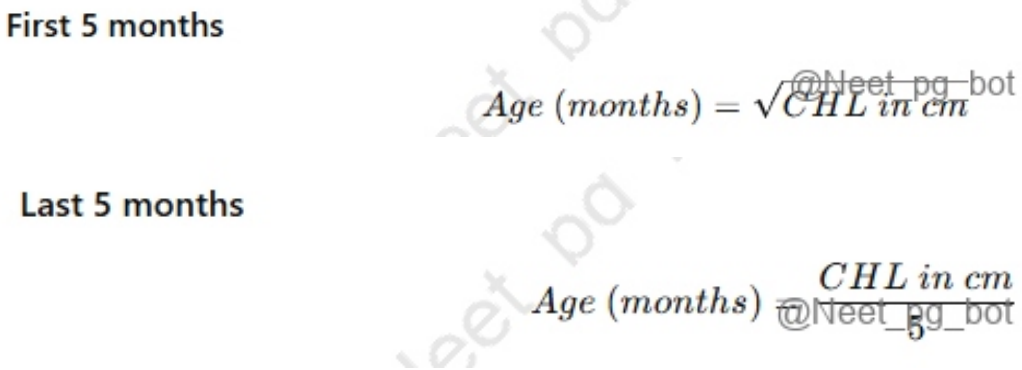
C. 9 months

D. 10 months

Correct Answer: B. 8 months

■ *Listen to Audio 1*

Explanation: Rule of Hasse: Since, CHL = 3/2 CRL CHL = 3/2 x 40 CHL = 60 cm Morrison's Rule is used to correlate fetal length with gestational age . Age Length 5 months 25 cm 6 months 30 cm 7 months 35 cm 8 months 40 cm 9 months 45 cm 10 months (term) 50 cm Since the length is >25 cm , the fetus is in the last 5 months . Now, as per the Rule of Hasse, Age = CHL/5 Age= 40/5 Age = 8 months Options A, C & D are numerically incorrect.



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References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 322

↑ *Back to this question in Part A*

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Q40: A 12-year-old boy is brought to the clinic for a routine check-up. During the examination, the physician notes the development of certain bones, particularly focusing on the clavicle and scapula. Based on the provided information, which statement is TRUE regarding the boy's skeletal development? (Q847039)

A. The medial end of the clavicle fuses by 22 years.

B. The coracoid base of the scapula fuses at 10 years.

C. The xiphisternum fuses at 3 years postnatal.

D. The first sternebrae appears between 14–25 years.

Correct Answer: A. The medial end of the clavicle fuses by 22 years.

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The medial end of the clavicle fuses by 20–22 years. Bone Centers of Ossification Age of Appearance Age of Fusion Sternum Manubrium 5th-month IUL 60–70 years (manubrio-sternal joint) 1st sternebrae 5th-month IUL (Option D ruled out) 14–25 years (from below upwards; 3rd and 4th–15 years; 2nd and 3rd–20 years; 1st and 2nd–25 years) 2nd and 3rd sternebrae 7th-month IUL 4th sternebrae 10th-month IUL Xiphisternum 3rd year postnatal 40–45 years (with body) (Option C ruled out) Clavicle Medial end 5th–7th week IUL(1st Ossification centre overall to appear in fetus) 20-22 years Scapula Coracoid base 10–11 years 14–17 years (Option B ruled out) Acromion process 14–16 years 17–18 years

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 72

↑ *Back to this question in Part A*

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Q41: Match the following skull sutures with their age of closure 1. Posterior fontanelle a) 2–4 years 2. Anterior fontanelle b) 45–50 years 3. Lambdoid suture c) At birth to 6 months 4. Metopic suture d) 1½–2 years (Q847046)

A. 1-a, 2-c,3-d, 4-b

B. 1-c, 2-d, 3-b, 4-a

C. 1-d, 2-b, 3-c, 4-a

D. 1-d, 2-a, 3-b, 4-c

Correct Answer: B. 1-c, 2-d, 3-b, 4-a

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Skull sutures with their age of closure: Suture Closure Age Posterior fontanelle (occipital) At birth to 6 months Anterior fontanelle (bregma) 1½–2 years Two halves of mandible 1–2 years Metopic suture (between frontal bones) 2–4 years, may remain unfused Basiocciput and basisphenoid 18–20 years (females) 20–22 years (males) Lambdoid suture 45–50 years Parieto-temporal 60–70 years Closure of skull sutures begins endocranially (inner side) 5-10 years earlier than ectocranially (outer side). Ectocranial closure is variable and may not occur, especially in the sagittal suture. The best age estimate comes from the sagittal suture , followed by the lambdoid and coronal sutures. Inner closure starts around 25 years of age. Outer closure timelines: Posterior one-third of the sagittal suture: 30-40 years Anterior one-third of the sagittal and lower half of the coronal: 40-50 years Middle of the sagittal and upper half of the coronal: 50-60 years

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 73, 74

↑ *Back to this question in Part A*

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Q42: A 10-year-old girl visits the clinic for a routine examination. During the assessment, the physician notes the development of her upper and lower limb bones. Which of the following statements is FALSE? (Q847050)

A. The head of the humerus fuses with the shaft at 17–18 years.

B. The lower end of the radius fuses by 17–19 years.

C. The greater trochanter of the femur fuses at 14–15 years.

D. The upper end of the fibula fuses at 10–12 years.

Correct Answer: D. The upper end of the fibula fuses at 10–12 years.

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The upper end of the fibula fuses by 17–18 years, not 10–12 years. Upper Limb Centers of Ossification Age of Appearance Age of Fusion Humerus Head 1 year At 5–6 years, the three fuse together (conjoint epiphysis), and at 17–18 years, fuse with the shaft. (Option A ruled out) Greater tubercle 3 years Lesser tubercle 5 years Capitulum 1 year At 14–15 years, all three fuses with the shaft Trochlea 9–10 years Lateral epicondyle 10–11 years Medial epicondyle 5–6 years 16 years Radius Upper end 5–6 years 15–17 years Lower end 1–2 years 17–19 years (Option B ruled out) Ulna Upper end 8–9 years 15–17 years Lower end 5–6 years 17–19 years Carpals Pisiform 9–12 years — Other Carpals The capitate and hamate bones ossify during infancy,

with the capitate appearing first at 36th week(3-4 months age). Between ages 2 and 6, the number of visible carpal bones on an X-ray roughly corresponds to the child's age (e.g., 3 carpal bones indicate approximately 3 years old). Lower limb bone Centers of Ossification Age of Appearance Age of Fusion Hip Bone Ischiopubic rami — 7 years Triradiate cartilage — 12–14 years Iliac crest 15–16 years 19–21 years Ischial tuberosity 16–17 years 20–22 years Femur Head 1 year 17–18 years Greater trochanter 4 years 14–15 years (Option C ruled out) Lesser trochanter 14 years 16–17 years Lower end 9 months IUL (at birth) 17–18 years Tibia Upper end At birth 17–18 years Lower end 1 year 17–18 years Fibula Upper end 4 years 17–18 years Lower end 2 years 16–17 years Tarsals Calcaneum 5th month IUL 17–18 years Talus 7th month IUL Cuboid 9th month IUL

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 72

↑ *Back to this question in Part A*

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Q43: A forensic odontologist is examining the remains of an unidentified individual found in a remote area. The examination reveals the following dental pattern: 28 teeth present All third molars are absent Second premolars are partially erupted Canines are fully erupted Some primary (deciduous) molars are still present Based on this dental evidence, what is the most likely age range of the individual? (Q847055)

A. 6-7 years

B. 9-10 years

C. 11-12 years

D. 14-15 years

Correct Answer: C. 11-12 years

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Dental examination is important in determining the age of an individual. The eruption sequence and timing of teeth provide valuable information for age estimation. In the above question: 28 teeth present - a mixed dentition stage, as a full set of permanent teeth would be 32. Absence of third molars : Third molars typically erupt between 17-25 years, so their absence is expected in younger individuals. Partially erupted second premolars : Second premolars usually erupt between 10-12 years. Fully erupted canines : Permanent canines typically erupt between 9-12 years. Presence of some primary molars : This confirms the mixed dentition stage. Temporary (Deciduous or Primary) Dentition: Temporary or deciduous teeth are the first set of teeth to develop in humans. These teeth begin to erupt in infancy and are eventually replaced by permanent teeth. Total Number: 20 teeth (10 in each jaw: 2 incisors, 1 canine, and 2 molars in each quadrant). By the age of 2 to 3 years, all deciduous teeth typically erupt. Permanent Dentition: Permanent teeth replace the deciduous teeth and are present in an individual

throughout adulthood. Total Number: 32 teeth (16 in each jaw: 2 incisors, 1 canine, 2 premolars, and 3 molars in each quadrant). Teeth Eruption Sequence: Teeth Ages of Eruption (Temporary) Ages of Eruption (Permanent) Mixed Dentition Period Lower central incisors 6–8 months 6–8 years 6–8 years Upper central incisors 7–9 months 6–8 years 6–8 years Upper lateral incisors 7–9 months 7–9 years 7–9 years Lower lateral incisors 10–12 months 7–9 years 7–9 years Canines 17–18 months 11–12 years 11–12 years First premolars — 9–11 years 9–11 years Second premolars — 10–12 years 10–12 years First molars 12–14 months 6–7 years 6–7 years Second molars 20–30 months 12–14 years 12–14 years Third molars — 17–25 years No mixed dentition (Permanent only) Permanent dentition order of appearance mnemonic: Mom (M1) Is (I1) IN (I2) PAIN (PM1) PAPA(PM2) CAN(CANINES) MAKE (M2) MEDICINE (M3) Start from 6 yrs (M1) ...Then ADD 1 yr for next permanent teeth according to mnemonic till M2 which is at 12 years AND then M3 will be at 17-25 yrs Mixed Dentition: Mixed dentition is a transitional stage where both primary and permanent teeth are present at the same time. This phase typically occurs between the ages of 6 and 14 years. The child will have a combination of both deciduous and permanent teeth. The first permanent molars erupt around 6 years, while the shedding of deciduous teeth continues until about 14 years. 6-7 years(Option A) : At this age, only the first permanent molars and some incisors would have erupted. Canines would not be fully erupted. 9-10 years(Option B) : While canines might start erupting, second premolars would not typically be visible yet. 14-15 years(Option D) : By this age, all permanent teeth except third molars should be fully erupted, and primary molars would typically be absent.

References:

https://www.jaypeedigital.com/eReader/chapter/9789386261526/ch1

The Essentials of Forensic Medicine and Toxicology, 35th Edition, Pages 49-51

↑ *Back to this question in Part A*

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Q44: A forensic pathologist is asked to estimate the age of a deceased infant based on the weight of its teeth, which is found to be 530 mg. Which of the following methods is the most appropriate for age estimation in this case? (Q847058)

A. Stack's method

B. Boyde’s method

C. Lamendin’s method

D. Gustafson's method

Correct Answer: A. Stack's method

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Stack's Method: Stack’s method is designed to estimate the age of infants and fetuses by weighing their erupting teeth. This method is applicable from 5 months in utero to 7 months postnatal . In the scenario

provided, the weight of the teeth is 530 mg, which corresponds to 2 weeks postnatal according to Stack's reference table. Prenatal age Weight of teeth (mg) 28 weeks 60 mg 40 weeks 460 mg Postnatal age Weight of teeth (mg) 2 weeks 530 mg 30 weeks 1840 mg Given the teeth weight of 530 mg, Stack's method is the most appropriate for estimating the infant's age. Boyde's Method: Estimates age by counting cross striations (incremental lines) in the enamel, starting from the neonatal line. These lines represent daily enamel growth. It is suitable for estimating the age of infants by calculating the number of days since the formation of the neonatal line but does not rely on tooth weight. Since the scenario involves tooth weight, Boyde's method is not the correct approach here. (Option B ruled out) Lamendin's Method: Lamendin's method is used for age estimation in adults . It relies on measuring the periodontosis height and root transparency, both as a percentage of root height, which is then applied to a regression formula. This method is not applicable to infants or fetuses. (Option C ruled out) Gustafson's Method: Gustafson's method is used for estimating age in adults by observing six dental changes, such as: Attrition Paradentosis Secondary dentine. Cementum apposition Root resorption. Transparency of root. Total score = A+ P+ S+ C+ R+ T Like Lamendin's method, it is not appropriate for infants or fetal age determination. (Option D ruled out)

References:

https://www.fortunejournals.com/ijabpt/pdf/63045-II-Mahesh%20Singh-forensic%20dentistry[1].pdf

https://asmedigitalcollection.asme.org/forensicsciences/article-abstract/37/5/1373/1182935/A-Simple-Technique-for-Age-Estimation-in-Adult?redirectedFrom=fulltext

The Essentials of Forensic Medicine and Toxicology, K S Narayan Reddy, OP Murty, 35th Edition, Page 49-52.

↑ *Back to this question in Part A*

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Q45: Which of the following criteria is included in Gustafson's method but excluded from Dalitz's method of age estimation from teeth? (Q847060)

A. Root transparency

B. Attrition

C. Root resorption

D. Periodontal recession

Correct Answer: C. Root resorption

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Dalitz's method for age estimation from teeth simplified Gustafson's system and excluded two of the six criteria: root resorption and cementum apposition. Gustafson's Method: Developed by Gosta Gustafson, this method estimates age by evaluating six specific regressive changes in teeth: Attrition (A): Wear of the occlusal

surface due to chewing, starting with enamel and progressing to dentin and pulp. Periodontosis (P): Retraction of the gums, exposing the root and neck of the tooth, leading to loosening. Secondary Dentin (S): Gradual deposition in the pulp cavity, reducing its size and potentially obliterating it. Cementum Apposition (C): Thickening of cementum around the root as the tooth shifts in position, with continuous deposition forming incremental lines. Root Resorption (R): Degradation of cementum and dentin at the root apex, progressing upwards. Root Transparency: Increased transparency in the root due to rarefaction of dentin, beginning from the apex and moving upward in lower teeth, and downward in upper teeth. This is considered the most reliable of all criteria. Each change is scored from 0 to 3, and the total score (Y) is used in the formula for age estimation . 0–No change 1–Beginning of change 2–Obvious change 3–Maximum change A + P + S + C + R + T = total score (Y) An increase in age shows a linear increase in the total score. The age is estimated using the following formula: Age = 11.43 + 4.56 × Y (total score) The method is most accurate for individuals between 25–60 years old. It requires extracting and microscopically examining a longitudinal section of the tooth, limiting its use to deceased individuals or skeletal remains. Dalitz's Method: Dalitz refined Gustafson’s method to improve accuracy by discarding less reliable factors like root resorption and secondary cementum apposition. He focused on scoring the following changes in the 12 anterior teeth on a 5-point scoring system from 0 to 4. Attrition (A) Periodontitis (P) Secondary Dentin Deposition (S) Root Transparency (T) While more accurate, the Dalitz method's main drawback is its limitation to anterior teeth, excluding bicuspid (premolars) and molars from analysis.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 70, 71.

The Essentials of Forensic Medicine and Toxicology, K S Narayan Reddy, OP Murty, 35th Edition, Page 50, 51.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7006305/

https://www.ijoprd.com/doi/IJOPRD/pdf/10.5005/jp-journals-10019-1170

↑ *Back to this question in Part A*

@Neet_pg_bot

Q46: A 32-year-old patient presents with dental pain in the upper right first molar. During charting, the dentist notes that the tooth is marked as "6." The dentist then refers to a dental notation system where each tooth is numbered according to quadrants and the location of permanent teeth. Which of the following notation methods is being used? (Q847066)

A. Zsigmondy-Palmer notation

B. Haderup notation

C. Universal numbering system

D. FDI notation

Correct Answer: A. Zsigmondy-Palmer notation

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Zsigmondy Palmer Notation for the numbering of teeth is as given below: Permanent Teeth: Right Upper Quadrant Left Upper Quadrant 8 7 6 5 4 3 2 1 1 2 3 4 5 6 7 8 Right Lower Quadrant Left Lower Quadrant 8 7 6 5 4 3 2 1 1 2 3 4 5 6 7 8 Deciduous/Primary Teeth: Right Upper Quadrant Left Upper Quadrant E D C B A A B C D E Right Lower Quadrant Left Lower Quadrant E D C B A A B C D E Haderup System: In this system, values for upper jaw teeth are indicated with a '+' sign (and a '-' sign for lower jaw teeth). These signs are placed to the left (for left-side teeth) or right (for right-side teeth), followed by numbers 1 through 8 for permanent teeth. Permanent Teeth: Right Upper Quadrant Left Upper Quadrant 8+ 7+ 6+ 5+ 4+ 3+ 2+ 1+ +1 +2 +3 +4 +5 +6 +7 +8 Right Lower Quadrant Left Lower Quadrant 8- 7- 6- 5- 4- 3- 2- 1- -1 -2 -3 -4 -5 -6 -7 -8 Deciduous/Primary Teeth: Right Upper Quadrant Left Upper Quadrant 5+ 4+ 3+ 2+ 1+ +1 +2 +3 +4 +5 Right Lower Quadrant Left Lower Quadrant 5- 4- 3- 2- 1- -1 -2 -3 -4 -5 The Haderup notation (Option B) uses a plus (+) sign for maxillary teeth and a minus (-) sign for mandibular teeth, combined with the tooth number (e.g., +6 for the upper right first molar and -6 for the lower right first molar). In the Universal system (Option C) , teeth are numbered from 1 to 32, starting from the upper right third molar (1) to the lower right third molar (32). The notation "6" would refer to the upper right canine n this system, and the Universal system does not utilize quadrant-based division, making it different from the description in the question. In the FDI notation (Option D) , teeth are numbered by a two-digit code: Quadrant First Digit Upper right 1 Upper left 2 Lower left 3 Lower right 4 Tooth Second Digit Central incisor 1 Lateral incisor 2 Canine 3 1st premolar 4 2nd premolar 5 1st molar 6 2nd molar 7 3rd molar 8

References:

The Essentials of Forensic Medicine and Toxicology, K S Narayan Reddy, OP Murty, 35th Edition, Page 72, 73

www.fortunejournals.com/ijabpt/pdf/63045-II-Mahesh%20Singh-forensic%20dentistry[1].pdf

https://forensicreader.com/tooth-numbering-system/

↑ *Back to this question in Part A*

@Neet_pg_bot

Q47: A forensic odontologist receives dental records with the following notations: "#8 crown" (Universal System) "46 missing" (FDI System) "64 carious" (Modified FDI System for primary teeth) Which of the following correctly represents all these findings using only the FDI system for permanent dentition? (Q847069)

A. 11 crown, 46 missing, 24 carious

B. 21 crown, 46 missing, 14 carious

C. 11 crown, 46 missing, 14 carious

D. 21 crown, 46 missing, 24 carious

Correct Answer: C. 11 crown, 46 missing, 14 carious

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Based on standard FDI notation and question options, choice c is correct. FDI is the WHO-recommended international system and is commonly used in India and Europe . Each tooth has two digits: First digit indicates the quadrant Second digit indicates tooth position from midline FDI notation for permanent teeth: Quadrant First Digit Upper right 1 Upper left 2 Lower left 3 Lower right 4 Tooth Second Digit Central incisor 1 Lateral incisor 2 Canine 3 1st premolar 4 2nd premolar 5 1st molar 6 2nd molar 7 3rd molar 8 Translating the given notations: "#8 crown" (Universal) for permanent teeth = upper right third molar is tooth 18 in FDI system. To convert "#8" from Universal to FDI for permanent crowns: #8 in Universal = upper right central incisor which is 11 in FDI. Therefore "#8 crown" means tooth 11 crown in FDI. "46 missing" is already in FDI notation for permanent dentition: quadrant 4 (lower right), tooth 6 (first molar). "64 carious" is modified FDI notation for primary teeth: quadrant 6 (upper left primary), tooth 4 (first molar). But we want permanent dentition only, so primary teeth notation "64" converts approximately to "24" in permanent FDI notation (quadrant 2, tooth 4, i.e. upper left first premolar). So the fully FDI permanent dentition representation is: 11 crown, 46 missing, 14 carious

References:

The Essentials of Forensic Medicine and Toxicology, K S Narayan Reddy, OP Murty, 35th Edition, Page. 72, 73

https://www.fortunejournals.com/ijabpt/pdf/63045-II-Mahesh%20Singh-forensic%20dentistry[1].pdf

↑ *Back to this question in Part A*

@Neet_pg_bot

Q48: A forensic anthropologist is tasked with estimating the stature of an unidentified male skeleton. Only the femur is available for measurement. Which of the following multiplication factors should be used to calculate the stature based on the femur length? (Q847088)

A. 3.3

B. 3.6-3.8

C. 4.48

D. 5.30

Correct Answer: B. 3.6-3.8

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The multiplication factor for calculating stature from femur length is 3.6-3.8. Example- If the femur length is measured to be 45 cm, the height of the individual would be 162.0 cm - 171.0 cm (45 × 3.6 = 162.0 cm, 45 × 3.8 = 171.0 cm). Multiplication factor for stature Bone Multiplication factor Femur (Best bone for stature) 3.6-3.8 Tibia/Fibula 4.5 Humerus 5.3 Ulna 6.1 Radius 6.5

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page. 77, 78

↑ *Back to this question in Part A*

@Neet_pg_bot

Q49: A partially decomposed body was discovered at a crime scene, and authorities suspected foul play. On examination of dead body, a bullet was retrieved from the body and weapon marks were present on the clothing. To establish that a crime has taken place in this suspected homicide, which of the following is the most crucial factor? (Q847009)

A. The presence of motive and opportunity for the crime

B. Identification of the dead body and proof of death by criminal act

C. Eyewitness testimony linking a suspect to the crime

D. Detailed reconstruction of the crime scene and sequence of events

Correct Answer: B. Identification of the dead body and proof of death by criminal act

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: To establish that a crime has occurred in a suspected homicide, it is essential to demonstrate Corpus delicti. Corpus delicti the body of offence - It must be demonstrated that a crime has indeed taken place before an individual can be convicted of committing it. In homicide, it involves, 1) positive identification of the dead body , and 2) proof that the death occurred due to a criminal act (such as gunshot wounds or other inflicted injuries) - due to violence that was inflicted in a specific manner, at a particular time and place, by the individual or individuals accused of the crime, and no one else. In the scenario described, the discovery of a bullet in the body and weapon marks on the clothing are critical in proving that the death was not accidental, but the result of a criminal act. The presence of motive and opportunity for the crime (Option A) is relevant for determining the involvement of a suspect but does not establish that a crime has actually occurred. Proof of criminal activity, such as injuries caused by weapons, must be shown first. Eyewitness testimony linking a suspect to the crime (Option C) : Eyewitness testimony may help identify a perpetrator, but it does not prove that a crime has taken place. The primary task is to establish the fact that the death was due to unlawful actions. Detailed reconstruction of the crime scene and sequence of events (Option D) helps in understanding the circumstances surrounding the death, but it is not the first step in proving that a crime occurred. The focus should be on identifying the body and confirming that the

death resulted from a criminal act.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 56.

The Essentials of Forensic Medicine and Toxicology, K S Narayan Reddy, OP Murty, 35th Edition, Page 41.

↑ *Back to this question in Part A*

@Neet_pg_bot

Q50: A 6-year-old child is brought to court as a witness in a criminal case. Which of the following statements best describes the legal considerations regarding this child's testimony? (Q847098)

A. The child cannot give evidence due to being under 7 years old

B. The child's testimony is automatically considered truthful

C. The child can give evidence if the court is satisfied with their understanding

D. The child's testimony will be undertaken by the guardian

Correct Answer: C. The child can give evidence if the court is satisfied with their understanding

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: According to Section 124 of the Bharatiya Sakshya Adhiniyam, 2023 , all persons are competent to testify unless the court considers that they are unable to understand the questions or give rational answers due to tender age, extreme old age, disease, or any similar cause . Therefore: A child of any age can give evidence The competency depends on the child's ability to understand and answer questions , not strictly on age The judge may ask preliminary questions (voir dire test) to determine whether the child understands the duty to speak the truth Thus, a 6-year-old child may testify if the court is satisfied with the child’s intelligence and understanding . The child cannot give evidence due to being under 7 years old (Option A) is i ncorrect because no fixed minimum age exists for giving testimony under the Bharatiya Sakshya Adhiniyam, 2023. The child's testimony is automatically considered truthful (Option B) is incorrect because the court must evaluate the child’s understanding and reliability; testimony is not automatically accepted as truthful. The child's testimony will be undertaken by the guardian (Option D) is incorrect because testimony must come from the child directly, not through a guardian.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 76

↑ *Back to this question in Part A*

@Neet_pg_bot

Q51: Match the following ages with their corresponding medicolegal significance: 1. 14 years a) Age of majority and can cast vote 2. 18 years b) Minimum age for appointment as President or Vice-President of India 3. 21 years c) Cannot be employed in factory jobs 4. 25 years d) Age for contesting membership of Parliament 5. 35 years e) Age of marriage for males (Q847105)

A. 1-a, 2-c, 3-e, 4-b, 5-d

B. 1-c, 2-a, 3-e, 4-b, 5-d

C. 1-c, 2-a, 3-e, 4-d, 5-b

D. 1-c, 2-e, 3-a, 4-d, 5-b

Correct Answer: C. 1-c, 2-a, 3-e, 4-d, 5-b

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The medicolegal importance of various ages of 14 and above are listed in the table below: Age Medicolegal Importance <5 years A childcannot be punished under the Railways Act (fare evasion, etc.) <7 years No criminal liability (Sec. 82 IPC / BNS equivalent) – child is considered doli incapax (incapable of committing a crime) 7–12 years Conditional criminal liability – punishable only if sufficient maturity of understanding is proven (Sec. 83 IPC) 14 years Employment: Cannot be employed in factory jobs Children under the age of 14 can work in non-hazardous industries, including some agricultural work, as per Child Labour (Prohibition and Regulation) Act 14-15 years A person can be engaged in non-hazardous factory jobs for a limited period during the day 15 years Sexual intercourse, even with a wife below this age, amounts to rape A person above 15 years of age can be employed in a factory like an adult if they have a fitness certificate from a doctor 16 years Taking away a male under this age without the consent of a guardian amounts to kidnapping 18 years Statutory rape: Intercourse with a girl below this age, irrespective of whether with or without her consent, amounts to rape Judicial punishment: Below this age, an offender is a juvenile and is tried in juvenile court and if convicted, sent to a reformatory school (no imprisonment or death sentence) Age of majority, except when the individual is under the guardianship of the court Age of marriage for females Can cast a vote 21 years Age of marriage for males If a girl below this age is 'imported' to India from a foreign country for the purpose of illicit intercourse, the act amounts to kidnapping (Sec. 366 B IPC) A person under the guardianship of the Court of Wards attains majority 25 years Age for contesting membership of Parliament and other legislative bodies Age limit for entering some government services 35 years According to the Punjab Excise Act, a person below this age cannot buy and consume liquor Minimum age for appointment as President, Vice-President, and Governor of a State in India Prenatal diagnostic tests/procedures cannot be conducted if the pregnant female is below this age as per the PCPNDT Act 55-65 years Age of retirement from services under the government, statutory bodies, autonomous bodies/institutions or from judiciary services

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Pages 76, 77

↑ *Back to this question in Part A*

@Neet_pg_bot

Q52: Match the following dactylography patterns with their correct type and frequency (%) 1. Loop a. X. 30-35% 2. Whorl b. Y. 5-10% 3. Arch c. Z. 60-70% (Q847111)

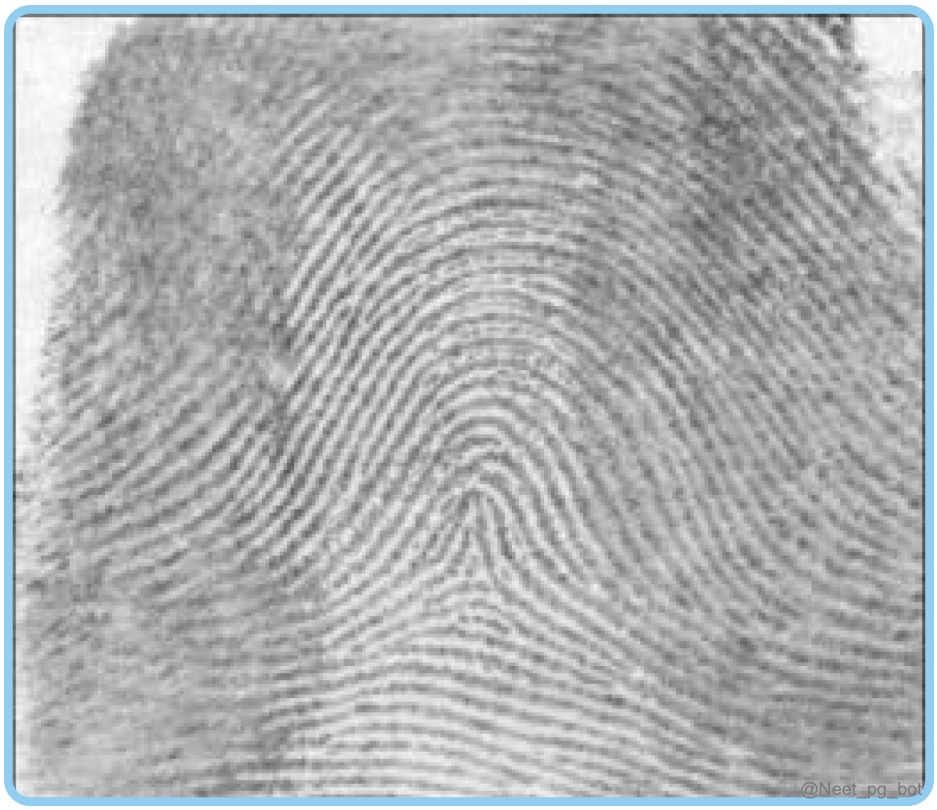
A. 1-a-X, 2-c-Z, 3-b-Y

B. 1-c-Z, 2-a-X, 3-b-Y

C. 1-a-Z, 2-c-Y, 3-b-X

D. 1-c-Y, 2-a-X, 3-b-Z







Correct Answer: B. 1-c-Z, 2-a-X, 3-b-Y

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Quetlet's Rule- Every natural form presents infinite variations and no patterns are ever alike. Dactylography is based on this rule. Dactylography is crucial for forensic experts and law enforcement professionals in their investigative work, including criminal identification, disaster victim identification, and various legal procedures Pattern Type Frequency (%) Number of Deltas Loop (Ulnar/radial) 60-70 1 Whorl 30-35 2 Arch 5-10 0 Composite 1-5 Variable

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Pages 84, 85, 86, 87

The Essentials of Forensic Medicine and Toxicology, K S Narayan Reddy, OP Murty, 35th Edition, Page 62

↑ *Back to this question in Part A*

@Neet_pg_bot

Q53: A forensic expert is called to testify in a court case involving disputed fingerprint evidence. During the trial, various aspects of fingerprint analysis are discussed, including abnormalities and development techniques. Which of the following statements about fingerprint abnormalities is INCORRECT? (Q847115)

A. Ridge atrophy with alteration of ridge pattern can be seen in conditions such as celiac disease, dermatitis, and prolonged exposure to certain drugs

B. People with certain genetic disorders like Naegeli-Franceschetti-Jadassohn syndrome may be born without fingerprints

C. Latent prints require additional processing to be rendered visible and are often made from grease, dirt, oil, or blood

D. Development techniques such as VMD, powdering, SPR, and iodine fuming can be used to visualize altered fingerprints

Correct Answer: D. Development techniques such as VMD, powdering, SPR, and iodine fuming can be used to visualize altered fingerprints

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The development techniques mentioned (VMD, powdering, SPR, and iodine fuming) are used for visualizing latent prints, not altered fingerprints . Types of Fingerprints Type of Fingerprint Description Example / Characteristics Patent (Visible) prints Clearly visible prints left by substances on fingers Blood, ink, paint, grease, dirt Latent prints Invisible prints formed by sweat and skin oils (Option C) ; require development techniques Developed using powdering, iodine fuming, ninhydrin, VMD, SPR Plastic prints Three-dimensional impressions made in soft materials Wax, clay, soap, butter, fresh paint Alterations of Fingerprints in Diseases/Conditions: Condition Effect on Fingerprints Acromegaly Enlargement and distortion of ridge patterns due to soft tissue

overgrowth Radiation exposure Damage to the epidermis leading to ridge atrophy or loss of fingerprints Celiac disease Ridge atrophy and alteration of dermatoglyphics (Option A) Dermatitis/eczema/psoriasis Temporary distortion or ridge loss Scleroderma Tightening of skin leading to loss of ridge detail Acanthosis nigricans Thickening and distortion of ridges Drug exposure (e.g., capecitabine) May cause loss of fingerprints (hand-foot syndrome) Old age Flattening of ridges, prints are difficult to obtain Burns/acids/trauma Permanent destruction of fingerprint ridges Plastic surgery (criminal attempts) Surgical alteration of ridges Absence of Fingerprints Condition Feature Naegeli-Franceschetti-Jadassohn syndrome (Option B) Congenital absence of dermatoglyphics Dermatopathia pigmentosa reticularis Pigmentary disorder with absent fingerprints Adermatoglyphia Rare genetic condition known as “immigration delay disease” due to lack of fingerprints

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Pages 84, 85, 86, 87

↑ *Back to this question in Part A*

@Neet_pg_bot

Q54: A forensic investigator is examining evidence from a crime scene in a restaurant. The following items have been collected: A wine glass with a partial fingerprint A napkin with a lipstick mark A fork with what appears to be saliva residue The investigator has a suspect in custody but lacks sufficient ridge detail from the partial fingerprint for a conclusive match. Which of the following approaches would be MOST appropriate for the investigator to pursue next? (Q847119)

A. Focus solely on analyzing the lipstick mark on the napkin using chelioscopy techniques

B. Employ poroscopy to examine the sweat pores on the partial fingerprint from the wine glass

C. Disregard the evidence collected and seek alternative means of identification

D. Attempt to extract DNA from the saliva on the fork and compare it to the suspect's DNA

Correct Answer: B. Employ poroscopy to examine the sweat pores on the partial fingerprint from the wine glass

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The most appropriate next step for the investigator would be to employ poroscopy to examine the sweat pores on the partial fingerprint from the wine glass because: It can provide identification when available ridges do not provide sufficient characteristics. Poroscopy examines sweat pores on fingerprint ridges, which are permanent, immutable, and individual. This method directly builds upon the existing fingerprint evidence. Cheiloscopy (Option A) is less suitable because the use of lip prints in evidence is limited, as their credibility has not been firmly established in forensic science.While it could provide additional information, it's not as reliable as poroscopy for identification purposes. Disregarding the evidence (Option C) would be inappropriate, as there are

still viable methods of analysis available. DNA analysis (Option D), while potentially conclusive, would typically be a more time-consuming and expensive process. It would be a good follow-up if poroscopy doesn't yield conclusive results, but it's not the next best step. However, DNA Analysis is the gold standard for identification.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Pages 88, 89

↑ *Back to this question in Part A*

@Neet_pg_bot

Q55: A forensic pathologist is examining a body found in a river. The deceased has multiple tattoos, including a faded amateur tattoo on the arm and a professional tattoo on the chest. The pathologist also notices a partially erased tattoo on the back. Which of the following statements is MOST likely to be true based on the information provided about tattoos? (Q847122)

A. The faded amateur tattoo on the arm was likely created using red dye and is about 3 weeks old

B. The professional tattoo on the chest probably used black or blue dye and could be identified in lymph nodes

C. The partially erased tattoo on the back was most likely removed using chemical peeling with trichloroacetic acid

D. All tattoos on the body can be accurately dated to determine the exact time they were created

Correct Answer: B. The professional tattoo on the chest probably used black or blue dye and could be identified in lymph nodes

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The statement is correct, as black and blue dyes are commonly used in tattoos, and pigmentations of the regional lymph nodes could be identified during autopsy. Tattoos in Identification Age of tattoo Firm union, reddish/bluish scar: 5-6 days Pale, soft and sensitive (tender): 2 weeks-2 months Tough, brownish, glistening, wrinkled and little tender: 2-6 months Tough, white, glistening and non-tender: > 6 months Dyes Used Common dyes: Indigo, cobalt, carbon, vermilion, cadmium, selenium, Prussian blue and Indian ink Black, blue and red dyes are most commonly employed Depth of penetration: 50-3000 times a minute Pigment can migrate to nearby lymph nodes Erasure Methods Surgical methods: Dermabrasion (e.g., tannic acid, silver nitrate, trichloroacetic acid) Complete excision and skin grafting Non-surgical methods: Production of burns by means of red hot iron Scarification Using carbon dioxide snow Electrolysis Caustic or corrosive substances Chronic eczema may cause tattoo designs to disappear The faded amateur tattoo on the arm was likely created using red dye and is about 3 weeks old (Option A): According to age determination of tattoo, color of tattoo does not have any relation to age, and 3 weeks would fall into the pale, soft and sensitive category, not "faded" The partially erased tattoo on the

back was most likely removed using chemical peeling with trichloroacetic acid (Option C): While trichloroacetic acid is used as an erasure method, the information is not enough in determining which method was most likely used. All tattoos on the body can be accurately dated to determine the exact time they were created (Option D): The age determination of tattoos can only provide ranges, not exact times, and only for relatively new tattoos (up to 6 months).

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 78, 79

↑ *Back to this question in Part A*

@Neet_pg_bot

Q56: A museum curator is organizing an exhibit on the history of forensic science. They come across a set of tools and records from the late 19th century that include calipers, measuring tapes, and detailed cards with various bodily measurements and descriptions. The curator notices that these records consistently include 11 specific measurements, along with descriptions of physical features and photographs. What is the MOST likely purpose of this historical forensic method? (Q847125)

A. To determine the age and cause of death in archaeological remains

B. To create a standardized system for criminal identification

C. To classify individuals based on racial characteristics for eugenics research

D. To establish a observational method for normal human growth and development

Correct Answer: B. To create a standardized system for criminal identification

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The description in the question matches the Bertillon system of anthropometry, which was developed as a standardized system for criminal identification . Bertillon system of anthropometry Developer Alphonse Bertillon Primary Purpose To create a standardized system for criminal identification Principle • Measurements of various parts of the human body that do not alter after adult age (21 years) • Observation and recording of descriptive data, photograph and body marks Measurements Included • 11 specific measurements including: Height, AP diameter of head and trunk Span of outstretched arms Length of middle finger, left little finger, left forearm and left foot Length and breadth of right ear • Descriptive data: Color of hair, eyes, complexion, shape of nose, ears and chin • Body marks: Moles, scars and tattoo marks • Photographs: Front view and profile view of head Tools Used Calipers, measuring tapes, photographic equipment Historical Significance First scientific method of criminal identification, paving the way for modern forensic techniques While anthropometry can be used in archaeological contexts, the Bertillon system was specifically developed for criminal identification of

living individuals. Although anthropometry was sometimes misused for racial classification, this was not the purpose of Bertillon's system, which was focused on individual identification for law enforcement. While the system does involve human measurements, its primary purpose was not to establish growth and development baselines, but rather to identify criminals.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page. 84

↑ *Back to this question in Part A*

@Neet_pg_bot

Q57: Which of the following statements BEST describes the value and application of frontal sinus prints? (Q847129)

A. Frontal sinus prints are useful for identification, but they change significantly after infections or injuries to the skull

B. Frontal sinus prints are unique to each individual and remain stable after age 15, making them valuable for postmortem identification

C. Frontal sinus prints are only useful for identifying individuals under 15 years of age, as they continue to alter in adulthood

D. Frontal sinus prints provide a general indication of a person's age and sex, but are not unique enough for individual identification

Correct Answer: B. Frontal sinus prints are unique to each individual and remain stable after age 15, making them valuable for postmortem identification

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The key features of frontal sinus prints include: They are unique to each individual Remain stable after age 15 Valuable for postmortem identification Frontal sinus print Uniqueness Unique to each individual Stability Permanent and fixed after 15 years of age (Option C) Resilience Rarely alter following infection or injury (Option A) Comparison Method Antemortem X-ray of skull (occipito-mental plane) compared with postmortem X-rays Application Useful for postmortem identification, especially when other methods are unavailable or inconclusive (Option D)

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 96

↑ *Back to this question in Part A*

@Neet_pg_bot

Q58: A child rescued during an investigation of illegal adoption is produced before a medical board for accurate age estimation. Which of the following methods would be most reliable for determining the child's age? (Q884134)

A. Eruption of permanent teeth

B. Fusion of the epiphysis of long bones

C. Mineralisation stages of teeth

D. Closure of cranial sutures

Correct Answer: C. Mineralisation stages of teeth

Explanation: Mineralisation stages of teeth are the most reliable and accurate method for age determination in children because tooth calcification follows a genetically programmed sequence and is minimally affected by nutrition, hormonal status, or environmental factors . Hence, it is preferred in medico-legal cases such as child trafficking and illegal adoption. Eruption of permanent teeth (Option A) shows wide individual variation and is influenced by nutrition, socioeconomic status, and local factors, making it less reliable than tooth mineralization for age estimation. Fusion of epiphysis of long bones (Option B) is useful mainly in adolescents and young adults and does not accurately reflect age in younger children. Closure of cranial sutures (Option D) occurs in late adulthood and is highly variable, making it unreliable for child age estimation.

References:

The Essentials of Forensic Medicine and Toxicology by Narayan Reddy, 35th Edition, Page 49

https://pmc.ncbi.nlm.nih.gov/articles/PMC4441236/

↑ *Back to this question in Part A*

@Neet_pg_bot

Q59: An infant aged 10 months is examined during a pediatric dental check-up. Which of the following teeth is most likely to erupt at this age? (Q884136)

A. Mandibular central incisor

B. Maxillary central incisor

C. Mandibular first molar

D. Maxillary lateral incisor

Correct Answer: B. Maxillary central incisor

Explanation: After the mandibular central incisors erupt, the maxillary central incisors typically appear around 8-12 months , making them the most likely teeth to erupt at 10 months. Tooth Age of Eruption of Deciduous Tooth (Months) Mandibular central incisor 6-8 months (Option A ruled out) Maxillary central incisor 7-9 months (Option B) Mandibular lateral incisor 7-10 months Maxillary lateral incisor 8-11 months (Option D ruled out) First molar (upper & lower) 12-16 months (Option C ruled out) Canine (upper & lower) 16-20 months Second molar (upper & lower) 20-30 months Tooth Age of Eruption of Permanent Teeth (Years) First molar 6-7 years Central incisor 6-8 years Lateral incisor 7-9 years First premolar 9-11 years Second premolar 10-12 years Canine 11-13 years Second molar 12-14 years Third molar (wisdom tooth) 17-25 years

References:

The Essentials of Forensic Medicine and Toxicology by Narayan Reddy, 35th Edition, Page 51

↑ *Back to this question in Part A*

@Neet_pg_bot

Q60: Which of the following permanent teeth erupt without replacing any primary teeth? (Q884138)

A. Lateral Incisors

B. Canines

C. Premolars

D. Molars

Correct Answer: D. Molars

Explanation: The first, second, and third molars erupt behind the existing teeth without any predecessors and are therefore called superadded teeth . Permanent teeth that replace their deciduous predecessors are called successional teeth , which include incisors, canines, and premolars . Permanent dentition begins around 6 years of age and consists of 32 teeth in total: 4 incisors, 2 canines, 4 premolars, and 6 molars per jaw. The successional teeth (incisors, canines, premolars) replace primary teeth , while the molars are added independently , making them superadded . (Option A, B, and C ruled out)

References:

The Essentials of Forensic Medicine and Toxicology by Narayan Reddy, 35th Edition, Page 49

↑ *Back to this question in Part A*

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Q61: What does the presence of a neonatal line in a child's tooth enamel on electron microscopic examination indicate? (Q884139)

A. Birth defect

B. Exposure to toxins in utero

C. Death before birth

D. Survival after birth

Correct Answer: D. Survival after birth

Explanation: The neonatal line is a prominent incremental line in enamel and dentin that forms at the time of birth due to the physiological and metabolic stress of transitioning from intrauterine to extrauterine life . Its presence in a tooth indicates that the infant survived birth , even if only briefly. Prenatal enamel forms before birth and is found below the neonatal line . Postnatal enamel forms after birth and is located above the neonatal line The absence of a neonatal line suggests that the baby may have been stillborn, as no postnatal stress occurred. Forensic Significance: Used in age estimation and determining live birth vs stillbirth . Can also provide clues about early neonatal health and stress . Birth defect (Option A): Neonatal line is a normal developmental marker formed at birth, not a structural abnormality or congenital defect. Exposure to toxins in utero (Option B): Prenatal toxin exposure may alter enamel formation but does not specifically produce the neonatal line associated with birth. Death before birth (Option C): Neonatal line forms only after the stress of birth, so it would not be present in a fetus that died before delivery.

References:

https://pubmed.ncbi.nlm.nih.gov/24951074/

↑ *Back to this question in Part A*

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Q62: During forensic examination of unidentified skeletal remains, a dentist applies Gustafson's criteria to estimate age. Which of the following dental features is not included in this method? (Q884140)

A. Secondary dentin deposition

B. Cementum apposition

C. Root transparency

D. Crown height measurement

Correct Answer: D. Crown height measurement

Explanation: Gustafson’s method for age estimation is based on six dental changes : Attrition Periodontosis Secondary dentin formation (Option A ruled out) Cementum apposition (Option B ruled out) Root resorption Root transparency (Option C ruled out) Measurements such as tooth or crown length are not assessed in this method.

References:

The Essentials of Forensic Medicine and Toxicology by Narayan Reddy, 35th Edition, Page 50 Gustafson's method for age determination from teeth--a modification for the use of dentists in identification teams - PubMed

↑ *Back to this question in Part A*

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Q63: A forensic expert examines the skull of an unknown female individual for age estimation. At what age does the spheno-occipital synchondrosis typically fuse in females? (Q884142)

A. 12 years

B. 16 years

C. 18 years

D. 25 years

Correct Answer: C. 18 years

Explanation: Fusion of the spheno-occipital synchondrosis occurs earlier in females than in males , usually around 18 years in females and about 20-21 years in males , making it a useful indicator for late adolescent age estimation. Suture Age of Closure Metopic suture 2-6 years Sagittal suture 30-40 years Coronal suture 40-50 years Lambdoid suture 50-60 years Spheno-occipital synchondrosis (■) ~18 years Spheno-occipital synchondrosis (■) ~20-21 years

References:

The Essentials of Forensic Medicine and Toxicology by Narayan Reddy, 35th Edition, Page 54-55.

↑ *Back to this question in Part A*

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• [01_Forensic Identification] 002 Previous Year Questions

« Back to Folder Directory

[01_Forensic Identification] 002 Previous Year Questions — Quick Jump

Q1 (p. 459)	*Q2 (p. 461)*	*Q3 (p. 462)*	*Q4 (p. 464)*	*Q5 (p. 465)*	*Q6 (p. 465)*
Q7 (p. 469)	*Q8 (p. 470)*	*Q9 (p. 473)*	*Q10 (p. 474)*	*Q11 (p. 477)*	*Q12 (p. 477)*
Q13 (p. 478)	*Q14 (p. 479)*	*Q15 (p. 480)*	*Q16 (p. 481)*	*Q17 (p. 483)*	*Q18 (p. 484)*
Q19 (p. 485)	*Q20 (p. 485)*	*Q21 (p. 486)*	*Q22 (p. 487)*	*Q23 (p. 487)*	*Q24 (p. 490)*
Q25 (p. 491)	*Q26 (p. 494)*	*Q27 (p. 494)*			

Q1: Which confirmatory test is utilized by forensic experts to establish the presence of a bloodstain at a crime scene? (Q857016)

A. Spectroscopic test

B. Kastle meyer test

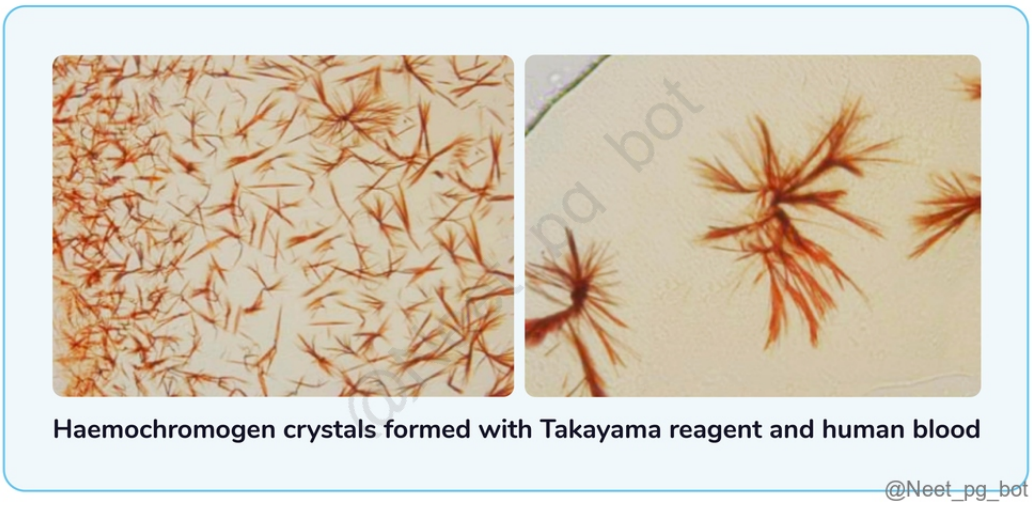
C. Benzidine test

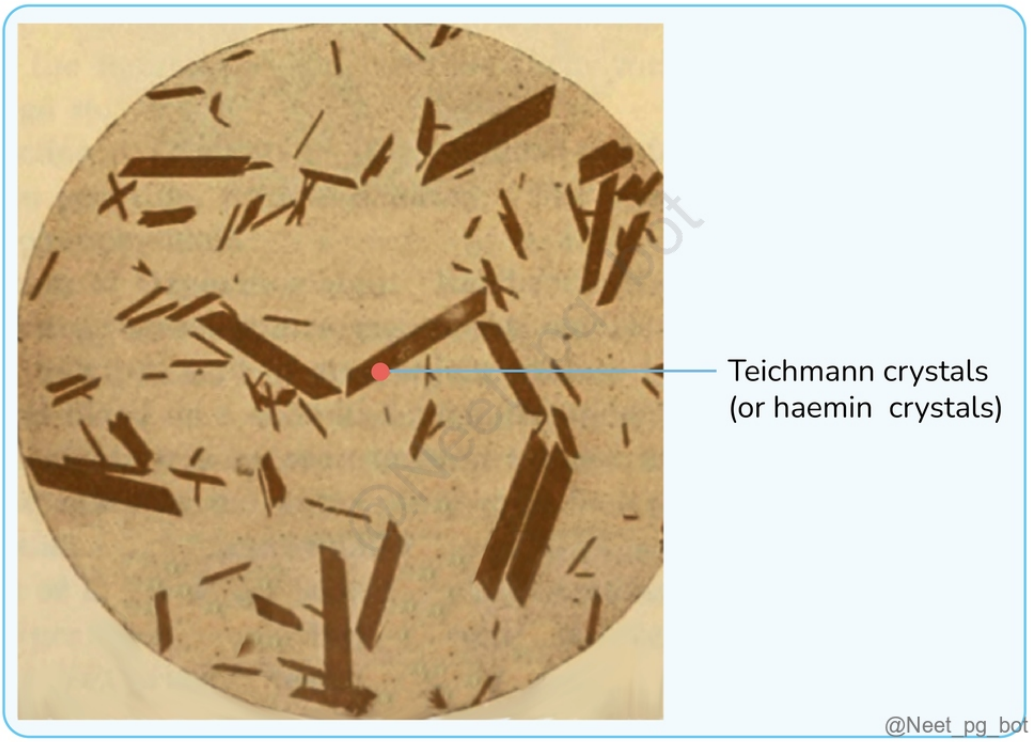
D. Orthotoluidine test

Correct Answer: A. Spectroscopic test

Explanation: Spectroscopic tests, such as mass spectrometry, are used for high-sensitivity and specific detection of bloodstains. They analyze components like hemoglobin or lipids in the blood, offering reliable results for confirming blood presence at a crime scene. Confirmatory Tests for Blood Stains in Forensic Medicine Confirmatory tests are critical for identifying blood presence and origin in forensic investigations. Methods include chemical, immunological, and mass spectrometry techniques for reliable results. Chemical Confirmatory Tests Test Description Takayama Test {{caption_text}} Detects hemoglobin by forming red, feathery crystals of pyridine ferroprotoporphyrin. Teichmann Test {{caption_text}} Converts hemoglobin to hemin, creating brownish-yellow rhomboid crystals, confirming blood presence. Immunological Tests Test Description Precipitin Test Identifies species origin through antibody-antigen reactions, using antisera specific to human blood. HemaTrace Test Uses monoclonal antibodies to detect human hemoglobin, showing a visible pink band for confirmation. Mass Spectrometry Techniques Thread Spray Mass Spectrometry : Analyzes whole blood directly on textiles, differentiating species based on lipid composition and hemoglobin chains. It offers high sensitivity and specificity. Incorrect Options: Kastle-Meyer test (Option B) is a presumptive test used to detect the presence of hemoglobin. It involves adding a reagent that causes a color change in the presence of blood. Although useful for initial screening, it is not a confirmatory test as it can yield false positives from other substances like plant peroxidases. Benzidine test (Option C): This was historically used as a presumptive test for detecting blood, relying on benzidine reacting with hemoglobin in the blood. However, the test is now outdated and largely replaced by more sensitive and safer methods. It is no longer used in forensic investigations due to health concerns related to benzidine's carcinogenic properties. Orthotoluidine test (Option D) is another presumptive test that

detects the presence of blood by reacting with hemoglobin. It is similar to the Benzidine test but has the same limitations of not being confirmatory. Like the Kastle-Meyer test, it can lead to false positives, making it unsuitable as a definitive test for blood.





References:

Direct Differentiation of Whole Blood for Forensic Serology Analysis by Thread Spray Mass Spectrometry

On the Identification of Body Fluids and Tissues: A Crucial Link in the Investigation and Solution of Crime - PMC

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 431-433

↑ *Back to this question in Part A*

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Q2: What is the substance identified by Barberio's test, which was conducted on the stains from a sexual assault incident involving an 18-year-old female and a 20-year-old male? (Q859886)

A. Spermine

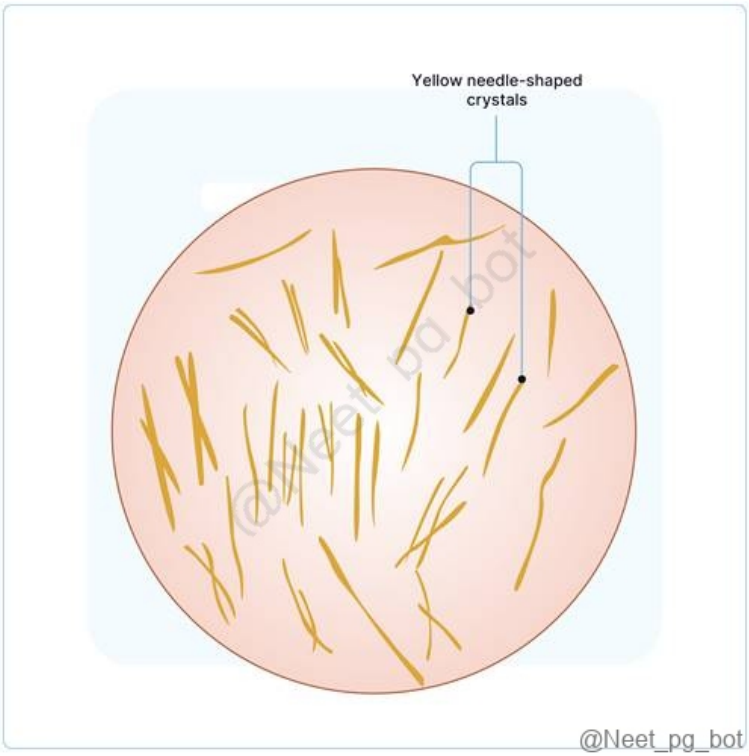
B. Acid phosphatase

C. Choline

D. Fructose

Correct Answer: A. Spermine

Explanation: Barberio's Test is used to detect spermine crystals, using picric acid. Spermine is an important component of prostatic secretion and is found in semen. On adding picric acid to the sample, yellow needle shaped (rhombic) crystals are seen (also called spermine picrate crystals). Other tests used in semen analysis in cases of sexual offenses: Fluorescence test: Seminal stain + UV light → Bluish white color CPK (Creatinine Phospho Kinase): Detects old seminal stains (6 months old as well). Normal range: 660 IU/ml. LDH isoenzyme detection of sperm: Most specific test of semen.Absolute proof = One unbroken sperm. Phadebas test: In case of oral sex, saliva can be detected by L-amylase.



References:

Semen analysis

↑ *Back to this question in Part A*

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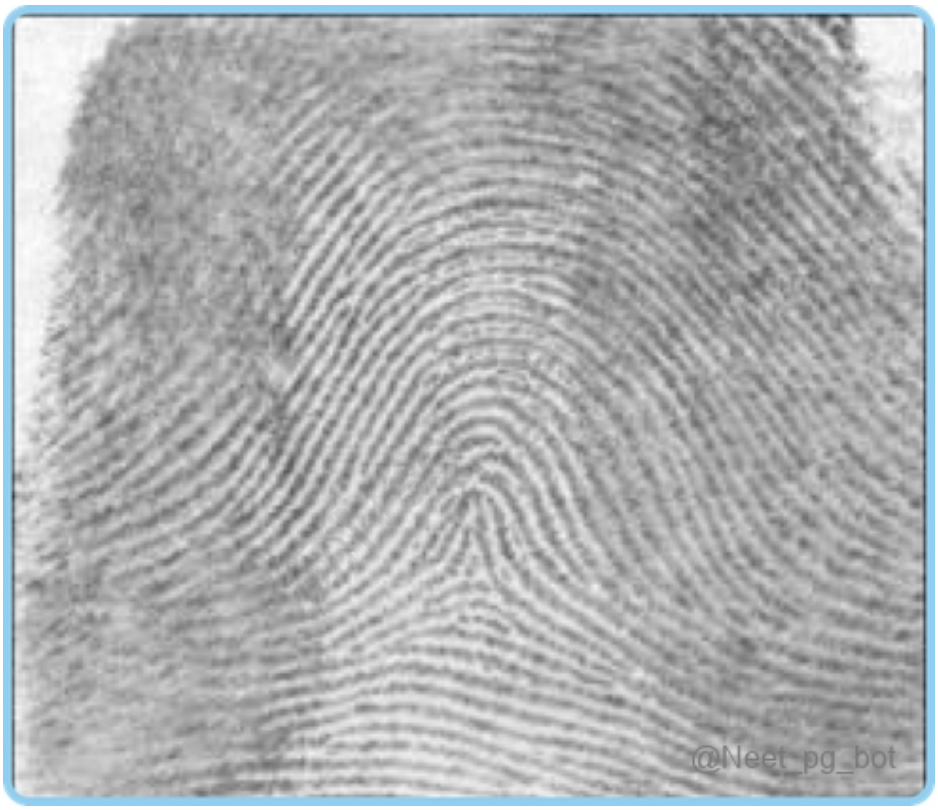
Q3: Identify the fingerprint pattern shown in the image: (Q859879)

A. Whorl

B. Composite

C. Loop

D. Arch



Correct Answer: D. Arch

Explanation: An arch fingerprint pattern is characterized by: Wave-like pattern with ridges flowing from one side to the other. No core or delta (triangular ridge formations). Simplest pattern among fingerprint types. Types of Arches: Plain Arch : Smooth wave-like ridges. Tented Arch : Steeper rise in the center, resembling a tent. Whorl (Option A): Circular or spiral pattern with at least 2 deltas. Composite (Option B): Combination of multiple patterns (whorl + loop). Loop (Option C): Ridges enter from one side, curve back, and exit the same side, with one delta.



References:

Fingerprint types

↑ *Back to this question in Part A*

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Q4: A deceased male was brought to the morgue for a post-mortem examination. His relatives reported that he had a tattoo over his skin, which was not found on examination. Which of the following structures would you examine? (Q854896)

A. Lymph nodes

B. Liver

C. Arteries

D. Skin

Correct Answer: A. Lymph nodes

Explanation: When a tattoo is present on the skin of a deceased individual but cannot be found during the post-mortem examination, it is important to examine the regional lymph nodes. This is because tattoo pigments can be transported by the lymphatic system and accumulate in the adjacent lymph nodes. Tattoos in Identification Age of tattoo Firm union, reddish/bluish scar: 5-6 days Pale, soft and sensitive (tender): 2 weeks-2 months Tough, brownish, glistening, wrinkled and little tender: 2-6 months Tough, white, glistening and non-tender: > 6 months Dyes Used Common dyes: Indigo, cobalt, carbon, vermilion, cadmium, selenium, Prussian blue and Indian ink Black, blue and red dyes are most commonly employed Depth of penetration: 50-3000 times a minute Pigment can migrate to nearby lymph nodes (Option C) Erasure Methods Surgical methods: Dermabrasion (e.g., tannic acid, silver nitrate, trichloroacetic acid) Complete excision and skin grafting Non-surgical methods: Production of burns by means of red hot iron Scarification Using carbon dioxide snow Electrolysis Caustic or corrosive substances Chronic eczema may cause tattoo designs to disappear Incorrect Options: Liver (Option B) is a vital organ involved in various metabolic functions, detoxification, and bile production. While the liver can be examined during a post-mortem examination for any signs of disease or abnormalities, it does not have a direct relationship with the presence or absence of a tattoo. Examining the liver would not reveal any information about the missing tattoo. Arteries (Option C) are blood vessels responsible for carrying oxygenated blood from the heart to various parts of the body. While examining the arteries can provide information about the overall vascular health and potential causes of death, they are not directly related to the presence or disappearance of a tattoo. Examining the arteries would not provide any information about the missing tattoo. Skin (Option D) is the outermost layer of the body and the site where tattoos are typically made. When investigating the absence of a tattoo, examining the skin itself is not the most appropriate approach.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page. 78, 79

↑ *Back to this question in Part A*

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Q5: Match the following weapons with the potential injuries they may cause: A. Axe 1. Incised wound B. RTA (Road Traffic Accident) 2. Train track bruise C. Blade 3. Grazed abrasion D. Lathi 4. Chop wound (Q856327)

A. A-4, B-3, C-1, D-2

B. A-1, B-3, C-4, D-2

C. A-1, B-2, C-4, D-3

D. A-4, B-1, C-3, D-2

Correct Answer: A. A-4, B-3, C-1, D-2

Explanation: Axe → Chop wound (A-4): An axe is a heavy, sharp weapon that produces deep, clean-cut injuries with underlying bone damage, characteristic of a chop wound. RTA → Grazed abrasion (B-3): In road traffic accidents, grazed abrasions are common due to friction between the skin and rough surfaces like roads. Blade → Incised wound (C-1): A blade produces incised wounds, which are sharp, clean cuts with minimal tissue bridging, often seen in sharp force trauma. Lathi → Train track bruise (D-2): A lathi (baton) produces parallel linear bruises , known as "train track bruises," due to the forceful impact of a cylindrical object .

References:

The Essentials of Forensic Medicine & Toxicology, K. S. Narayan Reddy, 35th Edition, Page 133,134.

Parikh's Textbook of Medical Jurisprudence, Forensic Medicine and Toxicology, 8th Edition, Page 222.

↑ *Back to this question in Part A*

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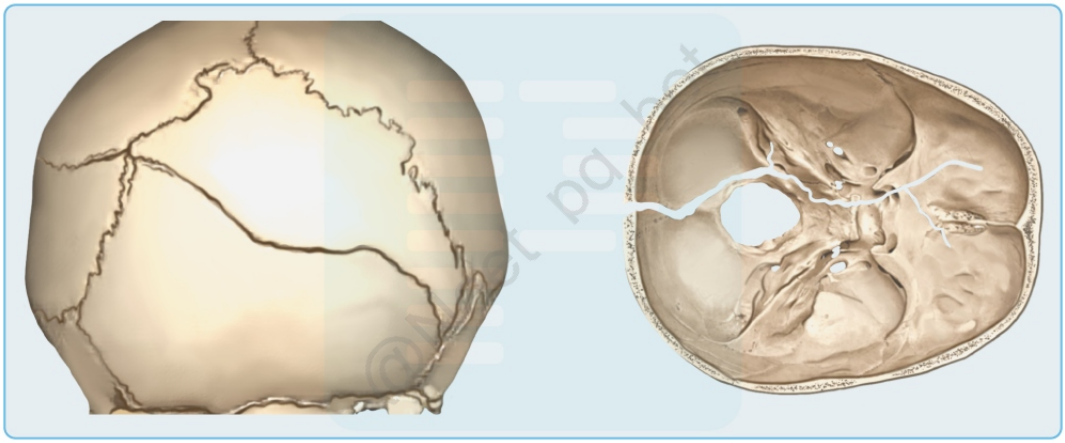
Q6: Identify the type of skull fracture in the given image ? (Q856877)

A. Diastatic

B. Depressed

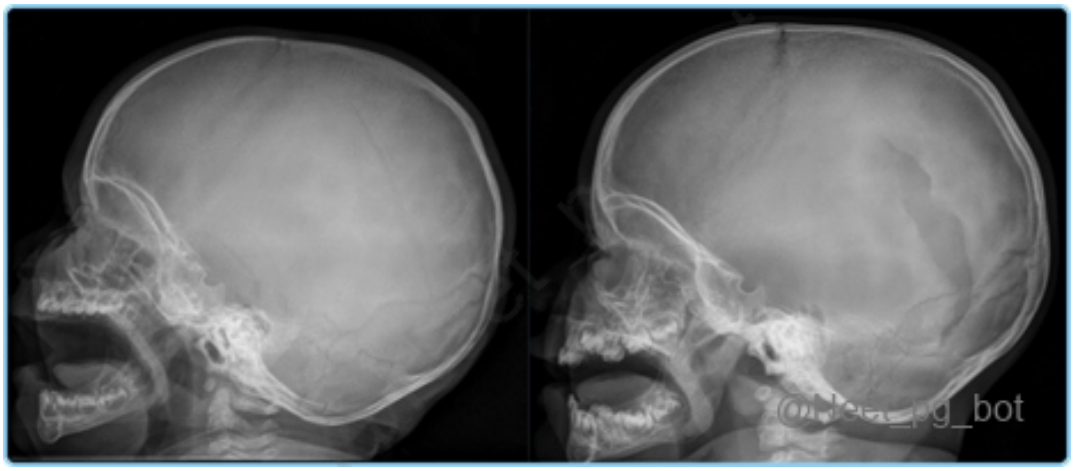
C. Fissured

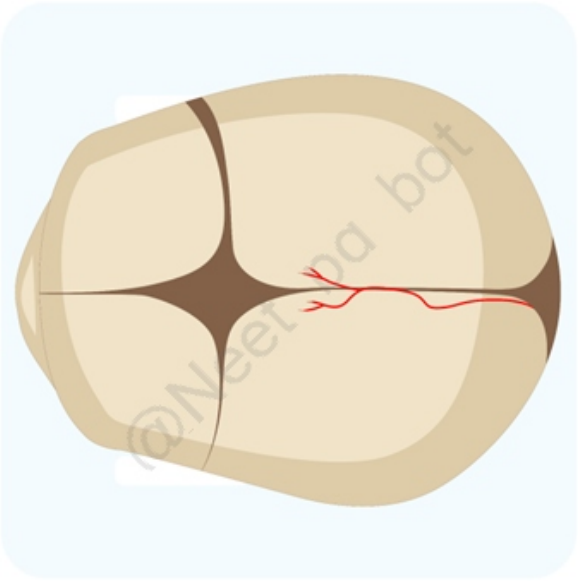
D. Comminuted



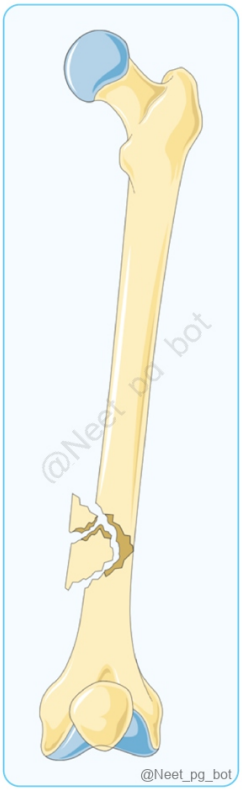
Correct Answer: C. Fissured

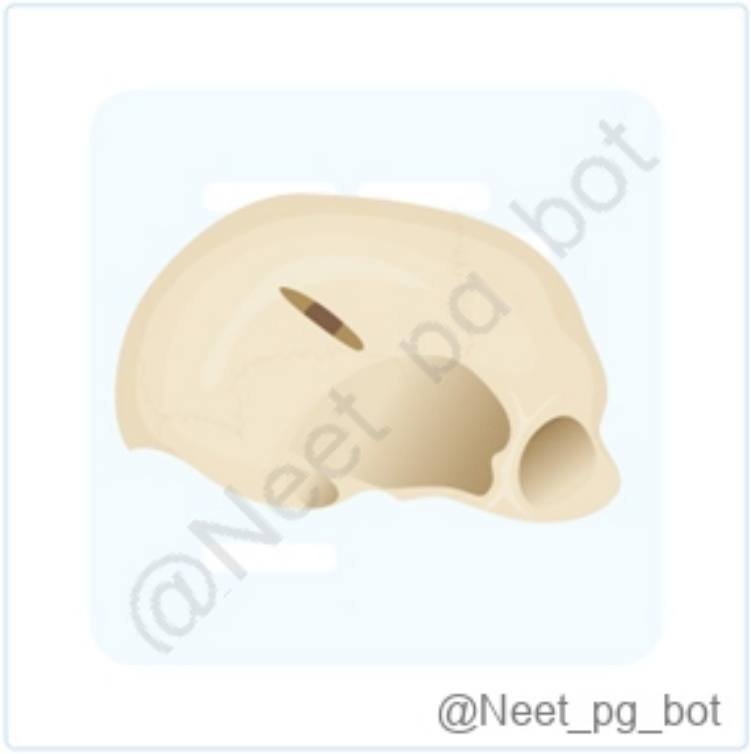
Explanation: Fissured Fracture (Linear Fracture) (Option C) Diastatic Fracture (Sutural Fracture) (Option A ruled out) The most common skull fracture accounts for about 70% of cases. Linear cracks may involve the vertex or skull base. It can affect the full thickness of the bone or just the inner/outer layers. The fracture line is irregular and fine, sometimes hard to detect on X-rays. It runs parallel to the compressive force. No depression of bone fragments. Involves the separation of cranial sutures. More common in children. Often occurs with other skull fractures, especially fissured fractures. Commonly seen at the sagittal suture. Causes: Impact against broad surfaces (e.g., falls or road traffic accidents). Falls on feet or buttocks, transmitting force upwards. Causes: Blunt trauma to the head. Increased intracranial pressure leads to suture separation. {{caption_text}} Narrow fissure skull fracture Depressed Fracture (Option B ruled out) Comminuted Fracture (Option D ruled out) Gutter Fracture Occurs when a fragment of the skull is pushed inward towards the brain. Caused by blows from heavy objects with a small surface (e.g., hammers, bricks). The shape of the depressed area may resemble the object that caused the injury. Variants: Elevated Fracture: One end of the fractured fragment is raised above the skull, while the other is pushed inward. Caused by sharp objects like an axe. Pond Fracture: Seen in infants, this smooth depression occurs without a fracture line, resembling a dent in a ping-pong ball. Caused by obstetrics forceps blade. Involves multiple intersecting fracture lines, breaking the bone into several fragments. Caused by high-impact trauma (e.g., vehicular accidents, crushing injuries). It may occur alongside other fractures (e.g., fissured or depressed fractures). Spider web-like patterns on an X-ray are characteristic of comminuted fractures. In severe cases, bone fragments may penetrate the brain or become displaced. A groove or channel is formed in the skull bone, often due to an oblique bullet wound. Frequently associated with comminuted and depressed fractures of the inner skull table. Bone fragments can cause injury to the meninges or brain. {{caption_text}} Depressed fracture {{caption_text}} Comminuted fracture Gutter fracture


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References:

The Essentials of Forensic Medicine, KS Narayan Reddy, 35th Edition, Page 186, 187, 188

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 234, 235, 236

↑ *Back to this question in Part A*

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Q7: When a patient with life-threatening injuries arrives at the hospital and there is no time to obtain explicit consent, under which legal doctrine can a physician perform necessary life-saving procedures, with consent considered extended to emergency intervention, thus protecting the physician from liability if the patient dies despite proper care? (Q856865)

A. Res ipsa loquitur

B. Doctrine of anticipation

C. Doctrine of extended consent

D. Doctrine of conjugated consent

Correct Answer: C. Doctrine of extended consent

Explanation: The Doctrine of Extended Consent (also called implied or emergency consent) allows healthcare providers to perform life-saving treatment without explicit consent when obtaining it is impractical. It applies in emergencies to preserve life or prevent serious harm. Doctors must act in good faith and follow accepted medical standards. This doctrine protects them from liability if the patient dies despite proper care. Res ipsa loquitur (Option A): Refers to situations where negligence is inferred from the nature of an accident, not applicable to emergency consent. Doctrine of anticipation (Option B): Deals with taking preventive measures for foreseeable complications, not emergency life-saving intervention. Doctrine of conjugated consent (Option D): Not a recognized legal doctrine in medical consent law.

References:

http://radiology.con.mk/consent/2/extension_doctrine.html?i=1
https://pmc.ncbi.nlm.nih.gov/articles/PMC2779959/ https://pubmed.ncbi.nlm.nih.gov/20209388/

↑ *Back to this question in Part A*

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Q8: Identify the condition shown in the image. (Q856862)

A. Postmortem lividity

B. Marbling

C. Fillgree burns

D. Subcutaneous emphysema



Correct Answer: B. Marbling

Explanation: The branching pattern along the blood vessels is typical of marbling , which occurs due to bacterial decomposition of hemoglobin into sulfmethemoglobin. This phenomenon usually appears 24 hours after death. Marbling Definition Refers to a characteristic pattern in the skin caused by decomposition. Mechanism After death, bacteria spread through blood vessels, decomposing hemoglobin into sulfmethemoglobin, which causes greenish or reddish-brown staining of the vessel walls. Pattern Marbled pattern follows a linear branching pattern, resembling tree branches, which initially appears red and later transitions to a greenish hue. Onset and Timing Begins to develop 24 hours after death. Becomes prominent by 36-48 hours. Color Changes Over Time Skin's reddish-green marbling may turn dark green or nearly black within 3 to 4 days. Areas of Marbling Shoulders, roots of the limbs, thighs, sides of the abdomen, chest, and neck. Medicolegal Importance Helps in determining the time since death Image {{caption_text}} Postmortem lividity (Option A) typically appears as a uniform discoloration rather than a distinct branching pattern as seen in marbling, making it less relevant in this scenario. {{caption_text}} Filigree burns (Option C) are characterized by superficial, irregular markings resulting from electrical discharge that develop within minutes to an hour. In contrast, marbling involves the bacterial decomposition of hemoglobin, creating a distinct branching pattern in the skin, which does not occur immediately and is not indicative of electrical injury. {{caption_text}} Subcutaneous emphysema (Option D) occurs when air enters the tissues under the skin, usually from trauma or puncture of the lungs, creating a crackling sensation under the skin.


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References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 147

Essentials of forensic medicine & Toxicology, K.S. Narayan Reddy, 35th Edition, Page 114-126, 257

↑ *Back to this question in Part A*

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Q9: What is the approximate age of a person in whom the medial end of the clavicle is fused and also the sternum is completely fused: (Q856852)

A. <18 years

B. 18-22 years

C. 22-25 years

D. >25 years

Correct Answer: C. 22-25 years

Explanation: The medial end of the clavicle fuses by 20-22 years . The sternum typically completes its fusion in the late teens to early 20s, often around 18 to 25 years . Since both the medial end of the clavicle and the sternum (with fusion of sternebrae) are fully fused by the early 20s, the person is typically between 22-25 years old. Bone Centers of Ossification Age of Appearance Age of Fusion Sternum Manubrium 5 th -month IUL 60–70 years (manubrio-sternal joint) 1 st sternebrae 5 th -month IUL 14-25 years (from below upwards; 3 rd and 4 th -15 years; 2 nd and 3 rd -20 years; 1 st and 2 nd -25 years) 2 nd and 3 rd sternebrae 7 th -month IUL 4 th sternebrae 10 th -month IUL Xiphisternum 3 rd year postnatal 40-45 years (with body) Clavicle Medial end 5 th -7 th week IUL (1 st Ossification centre overall to appear in fetus) 20-22 years Scapula Coracoid base 10-11 years 14-17 years Acromion process 14-16 years 17-18 years Incorrect Options: <18 years (Option A) is incorrect because both bones are still in the process of fusion and maturation before 18. 18-22 years (Option B) is too early, as fusion would not be complete yet. >25 years (Option D is incorrect because both bones would have already fused by that age, making this option too late.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 72

↑ *Back to this question in Part A*

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Q10: A girl was allegedly kidnapped by a man. In court, she says that she is a major and is married to the man, X-ray images of her elbow, wrist and pelvis are given. What is the approximate age of the girl? (Q856651)

A. 14 to 15 years

B. 16 to 17 years

C. 18 to 19 years

D. 21 to 22 years



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Correct Answer: D. 21 to 22 years

Explanation: Based on the fusion timelines of the upper limb (elbow, wrist) and lower limb (pelvis) bones, the skeletal maturity aligns most closely with the 21 to 22 years age range, as the bones in these regions are generally fully fused at this age. Elbow: In a 21-22 year old female, the epiphyseal plates in the elbow region should be closed, indicating the completion of growth and fusion. The bones of the elbow joint, including the humerus, radius, and ulna, should appear fully developed and fused. The joint space should be minimal, and the bony contours should be well-defined. Wrist: At this age, the growth plates in the wrist region should also be closed, indicating the completion of growth. The carpal bones of the wrist, including the scaphoid, lunate, triquetrum, pisiform, trapezium, trapezoid, capitate, and hamate, should be well-formed and have fused together. The bony architecture of the wrist should be well-defined. Pelvis: In a 21-22 year old female, the pelvis should have completed its growth and reached its adult form. The ilium, ischium, and pubis bones of the pelvis should be fully developed and fused. The sacroiliac joints should be stable, and the symphysis pubis should be fused with minimal or no joint space. Upper Limb Centers of Ossification Age of Appearance Age of Fusion Humerus Head 1 year At 5-6 years, the three fuse together (conjoint epiphysis), and at 17-18 years, fuse with the shaft. Greater tubercle 3 years Lesser tubercle 5 years Capitulum 1 year At 14-15 years, all three fuses with the shaft Trochlea 9-10 years Lateral epicondyle 10-11 years Medial epicondyle 5-6 years 16 years Radius Upper end 5-6 years 15-17 years Lower end 1-2 years 17-19 years Ulna Upper end 8-9 years 15-17 years Lower end 5-6 years 17-19 years Carpals Pisiform 9-12 years - Other Carpals The capitate and hamate bones ossify during infancy, with the capitate appearing first at 36 th week (3-4 months age). Between ages 2 and 6, the number of visible carpal bones on an X-ray roughly corresponds to the child's age (e.g., 3 carpal bones indicate approximately 3 years old). Lower limb bone Centers of Ossification Age of Appearance Age of Fusion Hip Bone Ischiopubic rami - 7 years Triradiate cartilage - 12-14 years Iliac crest 15-16 years 19-21 years Ischial tuberosity 16-17 years 20-22 years Femur Head 1 year 17-18 years Greater trochanter 4 years 14-15 years Lesser trochanter 14 years 16-17 years Lower end 9 months IUL (at birth) 17-18 years Tibia Upper end At birth 17-18 years Lower end 1 year 17-18 years Fibula

Upper end 4 years 17-18 years Lower end 2 years 16-17 years Tarsals Calcaneum 5th month IUL 17-18 years Talus 7th month IUL Cuboid 9th month IUL

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 72

↑ *Back to this question in Part A*

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Q11: What will be the gestational age of the fetus if the crown rump length is 21 cm and the length of the lower limb is 10 cm? (Q856647)

A. 6 to 7 months

B. 4 to 5 months

C. 7 to 8 months

D. Term

Correct Answer: A. 6 to 7 months

Explanation: To estimate gestational age using crown rump length (CRL) and the Rule of Hasse : Rule of Hasse: In the first 5 months , the fetal length in centimeters is roughly equal to the square of the month (Length = month²). After 5 months, the length in cm divided by 5 gives the gestational age in months. Given Data: Crown rump length (CRL): 21 cm Lower limb length: 10 cm Calculation Using Rule of Hasse: For fetuses older than 5 months , the total length (crown-heel) in cm ≈ 5 × month. However, CRL is used for up to ~5 months; after that, crown-heel length is used. At 6 months, the crown-heel length is about 30 cm (so CRL is typically about 2/3 of crown-heel, i.e., ~20 cm). At 7 months, crown-heel length is about 35 cm (CRL ~23 cm). At 8 months, crown-heel length is about 40 cm (CRL ~26–27 cm). A CRL of 21 cm corresponds to a gestational age of 6 to 7 months .

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, page 322

↑ *Back to this question in Part A*

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Q12: Which of the following traits is a feature of the female skull ? (Q855328)

A. Larger teeth

B. Mastoid medium-large

C. Mandible Rounded

D. Zygomatic is more pronounced

Correct Answer: C. Mandible Rounded

Explanation: Distinguishing features of male and female skull: Feature Male skull Female skull General Appearance Larger, heavier, rugged, marked muscular ridges Smaller, lighter, walls thinner, smoother Forehead Receding, irregular, rough, less rounded Vertical, round, full, infantile, smooth Cranial capacity More capacious (1450–1550 cc) Less capacious (1300–1350 cc) Glabella Prominent Less prominent Orbits Square, rounded margins, small Rounded, sharp margins, large Frontal and parietal eminence Less prominent Prominent Zygomatic arch Prominent Not prominent Occipital area Prominent Not prominent Mastoid process Large, round, blunt Small, smooth, pointed Digastric groove Deep Shallow Palate Large, U-shaped, broad Small, parabolic Foramen magnum Relatively large, long Small, round External auditory meatus Bony ridge along upper border prominent Often absent

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page. 63-67.

The Essentials of Forensic Medicine and Toxicology, K S Narayan Reddy, OP Murty, 35th Edition, Page. 43-49.

↑ *Back to this question in Part A*

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Q13: The most reliable criteria among Gustafson's criteria for age estimation is? (Q857044)

A. Root resorption

B. Paradentosis

C. Translucency of root

D. Attrition

Correct Answer: C. Translucency of root

Explanation: Gustafson's Method: Developed by Gosta Gustafson, this method estimates age by evaluating six specific regressive changes in teeth: Attrition (A): Wear of the occlusal surface due to chewing, starting with enamel and progressing to dentin and pulp. (Option D ruled out) Periodontosis (P): Retraction of the gums, exposing the root and neck of the tooth, leading to loosening. (Option B ruled out) Secondary Dentin (S): Gradual deposition in the pulp cavity, reducing its size and potentially obliterating it. Cementum Apposition (C): Thickening of cementum around the root as the tooth shifts in position, with continuous deposition forming

incremental lines. Root Resorption (R): Degradation of cementum and dentin at the root apex, progressing upwards. (Option A ruled out) Root Transparency: Increased transparency in the root due to rarefaction of dentin, beginning from the apex and moving upward in lower teeth, and downward in upper teeth. This is considered the most reliable of all criteria. (Option C) (Option A, B, & D ruled out) Each change is scored from 0 to 3, and the total score (Y) is used in the formula for age estimation . 0- No change 1- Beginning of change 2- Obvious change 3- Maximum change A + P + S + C + R + T = total score (Y) An increase in age shows a linear increase in the total score. The age is estimated using the following formula: Age = 11.43 + 4.56 × Y (total score) The method is most accurate for individuals between 25–60 years old. It requires extracting and microscopically examining a longitudinal section of the tooth, limiting its use to deceased individuals or skeletal remains.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page. 70, 71.

The Essentials of Forensic Medicine and Toxicology, K S Narayan Reddy, OP Murty, 35th Edition, Page. 50, 51.

Dental age estimation methods in adult dentitions: An overview - PMC

Age Determination in Forensic Odontology

↑ *Back to this question in Part A*

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Q14: From the dense vegetation near the highway, the police have found the remains of a burnt body. The location was discovered with the help of a sniffer dog, as they were tracing a 25-year-old IT worker who had gone missing the night before. To determine the identity of the victim, the team needs to gather a suitable sample. Which type of tissue from a charred body is most effective for identification purposes? (Q857038)

A. Hair

B. Bone

C. Teeth

D. Blood

Correct Answer: C. Teeth

Explanation: Teeth are highly resistant to heat and decomposition, making them the most effective tissue for identification in burnt or charred bodies. Dental records can provide age, sex, race, and other identifying features. Medicolegal Applications of Dental Profiling Identification : Dental identification is crucial for identifying unknown, burnt, charred, mutilated, or decomposed bodies, especially in mass disasters. Useful for individuals without proper records in developing countries. Age Estimation : Teeth help estimate the age of an individual.

Identification of Characteristics : Teeth can reveal race, sex, occupation, and habits (e.g., betel nut chewing or smoking). Grievous Hurt : Fractured or dislocated teeth qualify as grievous hurt under Section 320 IPC. Teeth can reveal signs of lead poisoning or phossy jaw long after death. Dentures with names or codes assist in identifying individuals. Criminal Identification : Bite marks on tissues or foodstuffs can help identify criminals. Incorrect Options: Hair (Option A) : While hair can sometimes be used for DNA analysis, it is not as resistant to heat or fire damage as teeth, making it less effective for identification in charred bodies. Bone (Option B) : Bone can be useful for identification in some cases, but it may not provide as much detail as teeth, especially when teeth remain intact in the face of high heat. Blood (Option D) : Blood is rarely useful in cases of burnt bodies due to its destruction in the fire. It does not survive the intense heat and would not be available for analysis.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page. 95, 96

↑ *Back to this question in Part A*

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Q15: A 30-year-old man is accused of sexually abusing a girl. The mother insists her daughter is under 18, but the daughter claims she is already 18. To legally verify her age, which combination of X-rays would provide the most reliable information? (Q865313)

A. Elbow and shoulder

B. Sternum and medial end of clavicle

C. Wrist, medial end of clavicle, and pelvis

D. Skull and Sternum

Correct Answer: C. Wrist, medial end of clavicle, and pelvis

Explanation: This combination is widely accepted for forensic age determination, as it examines ossification and epiphyseal fusion in bones critical for assessing late adolescence and the age of majority. Wrist X-rays assess hand bone maturity, medial clavicle X-rays help evaluate fusion in late adolescence, and pelvis X-rays assess iliac crest ossification, collectively providing the most accurate age estimation. Wrist X-rays: Assess general bone ossification; epiphyseal fusion usually completes by 16–18 years. Medial end of clavicle: Fuses later, around 18–22 years; key for distinguishing late adolescence. Pelvis: Evaluates iliac crest ossification, typically completing by 17–20 years. Upper Limb Centers of Ossification Age of Appearance Age of Fusion Humerus Head 1 year At 5–6 years, the three fuse together (conjoint epiphysis), and at 17–18 years, fuse with the shaft. Greater tubercle 3 years Lesser tubercle 5 years Capitulum 1 year At 14–15 years, all three fuses with the shaft Trochlea 9–10 years Lateral epicondyle 10–11 years Medial epicondyle 5–6 years 16 years Radius Upper end 5–6 years 15–17 years Lower end 1–2 years 17–19 years Ulna Upper end 8–9 years 15–17 years Lower end 5–6 years 17–19 years Carpals Pisiform 9–12 years — Other Carpals The capitate and hamate bones ossify during infancy, with the capitate appearing first at 36th week(3-4 months age). Between ages 2 and 6, the number of visible carpal bones on

an X-ray roughly corresponds to the child's age (e.g., 3 carpal bones indicate approximately 3 years old). Bone Centers of Ossification Age of Appearance Age of Fusion Sternum Manubrium 5th-month IUL 60–70 years (manubrio-sternal joint) 1st sternebrae 5th-month IUL 14–25 years (from below upwards; 3rd and 4th–15 years; 2nd and 3rd–20 years; 1st and 2nd–25 years) 2nd and 3rd sternebrae 7th-month IUL 4th sternebrae 10th-month IUL Xiphisternum 3rd year postnatal 40–45 years (with body) Clavicle Medial end 5th–7th week IUL(1st Ossification centre overall to appear in fetus) 20-22 years Scapula Coracoid base 10–11 years 14–17 years Acromion process 14–16 years 17–18 years Skull (Option D) Suture Closure Age Posterior fontanelle (occipital) At birth to 6 months Anterior fontanelle (bregma) 1½–2 years Two halves of mandible 1–2 years Metopic suture (between frontal bones) 2–4 years, may remain unfused Basiocciput and basisphenoid 18–20 years (females) 20–22 years (males) Lambdoid suture 45–50 years Parieto-temporal 60–70 years

References:

Gautam Biswas, Review of Forensic Medicine and Toxicology, 3rd Edition, Page 72, 73, 74

↑ *Back to this question in Part A*

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Q16: Match the tooth type with its corresponding age of eruption. A. Canine 1. 6-7 years B. Lateral incisor 2. 8-9 years C. First molar 3. 11-12 years D. Third molar 4. 17-25 years (Q855155)

A. A-1, B-3, C-2, D-4

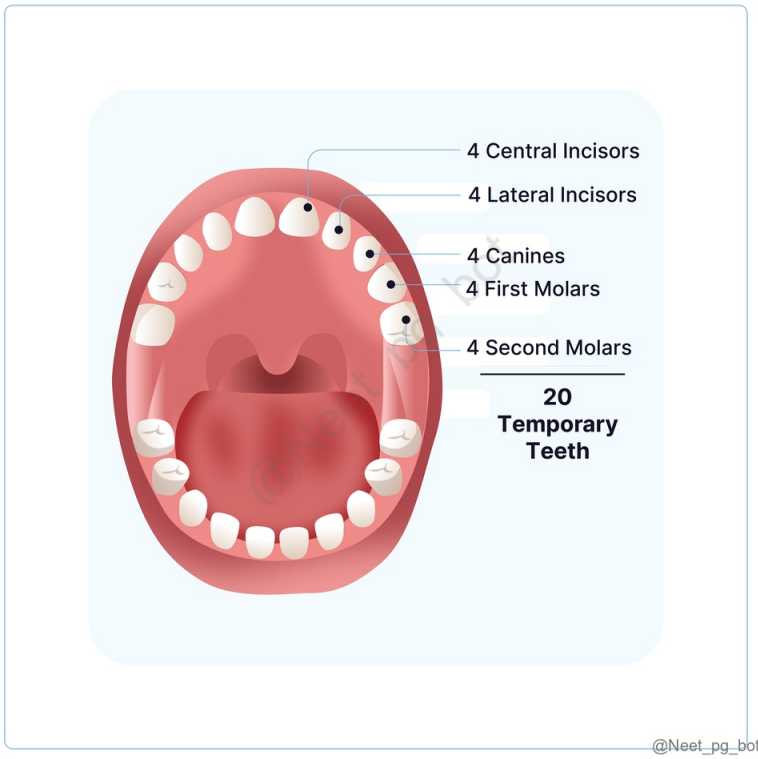
B. A-3, B-4, C-1, D-2

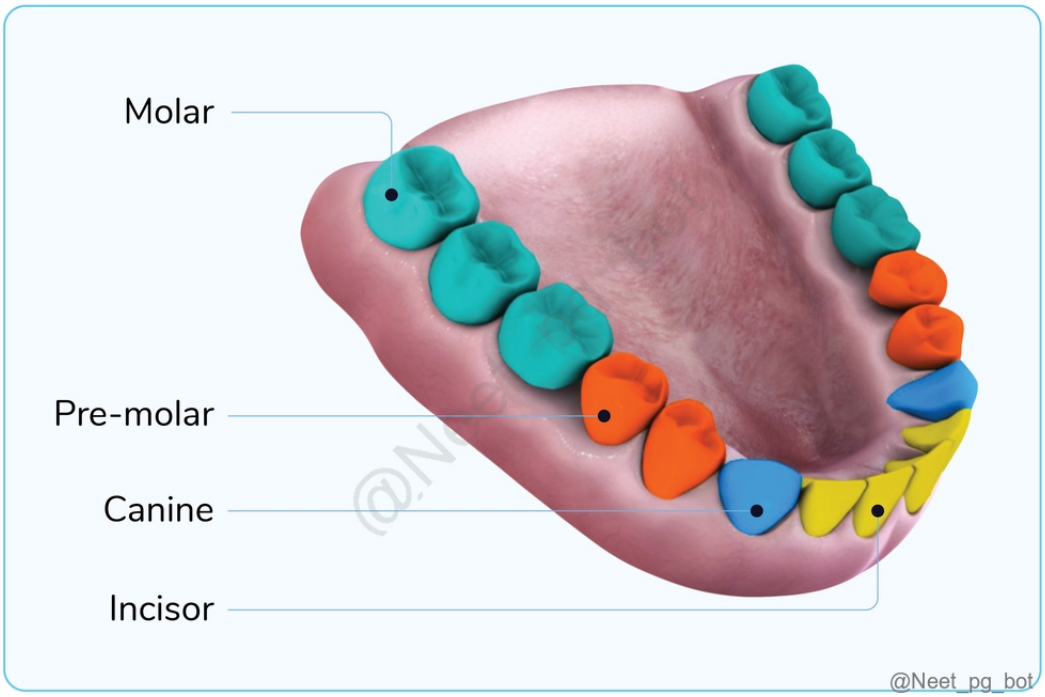
C. A-3, B-2, C-1, D-4

D. A-2, B-3, C-4, D-1

Correct Answer: C. A-3, B-2, C-1, D-4

Explanation: Tooth Type Age of Eruption A. Canine 11–12 years B. Lateral incisor 8–9 years C. First molar 6–7 years D. Third molar 17–25 years Teeth Eruption Sequence: Teeth Ages of Eruption (Temporary) Ages of Eruption (Permanent) Mixed Dentition Period Lower central incisors 6–8 months 6–8 years 6–8 years Upper central incisors 7–9 months 6–8 years 6–8 years Upper lateral incisors 7–9 months 7–9 years 7–9 years Lower lateral incisors 10–12 months 7–9 years 7–9 years Canines 17–18 months 11–12 years 11–12 years First premolars — 9–11 years 9–11 years Second premolars — 10–12 years 10–12 years First molars 12–14 months 6–7 years 6–7 years Second molars 20–30 months 12–14 years 12–14 years Third molars — 17–25 years No mixed dentition (Permanent only) {{caption_text}}





References:

https://www.jaypeedigital.com/eReader/chapter/9789386261526/ch1

The Essentials of Forensic Medicine and Toxicology, 35th Edition, Page. 49-51.

↑ *Back to this question in Part A*

@Neet_pg_bot

Q17: When do fingerprints first develop during intrauterine life? (Q855152)

A. 12-16 weeks

B. 20-24 weeks

C. 28-32 weeks

D. 32-36 weeks

Correct Answer: A. 12-16 weeks

Explanation: By 12-16 weeks of intrauterine life, the basic pattern of fingerprints is formed. These patterns are unique to each individual and remain unchanged throughout life. Key points about dactylography and fingerprints: Dactylography, also known as dactyloscopy, is the study of fingerprints as a method of identification. There are four basic fingerprint patterns: loop, whorl, arch, and composite. Fingerprints remain constant throughout embryonic life, birth, and life of the individual. An individual's genetic makeup plays a part in determining the basic shapes of the patterns and ridges, but it is not the only factor. Fingerprints can be erased permanently and deliberately by criminals to reduce their chance of conviction, through various methods including burns, acids, and plastic surgery. Permanent impairment of fingerprint patterns Leprosy, electric injury, and after exposure to radiation. Ridge atrophy with alteration of ridge pattern Celiac disease, dermatitis, eczema, psoriasis, acanthosis nigricans, scleroderma, and dry and atrophic skin. L oss of fingerprints Anti-cancer drug- capecitabine Elderly persons Fingerprints that are difficult to capture, since the elasticity of skin decreases with age No fingerprints Genetic disorders like Baird syndrome (congenital milia), Zinsser-Cole-Engman syndrome (dyskeratosis congenita),Naegeli-Franceschetti-Jadasohn syndrome,dermatopathia pigmentosa reticularis, and adermatoglyphia Quetlet’s Rule- Every natural form presents infinite variations and no patterns are ever alike. Dactylography is based on this rule. Dactylography is crucial for forensic experts and law enforcement professionals in their investigative work, including criminal identification, disaster victim identification, and various legal procedures Pattern Type Frequency (%) Loop (Ulnar/radial) 60-70 Whorl 30-35 Arch 5-10 Composite 1-5



References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page. 84, 85, 86, 87

The Essentials of Forensic Medicine and Toxicology, K S Narayan Reddy, OP Murty, 35th Edition, Page. 62.

The developmental basis of fingerprint pattern formation and variation - ScienceDirect

↑ *Back to this question in Part A*

@Neet_pg_bot

Q18: All of the following are used in the identification of a dead body except? (Q854650)

A. Teeth

B. Blood

C. Nail

D. Muscle

Correct Answer: C. Nail

Explanation: Nails are not a primary tool for identification. While they may occasionally provide DNA, their utility is limited compared to teeth and blood and muscle. Samples Collected from Dead Bodies Fresh Dead Bodies Use unclotted 10 mL blood in a sterile EDTA tube as the preferred DNA source. EDTA buffers inhibit DNA-degrading nucleases. Clotted blood is unsuitable due to WBC settling. Intermediate Postmortem Brain tissue is a good DNA source. Advanced Decomposition Hard tissues like bone and teeth (vascular pulp) are ideal for DNA extraction. Recommended materials: muscle, spleen, bone marrow (femur), and molars. Postmortem

samples are less reliable due to DNA degradation and putrefaction. Incorrect Options: Teeth (Option A): Teeth are highly reliable for forensic identification due to their resistance to decomposition and the ability to compare dental records. They can also be a source of DNA for profiling. Blood (Option B): Blood is a primary biological material used for DNA analysis, providing a unique genetic fingerprint for identifying the deceased. Muscle (Option D): Muscle tissue, while less durable, can be used for DNA extraction if preserved adequately. It serves as an auxiliary source for identification when other tissues are unavailable.

References:

https://pubmed.ncbi.nlm.nih.gov/19083867/

Review of Forensic Medicine and Toxicology by Gautam Biswas, 3rd Edition, Page 442

↑ *Back to this question in Part A*

@Neet_pg_bot

Q19: When does the talus become ossified during intrauterine life? (Q820296)

A. 3 months

B. 7 months

C. 9 months

D. 2 months

Correct Answer: B. 7 months

Explanation: Correct Option B - 7 months Around 7 months of intrauterine life, the ossification process begins in the talus. Ossification centers develop in various bones during fetal development, and the talus is no exception. The talus bone starts to calcify and transform from cartilage to bone tissue around this time. Incorrect Options: Option A - 3 months: At 3 months of intrauterine life, the talus is in its cartilaginous form and has not yet undergone ossification. Ossification refers to the process by which cartilage is replaced by bone tissue. Option C - 9 months: By 9 months of intrauterine life, most of the major bones have undergone substantial ossification, including the talus. At this stage, the talus is well on its way to becoming a fully ossified bone. Option D - 2 months: At 2 months of intrauterine life, the talus is still in its early stages of development, and the process of ossification has not yet commenced. The fetal skeletal system is primarily composed of cartilage during this period.

↑ *Back to this question in Part A*

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Q20: A 10-year-old child presenting for a dental examination, what is the expected number of permanent and temporary teeth? (Q820284)

A. 20 & 4

B. 24 & 0

C. 16 & 8

D. 12 & 12

Correct Answer: A. 20 & 4

Explanation: Correct Option A - 20 & 4 By the age of 10, a child would typically have 20 permanent teeth and 4 remaining primary (temporary) molars. Permanent teeth include incisors, canines, premolars, and molars. The primary molars are usually replaced by permanent premolars. Incorrect Options: Option B - 24 & 4: This option is incorrect. By the age of 10, a child would typically have 20 permanent teeth and 4 remaining primary (temporary) molars Option C - 16 & 8: This option is incorrect. 16 permanent teeth and 8 primary teeth would not be the expected number for a 10-year-old child. The total count is higher than it should be. Option D - 12 & 12: This option is incorrect. At the age of 10, a child would not have only 12 primary teeth (temporary teeth) and 12 permanent teeth. The total count of 20 teeth would be mostly permanent by this age.

↑ *Back to this question in Part A*

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Q21: In a forensic investigation, the police recover a beheaded skull bone and receive a photograph of a missing person from their relatives. These two samples can be analyzed using which technique? (Q820280)

A. Fingerprint

B. DNA Fingerprint

C. Superimposition

D. Cheiloscopy

Correct Answer: C. Superimposition

Explanation: Correct Option C - Superimposition Superimposition is a technique where an image, such as a photograph of a missing person's face, is overlaid onto another image, like a skull, to see if the facial features match. This technique can help determine if the skull belongs to the missing person based on the alignment of key features. It's a common method used in forensic investigations involving skeletal remains and photographs. Incorrect Options: Option A - Fingerprint: Fingerprint analysis is primarily used for identifying individuals based

on unique patterns of ridges and valleys on their fingertips. It's not directly applicable in this scenario since it wouldn't help analyze a beheaded skull bone or a photograph of a missing person. Option B - DNA Fingerprint: DNA fingerprinting, also known as DNA profiling, involves analyzing specific regions of an individual's DNA to identify unique genetic patterns. While it can be useful in identifying individuals from biological samples, such as blood or tissue, it's not directly applicable to analyzing a beheaded skull bone or a photograph. Option D - Cheiloscopy: Cheiloscopy involves the study of lip prints, which can be used for identification purposes. However, it's not likely to be applicable in this scenario involving a beheaded skull bone and a photograph of a missing person.

↑ *Back to this question in Part A*

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Q22: Following the death of a 40-year-old male patient, his relatives mention that he had a tattoo on his body. However, upon autopsy, no tattoo is observed on the skin. What is the best location to check for the presence of the tattoo? (Q820272)

A. Spleen

B. Artery

C. Lymph node

D. Liver

Correct Answer: C. Lymph node

Explanation: Correct Option C - Lymph node Lymph nodes are part of the lymphatic system, which is involved in immune response and filtering lymph fluid. It's possible that tattoo pigment particles could be transported to nearby lymph nodes. Therefore, if a tattoo was missing from the skin's surface but was present at some point, examining the regional lymph nodes might reveal the presence of tattoo pigment particles that have been transported through the lymphatic system. Incorrect Options: Option A - Spleen: The spleen is an organ involved in filtering blood and maintaining immune functions. Tattoos are not typically found within the spleen, so this option is not relevant to locating a missing tattoo. Option B - Artery: Arteries are blood vessels that carry oxygenated blood away from the heart. Tattoos are not typically located within arteries, as they are usually placed in the skin's dermal layer. Checking an artery would not be a logical step to locate a missing tattoo. Option D - Liver: The liver is a vital organ involved in various metabolic processes. Tattoos are not typically located within the liver. The liver's function is not related to the presence or absence of tattoos, so checking the liver would not help locate a missing tattoo.

↑ *Back to this question in Part A*

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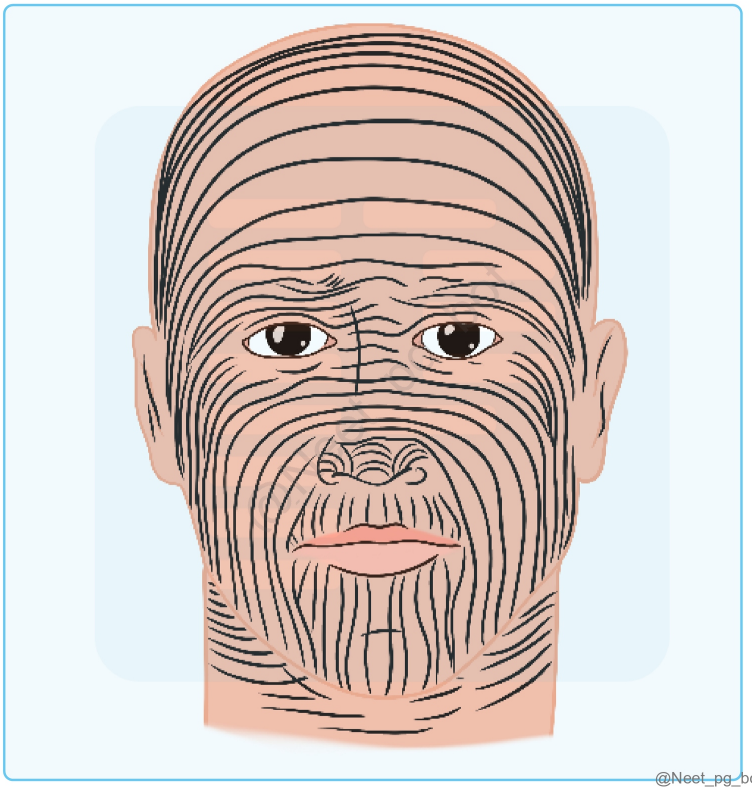
Q23: Identify the following image. (Q857403)

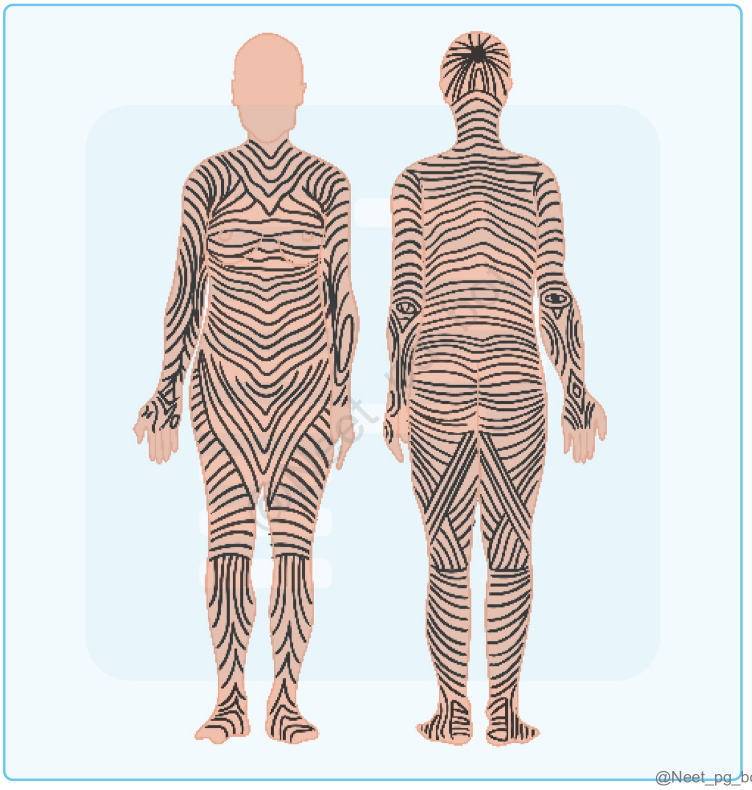
A. Hinderer's line

B. Langer's lines

C. Blaschko lines

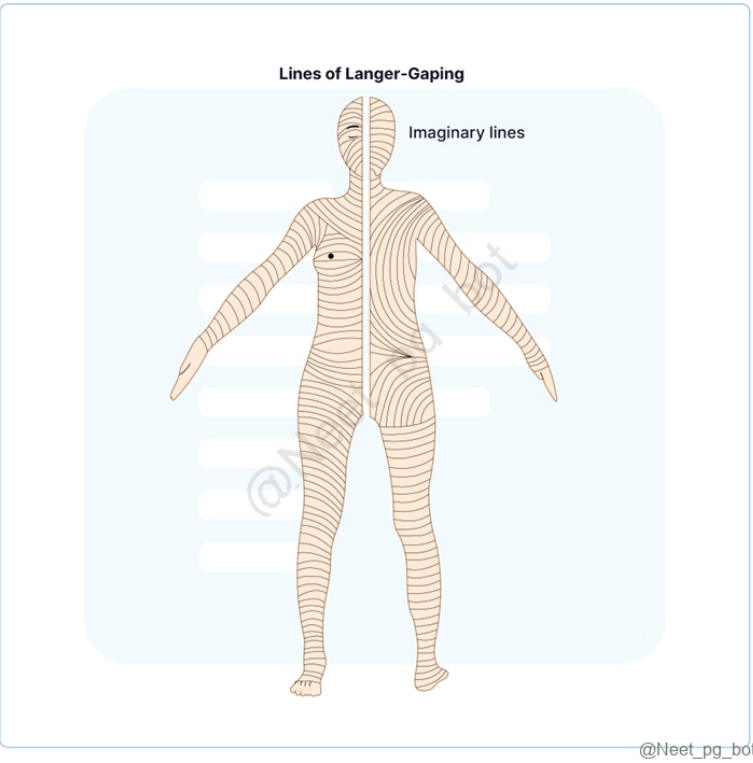
D. Dermatomes





Correct Answer: B. Langer's lines

Explanation: Lines of Langer: The arrangement of the dense network of collagen and elastic fibers in the dermis is referred to as the cleavage direction, while its linear representation on the skin is known as Langer’s lines. Impact of skin tension: Skin tension and Langer’s lines can change round skin defects into elongated wounds that resemble stab wounds. They can also affect genuine stab wounds, making them appear artificially lengthened. The shape of the wounds also depends on the cleavage lines of Langer. Assessing wound angles: It may be necessary to bring the wound margins together to determine if a wound angle is sharp or blunt. Holding the edges together aids in a clearer evaluation of the angles. Variability in injury presentation: Identical weapons can cause different types of injuries based on their location and orientation on the body, influenced by skin elasticity and the alignment of Langer’s lines. A stab wound parallel to the Langer’s lines appears slit-shaped and narrow A stab wound that cuts through the Langer’s lines transversely will gape Hinderer's line (Option A): Hinderer's line is used in facial surgery to demarcate regions of aesthetic importance. It does not describe natural tension lines of the skin. Blaschko lines (Option C): Blaschko lines are invisible lines on the skin that represent embryonic cell migration patterns. They become visible in certain skin conditions like linear epidermal nevi or lichen planus. Dermatomes (Option D): Dermatomes are areas of skin innervated by sensory fibers of a single spinal nerve. They are unrelated to skin tension or collagen orientation.



References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 203.

https://pmc.ncbi.nlm.nih.gov/articles/PMC9373948/

https://pubmed.ncbi.nlm.nih.gov/21396561/

https://pubmed.ncbi.nlm.nih.gov/30571022/

↑ *Back to this question in Part A*

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Q24: A vegetable vendor with no criminal history went missing and was found dead a week later with advanced decomposition. How would you identify the body? (Q860487)

A. General recognition

B. DNA profiling

C. Dental records

D. Fingerprints

Correct Answer: B. DNA profiling

Explanation: DNA Profiling is highly reliable and can be used even when the body is in an advanced state of decomposition. General recognition (Option A) Due to advanced decomposition, the body's features will be severely altered, making general recognition unreliable. Dental records (Option C) Pre-existing dental records for comparison might not be available for a vegetable vendor, so they are not preferred. Fingerprints (Option D) If the deceased had a criminal record, then fingerprints are more reliable to identify the body.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 338

The Essentials of Forensic Medicine and Toxicology, K S Narayan Reddy, OP Murty, 35th Edition, Page. 72, 73.

https://www.fortunejournals.com/ijabpt/pdf/63045-II-Mahesh%20Singh-forensic%20dentistry[1].pdf

↑ *Back to this question in Part A*

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Q25: Identify the finding that is seen in antemortem drowning? (Q860472)

A. Cadaveric spasm

B. Pugilistic attitude

C. Washerwoman hand

D. Emphysema aquosum



Correct Answer: A. Cadaveric spasm

Explanation: Cadaveric Spasm is a phenomenon observed in antemortem drowning where the deceased's hand is found tightly clenched, often containing grass or other objects, as shown in the image. Cadaveric Spasm Definition Cadaveric spasm, also known as cataleptic rigidity or instantaneous rigor, is an ante-mortem phenomenon occurring immediately at the time of death. Mechanism ATP depletion in a specific group of muscles that were contracted just before death. Features Muscles that were in use at the time of death remain stiff and rigid immediately after death. No primary relaxation phase, but secondary relaxation occurs during decomposition. Cannot be artificially induced, making it an exclusively ante-mortem finding. Medico-Legal Importance Cadaveric spasm helps in determining whether drowning was ante-mortem or post-mortem. In cases of antemortem drowning, the spasm can cause the victim to tightly grip objects like weeds or mud, indicating they were alive and struggling before death. This provides evidence of active efforts during the drowning process. {{caption_text}} Conversely, if no cadaveric spasm is present, it may suggest post-mortem immersion, indicating that the body was placed in water after death. Pugilistic attitude (Option B) refers to the posture of a body after exposure to intense heat, where the muscles contract and the body takes on a "boxer-like" stance. It is commonly seen in burn victims and is not related to drowning. {{caption_text}} Washerwoman hand (Option C) is seen if the body is in water for a long time, change in the skin of the palm and sole due to imbibition. It includes wrinkling (2-3hr), soddening (12hr), bleaching (12-24hr) and peeling /degloving (3-4 days). Emphysema aquosum (Option D) is seen in conscious people. The lungs exhibit a marble-like appearance due to ruptured and thinned-out alveoli.





References:

Essentials of forensic medicine & Toxicology, K.S. Narayan Reddy, 35th Edition, Page 119,120,285- 289.

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 179- 182

↑ *Back to this question in Part A*

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Q26: During a forensic examination, a skull bone was brought by police whose cephalic index came out to be 85. Skull bone belongs to which race? (Q852480)

A. Negroes

B. Aryan

C. European

D. Mongoloids

Correct Answer: D. Mongoloids

Explanation: Since the given cephalic index is 85 , which is in the brachycephalic range , the skull most likely belongs to the Mongoloid race . Anthropometric measurements, such as the cephalic index (CI) , are valuable in determining ancestry, which assists forensic teams in narrowing down the possible identity of the deceased. The cephalic index is calculated as: CI = (Maximum Skull Breadth/Maximum Skull Length)*100 The skull breadth is measured between the two parietal eminences and the length is measured between the glabella and the external occipital protuberances with a calipers and not a mesuring tape. Skull Shape Cephalic Index (CI) Population Dolichocephalic (Long-headed) 70-74.99 Pure Aryans, Aborigines, African (Negroid) (Options A, B) Mesaticephalic (Medium-headed) 75-79.99 European (Caucasoid), Chinese, Indians. (Option C) Brachycephalic (Short-headed) 80-84.99 East Asian (Mongoloid)

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page. 57. The Essentials of Forensic Medicine and Toxicology, K S Narayan Reddy, OP Murty, 35th Edition, Page. 42.

↑ *Back to this question in Part A*

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Q27: At how many months of intrauterine life does the talus begin to develop from a single primary ossification center? (Q866425)

A. 5 months

B. 10 months

C. 7 months

D. 9 months

Correct Answer: C. 7 months

Explanation: The talus develops from a single primary ossification center that appears around 7 months of intrauterine life. Upper Limb Centers of Ossification Age of Appearance Age of Fusion Humerus Head 1 year At 5–6 years, the three fuse together (conjoint epiphysis), and at 17–18 years, fuse with the shaft. Greater tubercle 3 years Lesser tubercle 5 years Capitulum 1 year At 14–15 years, all three fuses with the shaft Trochlea 9–10 years Lateral epicondyle 10–11 years Medial epicondyle 5–6 years 16 years Radius Upper end 5–6 years 15–17 years Lower end 1–2 years 17–19 years Ulna Upper end 8–9 years 15–17 years Lower end 5–6 years 17–19 years Carpals Pisiform 9–12 years — Other Carpals The capitate and hamate bones ossify during infancy, with the capitate appearing first at 36th week(3-4 months age). Between ages 2 and 6, the number of visible carpal bones on an X-ray roughly corresponds to the child's age (e.g., 3 carpal bones indicate approximately 3 years old). Triradiate cartilage — 12–14 years Iliac crest 15–16 years 19–21 years Ischial tuberosity 16–17 years 20–22 years Femur Head 1 year 17–18 years Greater trochanter 4 years 14–15 years Lesser trochanter 14 years 16–17 years Lower end 9 months IUL (at birth) 17–18 years Tibia Upper end At birth 17–18 years Lower end 1 year 17–18 years Fibula Upper end 4 years 17–18 years Lower end 2 years 16–17 years Tarsals Calcaneum 5th month IUL (Option A ruled out) 17–18 years Talus 7th month IUL (Option C) Cuboid 9th month IUL (Option D ruled out)

↑ *Back to this question in Part A*

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• [01_Forensic Identification] 003 Previous Year Questions

« Back to Folder Directory

[01_Forensic Identification] 003 Previous Year Questions — Quick Jump

Q1 (p. 496) *Q2 (p. 497)*

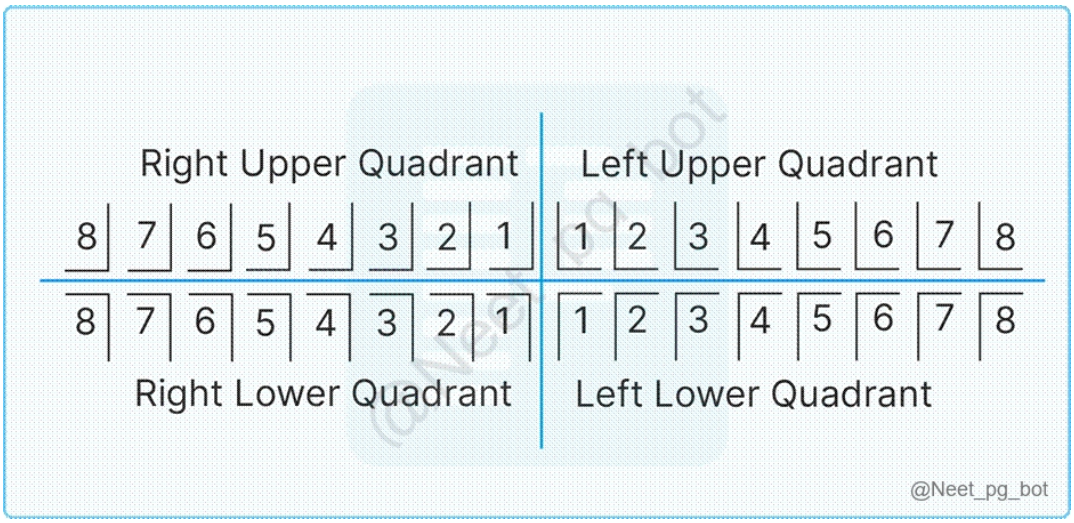
Q1: Which of the following dental notation systems is shown in this image? (Q865333)

A. Palmer Notation

B. Haderup System

C. Universal Numbering System

D. Federation Dentaire Internationale (FDI)



Correct Answer: A. Palmer Notation

Explanation: The given image is that of Palmer Notation . Zsigmondy Palmer Notation for the numbering of teeth is as given below: Permanent Teeth: Right Upper Quadrant Left Upper Quadrant 8 7 6 5 4 3 2 1 1 2 3 4 5 6 7 8 Right Lower Quadrant Left Lower Quadrant 8 7 6 5 4 3 2 1 1 2 3 4 5 6 7 8 Deciduous/Primary Teeth: Right Upper Quadrant Left Upper Quadrant E D C B A A B C D E Right Lower Quadrant Left Lower Quadrant E D C B A A B C D E Haderup System (Option B): In this system, values for upper jaw teeth are indicated with a '+' sign (and a '-' sign for lower jaw teeth). These signs are placed to the left (for left-side teeth) or right (for right-side teeth), followed by numbers 1 through 8 for permanent teeth. Permanent Teeth: Right Upper Quadrant Left Upper Quadrant 8+ 7+ 6+ 5+ 4+ 3+ 2+ 1+ +1 +2 +3 +4 +5 +6 +7 +8 Right Lower Quadrant Left Lower Quadrant 8- 7- 6- 5- 4- 3- 2- 1- -1 -2 -3 -4 -5 -6 -7 -8 Deciduous/Primary Teeth: Right Upper Quadrant Left Upper Quadrant 5+ 4+ 3+ 2+ 1+ +1 +2 +3 +4 +5 Right Lower Quadrant Left Lower Quadrant 5- 4- 3- 2- 1- -1 -2 -3 -4 -5 Universal Numbering System (Option C): In this system, for Permanent Dentition, each of the 32 permanent teeth is

numbered from 1 to 32. The numbering starts from the upper right third molar (tooth 1), moves across to the upper left third molar (16), then continues to the lower left third molar (17), and ends at the lower right third molar (32). Right Left 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 For Primary Dentition: The 20 primary teeth are labeled using uppercase letters A to T. A B C D E F G H I J T S R Q P O N M L K Federation Dentaire Internationale (Option D): In this system teeth are numbered by a two-digit code: the first digit indicates the quadrant (1 for upper right, 2 for upper left, 3 for lower left, and 4 for lower right), and the second digit indicates the tooth within the quadrant (1 to 8 for permanent teeth). FDI System (Permanent Teeth): Quadrant 1 (Right Upper) Quadrant 2 (Left Upper) 18 17 16 15 14 13 12 11 21 22 23 24 25 26 27 28 Quadrant 4 (Right Lower) Quadrant 3 (Left Lower) 48 47 46 45 44 43 42 41 31 32 33 34 35 36 37 38

References:

K S Narayan Reddy, OP Murty, The Essentials of Forensic Medicine and Toxicology, 35th Edition, Page 72, 73.

https://www.fortunejournals.com/ijabpt/pdf/63045-II-Mahesh%20Singh-forensic%20dentistry[1].pdf

↑ *Back to this question in Part A*

@Neet_pg_bot

Q2: A registered medical practitioner is requested by a survivor of sexual violence to examine her. Within what time must the practitioner take a vaginal swab to look for the presence of spermatozoa? (Q855306)

A. Within 72 hours

B. Within 36 hours

C. Within 5 day

D. Within 48 hours

Correct Answer: A. Within 72 hours

Explanation: Timeliness of Evidence Collection: Recovery of trace evidence diminishes over time. Sperm detection: Motile sperm: up to 12 hours in the vagina. Non-motile sperm: up to 72 hours. Within 36 hours (Option B), Within 5 days (Option C), & Within 48 hours (Option D) are all incorrect options. Sperm can remain in the vagina for up to 72 hours , but the motility of sperm decreases over time. Non-motile sperm can still be detected within this time frame, making it crucial to collect evidence within 72 hours for accurate results.

References:

Forensic Medicine & Toxicology for Medical students, Gautam Biswas, 3rd Edition, Page 86, 380

↑ *Back to this question in Part A*

@Neet_pg_bot

• [02_Forensic Thanatology] 004 Thanatology - I

« Back to Folder Directory

[02_Forensic Thanatology] 004 Thanatology - I — Quick Jump

Q1 (p. 499)	*Q2 (p. 500)*	*Q3 (p. 500)*	*Q4 (p. 502)*	*Q5 (p. 502)*	*Q6 (p. 504)*
Q7 (p. 505)	*Q8 (p. 506)*	*Q9 (p. 507)*	*Q10 (p. 508)*	*Q11 (p. 510)*	*Q12 (p. 513)*
Q13 (p. 515)	*Q14 (p. 516)*	*Q15 (p. 516)*	*Q16 (p. 518)*	*Q17 (p. 519)*	*Q18 (p. 521)*
Q19 (p. 522)	*Q20 (p. 522)*	*Q21 (p. 524)*	*Q22 (p. 524)*	*Q23 (p. 528)*	*Q24 (p. 528)*
Q25 (p. 529)	*Q26 (p. 530)*				

Q1: The charred body has been recovered from the dense vegetation close to the highway. The police were led to the spot by a sniffer dog that was tracking a 25-year-old IT employee who had been missing since the previous evening. The team has to collect a sample to identify the victim. A sample of which tissue from a burnt body, is best for identification? (Q882306)

A. Hair

B. Bone

C. Teeth

D. Blood

Correct Answer: C. Teeth

Explanation: Correct Option C - Teeth: Teeth are the most resistant structures in the human body and can withstand temperatures up to ~1000°C . Reasons teeth are ideal for identification: Enamel is the hardest tissue in the body Dental pulp is protected within dentin DNA can be extracted from pulp tissue Dental restorations and fillings survive fires Antemortem dental records can be compared with postmortem findings Hair (Option A): Hair is usually singed or destroyed by heat. DNA may be absent if the hair root is destroyed . Blood (Option B): Blood proteins and DNA are destroyed by heat . Bone (Option D): Severe burning leads to calcination and fragmentation . DNA extraction from charred bone is difficult , though sometimes possible in modern forensic labs.

References:

The Essentials of Forensic Medicine and Toxicology, Dr. K.S Narayana Reddy; 33rd Edition, Page 58

↑ *Back to this question in Part A*

@Neet_pg_bot

Q2: Which of the following conditions can lead to early onset rigor mortis? Cholera Strychnine poisoning Tetanus Asphyxia Pneumonia (Q847301)

A. 1 and 4

B. 1, 2, and 3

C. 2, 3, and 5

D. All are correct

Correct Answer: B. 1, 2, and 3

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Cholera primarily causes rapid dehydration and electrolyte imbalance, which can lead to death but typically does not cause early rigor mortis. Strychnine is a potent neurotoxin that causes severe muscle spasms and convulsions. The increased muscular activity and sustained contraction can lead to early onset rigor mortis. Tetanus, caused by the bacterium Clostridium tetani, results in sustained muscle contractions (spasms). Similar to strychnine poisoning, these contractions can result in early rigor mortis. Factors Influencing Rigor Mortis Age: Rigor mortis is usually absent in fetuses younger than 7 months of intrauterine life (IUL) due to underdeveloped actin and myosin filaments. Muscle Bulk: Individuals with greater muscle mass may experience a delayed onset of rigor mortis due to larger energy reserves, while those with lower muscle bulk may show an earlier onset due to quicker ATP depletion. Asphyxia and Pneumonia does not consistently cause early onset rigor mortis.

References:

Essentials of forensic medicine & Toxicology, K.S. Narayan Reddy, 35th Edition, Page 118-120.

↑ *Back to this question in Part A*

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Q3: A dead body is being examined by the forensic surgeon and maggots are found. Which of the following life stage of maggots is correctly matched with their time? (Q847317)

A. Larvae formation: 3-4 days

B. Pupae formation: 3-6 days

C. Adult fly formation from pupae: 1-2 days

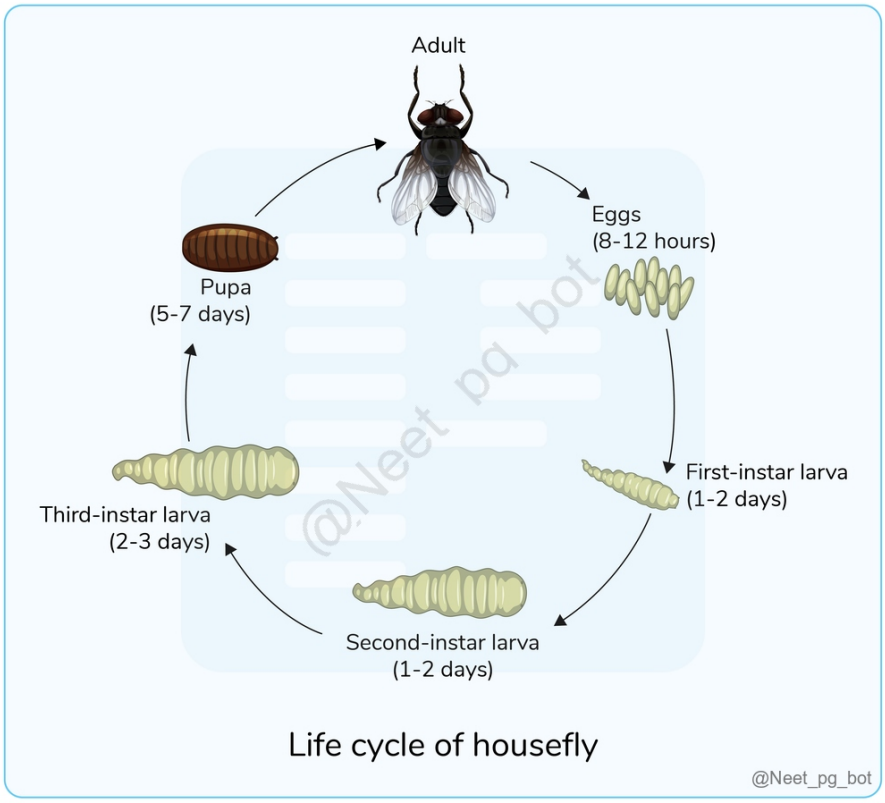
D. Entire cycle: 8-20 days summer

Correct Answer: B. Pupae formation: 3-6 days

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The larvae of maggots form reddish or brown pupae within 3 to 6 days. Forensic entomologists employ various methods to estimate the time of death, including: Species succession Larval weight and length Accumulated degree hour technique (requires specific data for accuracy) Egg Laying Behavior: Flies such as the common house fly (Musca domestica), green bottle fly (Lucilia sericata), and blue bottle fly (Calliphora vomitoria) lay eggs in moist areas of the body (e.g., around the nose, mouth, eyes, and armpits). Egg laying can occur as soon as 8–9 hours post-mortem . Maggots, the larvae of flies, aid in early decomposition. Iinsects involved include flesh flies (Sarcophagidae) and blowflies (Calliphoridae). Development Stages of Maggots: Eggs hatch and produce larvae in 8-24 hours in summer. (Option A) Larvae are pale white , 3–9 mm long, with a thinner mouth end and no legs. The larvae undergo changes: First instar to second instar in 1–2 days Second instar to third instar in another 1–2 days Pupae are reddish or brown and are formed in 3 to 6 days . Pupae become adult flies in 3 to 6 days. (Option C) The complete lifecycle may take 5 to 10 days in summer and 8 to 20 days in winter . (Option D) Medicolegal importance: Determining the time of death: done by identifying the species of maggot and the developmental stage present in the body.



References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 150, 151 Essentials of forensic medicine & Toxicology, K.S. Narayan Reddy, 35th Edition, Page 130

↑ *Back to this question in Part A*

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Q4: A 50-year-old female is found deceased in her home, and upon examination, it is noted that her stomach contains undigested food from a heavy meal. Based on the examination findings, what is the most likely time frame for the patient's death after her last meal? (Q847316)

A. 1 to 2 hours

B. 3 to 4 hours

C. 5 to 8 hours

D. 10 to 12 hours

Correct Answer: C. 5 to 8 hours

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Heavy meal typically takes 5 to 8 hours to empty from the stomach, so the presence of undigested food suggests the patient died within that time frame after eating. Gastric Emptying: The stomach usually starts emptying 10 minutes after eating. Light meal: Empties in 1 to 2 hours. (Option A) Medium-sized meal: 3 to 4 hours. (Option B) Heavy meal: 5 to 8 hours. (Option C) Order of stomach emptying is as follows: Carbohydrate > Protein > Fat Fluids and semi-fluids leave the stomach within 2 hours. Water ingested with solid meals empties rapidly and separately. Solid foods identifiable by the naked eye are usually ingested within 2 hours of death. 10 to 12 hours (Option D): This option is incorrect because it suggests a longer time frame than typical for heavy meal digestion, as undigested food in the stomach indicates a more recent time of death, usually within 5 to 8 hours. Nails and hair do not continue to grow after death. The perception that they grow is a common myth, explained by the dehydration and drying out of the skin around the nails and hair follicles, which causes the skin to retract and shrink, making them appear longer.

References:

Essentials of forensic medicine & Toxicology, K.S. Narayan Reddy, 35th Edition, Page 130,131

↑ *Back to this question in Part A*

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Q5: A 50-year-old male passed away due to a myocardial infarction. The family requested embalming for preservation of the body before the funeral. Which of the following statements about embalming is incorrect? (Q847315)

A. Produces permanent chemical rigidity that mimics rigor mortis.

B. Sodium citrate is used in embalming fluid as an anticoagulant.

C. Embalming makes it easier to interpret postmortem injuries.

D. Femoral artery is commonly used for injecting embalming fluid.

Correct Answer: C. Embalming makes it easier to interpret postmortem injuries.

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Embalming can complicate the interpretation of injuries and the detection of poisons, as it alters body conditions. Embalming Aka Thanatopraxia Embalming is treatment of the dead body with antiseptics and preservatives to prevent putrefaction and preserve the body. Effect Produces chemical stiffening similar to rigor mortis, and normal rigor does not develop. Embalming rigidity is permanent. (Option A) Best Time < 6 hours of death. Best injection technique Discontinuous injection and drainage. Best vessel for injection Femoral artery (Option D) Skin color in Embalming Jaundiced Bodies: Greenish discoloration Normal Individual: Gray color Disadvantages Difficult to interpret any injury or disease. (Option C) Determination of poisons becomes challenging. Blood grouping may not be possible. Thrombi and emboli may be dislocated/dislodged. Medicolegal Importance Embalming before autopsy in a medicolegal case invites liability under Section 201 IPC, causing the disappearance of evidence or giving false information to screen the offender. Disrespecting the corpse can lead to applicability of Section 297 IPC. Image Composition of a Typical Embalming fluid: Preservative Formalin Methanol Germicide Phenol Fungicide Thymol Buffer Sodium borate Anticoagulant Sodium citrate (Option B) Wetting agent Glycerin Controls pH Sodium chloride Cosmetic Eosin Perfume Soluble wintergreen Vehicle Water



References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 156 Essentials of forensic medicine & Toxicology, K.S. Narayan Reddy, 35th Edition, Page 128,129 https://www.researchgate.net/publication/261438780_Embalming_and_other_methods_of_dead_body_preservation

↑ *Back to this question in Part A*

Q6: Which of the following factors does not favour the process in the given image? (Q847314)

A. Hot environment

B. Free air movement

C. Contact of the body with water

D. Chronic antimony poisoning



Correct Answer: C. Contact of the body with water

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The given image is of the phenomenon of mummification which is supported by a hot environment with free air movement as these factors help in the drying of the body by loss of water content by evaporation but contact with water will hinder this process. Mummification Defiinition It is the rapid dehydration/desiccation and shriveling of the dead body from evaporation of water, with the preservation of natural appearances and features of the body. It is a modification of putrefaction. Features Begins in the exposed parts of the body like the face, hands, and feet. Then extends to the entire body and internal organs. The skin may be translucent, shrunken, brittle, leathery, dry, and rusty-brown color. Time for mummification 3-12 months or longer. Factors favoring mummification Hot environment. (Option A) Dry atmosphere. Free air movement. (Option B) Contact of the body with absorbing media. Poisoning: chronic arsenic or antimony poisoning favors the process. (Option D) Medicolegal importance Climate and time of death. Determine the time of death. Identification is easy.



References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 152

↑ *Back to this question in Part A*

@Neet_pg_bot

Q7: A forensic expert is examining a dead body that was found in a hot and moist place. There is adipocere formation all over the body including the internal organs. What does this finding signify? It gives a rough idea of the time since death It is formed due to postmortem hydrolysis and hydrogenation of saturated fats Organisms like aerobic bacteria help this process It is usually found in sites with fat deposits (Q847313)

A. 1, 2, and 4

B. 1, 2, and 3

C. 1 and 4

D. All are correct

Correct Answer: C. 1 and 4

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Adipocere (grave-wax) forms in hot, moist, anaerobic environments due to postmortem hydrolysis and hydrogenation of unsaturated fats , not saturated fats. Adipocere/Sponification This is a change of decomposition where there is a development of an offensive, sweet rancid-smelling, soft, whitish, or grayish-white, crumbly, waxy, and greasy material (similar to soap) that occurs in fatty tissues of a dead body. Time required for formation Hot and humid environment: by the end of 1 week. Temperate countries: starts after 3 weeks and ends by about 3 months. Mechanism of formation The formation of unsaturated fatty acids due to postmortem hydrolysis and hydrogenation of body fats leads to adipocere. Sites Usual sites: Face, buttocks, breasts, and abdomen Internal sites: Small muscles turn gray and are dehydrated and thin Large muscles are red/pink Fat is completely converted to adipocere Intestines and lungs are parchment-like The liver is prominent and retains its shape Factors influencing adipocere formation Temperature: Heat speeds up, and cold retards adipocere formation Moisture: Water helps with adipocere formation Organisms: Bacteria like Clostridium perfringes and other anaerobes assist in the reaction by producing lecithinase Built: Faster in mature newborns and obese people Age: Fetuses <7 months do not show adipocere Air current: Retards adipocere formation Running water: Retarded due to wash out of electrolytes Medicolegal importance It is the surest sign of death. Gives a rough estimate of the time of death. Features of the face stay preserved and help in identification. Cause of death may be found as injuries might be preserved. Some idea about the place of disposal can be made.



References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Pages 151, 152

↑ *Back to this question in Part A*

@Neet_pg_bot

Q8: According to Casper’s dictum, the rate of decomposition varies depending on the environment. Which of the following correctly represents this relationship? (Q847312)

A. Decomposition in deeply buried bodies is faster than in water.

B. Decomposition in water occurs at the same rate as in air.

C. Decomposition in air is faster than in soil.

D. Decomposition in air occurs eight times faster than in water.

Correct Answer: C. Decomposition in air is faster than in soil.

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: According to Casper’s dictum, the rate of decomposition in air is indeed faster than in soil due to better oxygen availability and temperature regulation. Casper’s dictum The rate of decomposition in the air is twice as rapid as in water and eight times as rapid in deeply buried bodies. (e.g., 1 week of decomposition in air = 2 weeks in water = 8 weeks in soil at similar temperatures) Air > Water > Earth Decomposition in water is slow due to: Lack of air Protection provided by clothing Rapid cooling of the body Poisons delaying putrefaction : These substances can either preserve tissues or inhibit microorganisms , leading to a slower rate of putrefaction. Carbolic acid Zinc chloride Strychnine Antimony Arsenic Nux vomica

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 150 Essentials of forensic medicine & Toxicology, K.S. Narayan Reddy, 35th Edition, Page 125, 96

↑ *Back to this question in Part A*

@Neet_pg_bot

Q9: A decomposing body is found in the woods. Upon examination, it is noted that the skull sutures have separated, and the skin on the hands and feet has sloughed off in a 'glove and stocking' manner. Liquefied brain matter is observed. What is the most likely time frame of death? (Q847311)

A. 12–24 hours

B. 24–48 hours

C. 3–5 days

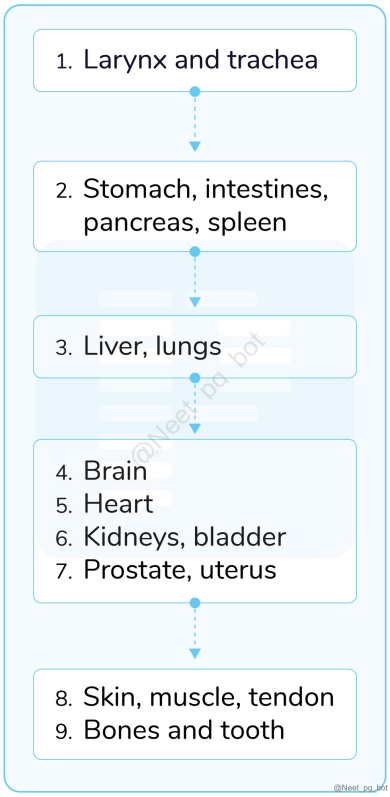
D. 5–10 days

Correct Answer: C. 3–5 days

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The findings described are indicative of advanced putrefaction , which helps estimate the postmortem interval (PMI) : Key Observations: Skull suture separation : This occurs due to intracranial gas formation and liquefaction of brain tissues, typically seen in late decomposition . Glove and stocking sloughing of skin : Epidermal layers slip off intact, a classic sign of putrefaction in the 3-5 day window . Liquefied brain matter : Brain tissue is one of the first internal organs to decompose. Liquefaction is prominent by day 3-5 day window. . Putrefactive changes: 12–24 h: Abdominal gas, postmortem purge, soft eyes, white cornea. 24–48 h: Emphysema of tissues, genital swelling, tongue protrusion, blisters, epidermal peeling. 48–72 h: Uterine/anus prolapse, postmortem delivery, displaced lividity, swollen, discolored face, loose hair/nails. 3–5 days: Loose teeth, skull suture separation , brain liquefaction, “glove and stocking” skin peel , maggot infestation. 5–10 days: Liquefaction of tissues, bursting abdomen, soft tissues become a thick black mass, cartilages soften. Putrefaction Sequence: Organs decompose at different rates based on their structure, vascularity, and exposure to air and bacteria. The general order of putrefaction is as follows:



References:

Gautam Biswas, Review of Forensic Medicine and Toxicology, 3rd Edition, Page 148

Narayan Reddy, The Essentials of Forensic Medicine & Toxicology, 35th Edition, Page 124,125.

↑ *Back to this question in Part A*

@Neet_pg_bot

Q10: During an autopsy performed on a body 20 hours after death, the pathologist notices small blisters filled with gas on the lower abdomen and thighs. What is the likely cause of these blisters? (Q847309)

A. Antemortem burn injury

B. Decomposition due to gas formation

C. Friction-induced blisters

D. Chemical exposure



Correct Answer: B. Decomposition due to gas formation

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Postmortem gas production occurs as a result of bacterial activity, leading to gas accumulation between the epidermis and dermis, which manifests as blisters. This process typically occurs within 18 to 24 hours after death. Gas production: H■S Phosphorated hydrogen Ammonia CO2, Mercaptans and methane. Ante-mortem blister vs Post-mortem blister Features Ante-mortem blister Post-mortem blister Cause Burns (Option A) Decomposition (Option B) Content Inflammatory fluid Gas Base Hyperemia Pale Vital reaction Present Absent Friction-induced blisters (Option C) arise from skin abrasion, not gas accumulation. Chemical exposure (Option D) may cause blisters, but they would contain inflammatory fluid and not gas.

References:

Essentials of forensic medicine & Toxicology, K.S. Narayan Reddy, 35th Edition, Page 122, 123
https://pgblazer.com/blister-antemortem-vs-postmortem/

↑ *Back to this question in Part A*

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Q11: A 35-year-old male is found deceased in an apartment, and the body is examined 48 hours post-mortem. A distinct branching pattern is observed along the superficial blood vessels after 24 hours, as shown below. What is the most likely cause of the skin pattern observed in the image? (Q847304)

A. Marbling

B. Adipocere

C. Filigree burns

D. Postmortem lividity

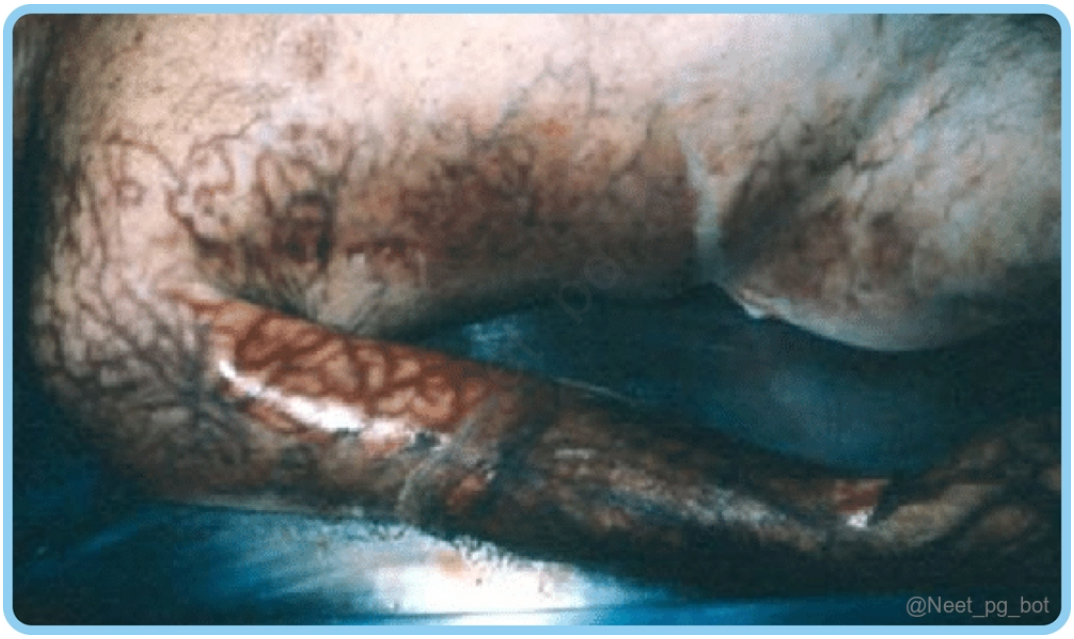


Correct Answer: A. Marbling

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The branching pattern along the blood vessels is typical of marbling , which occurs due to bacterial decomposition of hemoglobin into sulfmethemoglobin. This phenomenon usually appears 24 hours after death. Marbling Definition Refers to a characteristic pattern in the skin caused by decomposition. Mechanism After death, bacteria spread through blood vessels, decomposing hemoglobin into sulfmethemoglobin, which causes greenish or reddish-brown staining of the vessel walls. Pattern Marbled pattern follows a linear branching pattern, resembling tree branches, which initially appears red and later transitions to a greenish hue. Onset and Timing Begins to develop 24 hours after death. Becomes prominent by 36-48 hours. Color Changes Over Time Skin's reddish-green marbling may turn dark green or nearly black within 3 to 4 days. Areas of Marbling Shoulders, roots of the limbs, thighs, sides of the abdomen, chest, and neck. Medicolegal Importance Helps in determining the time since death Image Adipocere (Option B) usually forms several weeks after death and involves specific changes in fatty tissues. In contrast, marbling exhibits a distinct branching discoloration that occurs within 24 to 48 hours due to bacterial action on hemoglobin, making marbling the more relevant phenomenon in this scenario. Filigree burns (Option C) are characterized by superficial, irregular markings resulting from electrical discharge that develop within minutes to an hour. In contrast, marbling involves the bacterial decomposition of hemoglobin, creating a distinct branching pattern in the skin, which does not occur immediately and is not indicative of electrical injury. Postmortem lividity (Option D) typically appears as a uniform discoloration rather than a distinct branching pattern as seen in marbling, making it less relevant in this scenario.









References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 147 Essentials of forensic medicine & Toxicology, K.S. Narayan Reddy, 35th Edition, Page 114-126, 257

↑ *Back to this question in Part A*

@Neet_pg_bot

Q12: A body arrived at the forensic department for autopsy, presenting with distinct features, including a greenish discoloration of the abdomen, a strong odor, and gas formation within the tissues (as shown in the image provided below). What enzyme is primarily responsible for these characteristics? (Q847303)

A. Hyaluronidase

B. Collagenase

C. Lecithinase

D. Protease



Correct Answer: C. Lecithinase

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Lecithinase, primarily produced by the anaerobic bacterium Clostridium perfringens, breaks down lecithin, a phospholipid found in cell membranes. The activity of lecithinase disrupts cell membrane integrity, leading to cellular breakdown, gas formation, and the characteristic greenish discoloration of the skin due to the release of various gases and pigments during decomposition. These changes, along with the strong odor, are indicative of advanced decomposition, commonly associated with putrefaction processes. Decomposition Decomposition is the biological process by which organic substances break down into simpler matter, critical for recycling nutrients in ecosystems. It occurs through two main mechanisms: Autolysis and Putrefaction. Autolysis: Autolysis is the self-digestion of tissues caused by the body's own enzymes after death. Characteristics of Autolysis: Initiation: Begins immediately after death when metabolic processes cease. Mechanism: Enzymatic action leads to cell lysis, altering tissue appearance and texture. Putrefaction: Putrefaction is driven by bacterial activity, resulting in tissue breakdown and gas production. Characteristics of Putrefaction: Bacterial Involvement: Primarily caused by Clostridium perfringens. Lytic Enzyme: The main enzyme involved is lecithinase, which breaks down cell membranes.

References:

Essentials of forensic medicine & Toxicology, K.S. Narayan Reddy, 35th Edition, Page 120-124.
https://www.ncbi.nlm.nih.gov/books/NBK539741/

↑ *Back to this question in Part A*

@Neet_pg_bot

Q13: A body was discovered in a lake near a village, and it needs to be determined whether the individual was alive at the time of drowning or if the body was dumped postmortem. Which of the following postmortem signs would most likely help in distinguishing between the two situations? (Q847302)

A. Rigor mortis

B. Cold stiffening

C. Cadaveric spasm

D. Pugilistic attitude

Correct Answer: C. Cadaveric spasm

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Cadaveric spasm is an instantaneous stiffening of muscles occurring at the time of death, often in cases of violent death or extreme stress. If found in a body recovered from a lake, it suggests the person was alive and experiencing extreme stress (such as drowning) at the time of death, supporting the conclusion of antemortem drowning. Differential Diagnosis of Rigor Mortis: Feature Rigor Mortis Cadaveric Spasm Heat Stiffening (Option D) Cold Stiffening (Option B) Gas Stiffening (Putrefaction) Definition Postmortem stiffening of muscles due to ATP depletion Instantaneous stiffening of muscles at the moment of death Stiffening caused by exposure to high temperatures Temporary stiffening due to freezing of body tissues Stiffness due to gas formation during decomposition Time of onset Begins 1–2 hours after death Immediate at death Occurs when body exposed to high heat Occurs when body exposed to very low temperature Occurs during putrefaction Mechanism Biochemical change in muscles (actin-myosin complex formation) Persistent muscle contraction at death Coagulation of muscle proteins Solidification of fats and freezing of tissues Gas accumulation in tissues Distribution Follows Nysten's law (face → neck → trunk → limbs) Usually localized to certain muscle groups Generalized stiffness Generalized stiffness Generalized body swelling and stiffness Duration Lasts 24–48 hours , then disappears with decomposition Persists until rigor mortis appears Persists until tissues are destroyed or decomposed Disappears after thawing Persists until advanced decomposition Reversibility Once broken, does not reappear Cannot be broken easily Permanent due to protein coagulation Reversible after warming Disappears when gases escape Characteristic posture Natural posture at time of death May preserve last act of the person (e.g., weapon grasp) Pugilistic attitude (boxer-like posture) No specific posture Body appears bloated and tense Forensic importance Helps estimate time since death Indicates sudden violent death or intense emotion Suggests exposure to fire or high heat Indicates exposure to freezing environment Indicates advanced decomposition

References:

Essentials of forensic medicine & Toxicology, K.S. Narayan Reddy, 35th Edition, Page 119,120

↑ *Back to this question in Part A*

@Neet_pg_bot

Q14: According to the Bishop's tripod of life, which of the following is not a criterion for establishing death? (Q847288)

A. Irreversible cessation of circulation

B. Irreversible cessation of respiration

C. Total absence of reflexes

D. Irreversible cessation of brain activity

Correct Answer: C. Total absence of reflexes

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Total absence of reflexes is not a part of the Bishop's tripod of life. Thanatology (Greek thanatos: death) is the scientific study of death in all its aspects, including its cause and phenomena. It also includes bodily changes that accompany death (postmortem changes) and their medico-legal significance. S.46, I.P.C / 2(6) BNS : Death denotes the death of a human being unless the contrary appears from the context. Taphonomy is often used to refer to the study of postmortem processes that affect the preservation and recovery of human remains. This helps reconstruct the circumstances surrounding the death event. Bishop's tripod of life Irreversible stoppage of the: Circulation - Heart (Option A) Respiration - Lungs (Option B) Brain functions (Option D)

References:

Essentials of forensic medicine & Toxicology, K.S. Narayan Reddy, 35th Edition, Page 99
https://www.sciencedirect.com/topics/social-sciences/taphonomy
https://sudhirrao.com/section-2-bns-section-2-of-bharatiya-nyaya-sanhita-bns/

↑ *Back to this question in Part A*

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Q15: What is the correct order of presenting sequence in rigor mortis after death? (Q847300)

A. Fingers and toes → Upper limbs → Lower limbs →Abdomen

B. Upper limbs → Abdomen → Lower limbs → Fingers and toes

C. Lower limbs → Abdomen → Upper limbs →Fingers and toes

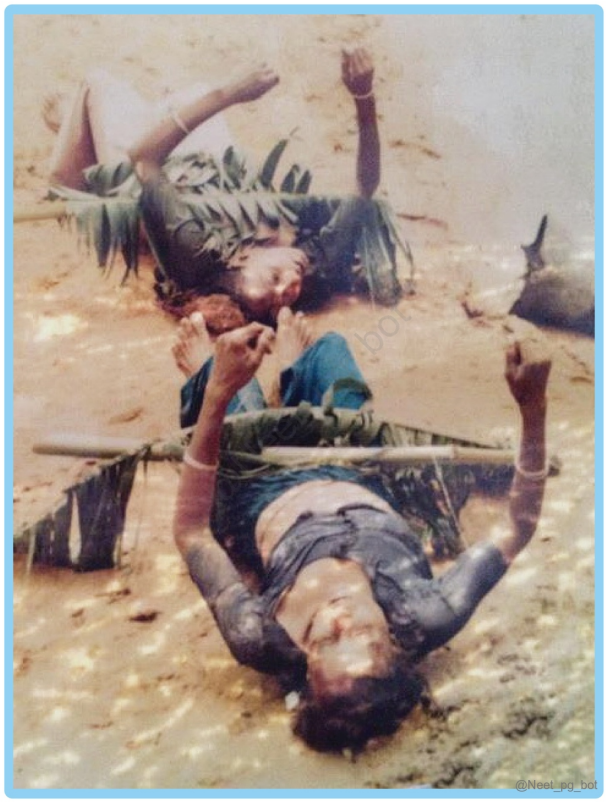
D. Fingers and toes → Upper limbs → Abdomen → Lower limbs

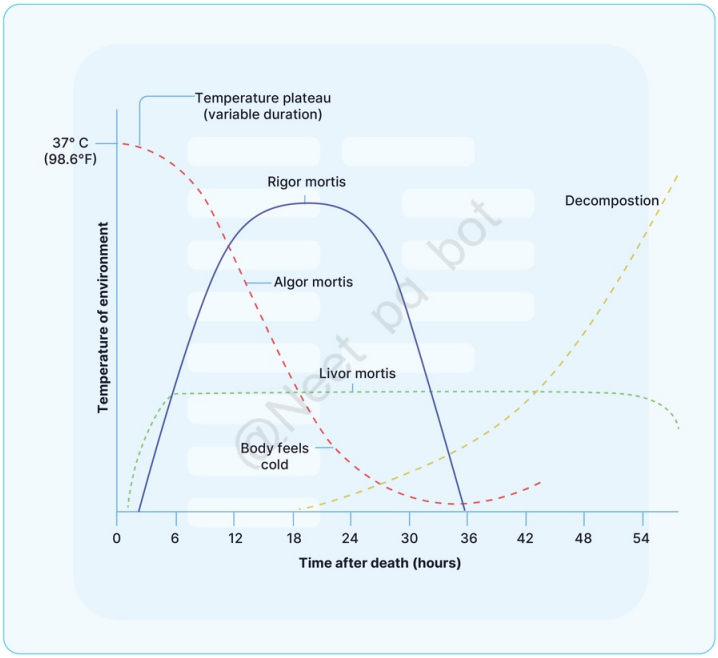
Correct Answer: B. Upper limbs → Abdomen → Lower limbs → Fingers and toes

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Nysten's Law states that rigor mortis occurs in a specific sequence, starting with larger muscle groups and progressing to smaller ones. The sequence in which external muscles are affected: Myocardium → Eyelid muscles → Neck → Lower jaw → Muscles of face → Muscles of chest → Upper limbs → Abdomen → Lower limbs → Fingers and toes Rigor mortis Rigor mortis (RM), or cadaveric rigidity, refers to the stiffening of muscles after death, resulting from biochemical changes within muscle cells due to ATP depletion. Progression of Rigor Mortis: Rules of Progression 1. Nysten's Rule Rigor mortis progresses in a specific sequence, starting from the myocardium to the eyelids, neck, upper limbs, abdomen, and lower limbs. Order of Appearance: Myocardium → Eyelid muscles→ Neck → Lower jaw→ Muscles of face → Muscles of chest→ Upper limbs → Abdomen→ Lower limbs→ Fingers and toes Order of Disappearance: Fingers and toes → Lower limbs → Abdomen → Upper limbs → Muscles of chest → Muscles of face → Lower jaw → Neck → Eyelid muscles → Myocardium 2. Shapiro's Rule Rigor mortis is a biochemical process that occurs simultaneously across all muscles, with visibility depending on muscle bulk. 3. Rule of 12 Onset occurs at 60 minutes, peaks at 12 hours, remains for another 12 hours, and resolves completely thereafter.





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References:

Essentials of forensic medicine & Toxicology, K.S. Narayan Reddy, 35th Edition, Page 117,118.

↑ *Back to this question in Part A*

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Q16: A 32-year-old male with a known history of chronic alcohol abuse was found unconscious at home. He was noted to have respiratory depression, pinpoint pupils, and altered mental status upon initial examination. Despite prompt resuscitation efforts, he succumbed to his condition. A postmortem examination revealed that the body had turned a dark black color. What is the most likely cause of death? (Q847299)

A. Hydrogen sulfide toxicity

B. Carbon monoxide poisoning

C. Methanol adulteration

D. Opioid overdose

Correct Answer: D. Opioid overdose

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Opioid overdose presents with classic symptoms, including respiratory depression, altered mental status, and pinpoint pupils. The dark black coloration observed in the body can be due to the hypoxic state and the subsequent effects on blood and tissue, potentially leading to black discoloration. Given the patient's history of chronic alcohol use, which may have contributed to opioid dependence or overdose. Post-mortem hypostasis is the gravitational settling of blood in the dependent parts of the body after death, producing discoloration of the skin. Colours observed in postmortem staining (livor mortis) under various conditions: Condition Color

References:

Essentials of forensic medicine & Toxicology, K.S. Narayan Reddy, 35th Edition, Pages 116,117

↑ *Back to this question in Part A*

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Q17: A body has been presented to the forensic department for autopsy, exhibiting typically visible post-mortem changes given below as an image, including blanching and a shift of pattern occurring upon handling and moving the body. Based on these observations, what is the approximate time of death? (Q847298)

A. Immediately after death

B. Within 4 hours

C. After 12 hours

D. After 24 hours



Correct Answer: B. Within 4 hours

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Post-mortem lividity generally begins to appear within 1-4 hours after death, as blood settles in dependent parts of the body, creating reddish-purple discoloration. The presence of blanching indicates that the blood remains fluid and has not yet clotted. Additionally, the ability to shift the lividity pattern upon handling suggests that it is not fixed, which typically occurs after 6 to 12 hours. Therefore, these observations indicate that the time of death is approximately within 4 hours. Appearance of Hypostasis Onset Begins approximately 30 minutes after death. Initially unfixed and can shift with body position changes. Visibility Becomes visibly apparent within 4 hours and reaches maximum intensity between 6-12 hours. Fixation Typically it becomes fixed by around 8 hours (between 6-12 hours). Staining won't move after fixation. Confirmation Test Apply pressure to the area: Blanching indicates blood is still within vessels, staining is not yet fixed. No blanching means staining is fixed, indicating breakdown of vessels and leakage into tissues. Immediately after death (Option A): Livor mortis typically starts 30 minutes to 2 hours after death, so it wouldn't be "immediately after death" if blanching and shifting are observed. After 12 hours (Option C): By 12 hours, livor mortis is usually fixed and would not blanch or shift significantly upon repositioning. After 24 hours (Option D): At 24 hours, livor mortis is fully fixed and non-blanching, and rigor mortis would also be fully established and potentially receding, with decomposition changes beginning.

References:

Essentials of forensic medicine & Toxicology, K.S. Narayan Reddy, 35th Edition, Pages 114-116

↑ *Back to this question in Part A*

Q18: A 35-year-old male is discovered deceased in his apartment. During examination, livor mortis is observed primarily on the front part of his body. What was the most likely position of the body at the time of death based on this distribution of livor mortis? (Q847297)

A. Prone

B. Supine

C. Head downwards

D. Vertical suspension

Correct Answer: A. Prone

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Lividity appearing on the front part of the body suggests the individual was lying face down, which corresponds to the prone position at the time of death. Livor Mortis Other Names Postmortem staining, subcutaneous hypostasis, cadaveric lividity, suggillations, cogitation, vibices, and darkening of death. Definition Bluish or purplish-red discoloration caused by the gravitational settling of blood in the toneless capillaries and venules of the dependent parts of the dead body. Site Superficial layers of the dermis Mechanism Blood in capillaries and venules → Stagnates and sinks in dependent parts due to gravity → Bluish purple discoloration due to deoxy hemoglobin. Begins 0.5 - 1 hour Fixation of Livor Mortis Typically, within 6-12 hours Confirmation of Fixation Apply thumb pressure against the skin for a few seconds → Blanching → Livor mortis not fixed. Distribution Depends on position of the body: Supine (Option B) Appears on the back of neck, entire back, flanks, except areas under pressure (contact pallor). Prone (Option A) Appears on the front part of the body. Side Appears on the dependent side. Head downwards (Option C) Appears as a blackened face and neck. Vertical suspension (Option D) Appears on legs and hands (glove and stocking appearance) and external genitalia. Drowning Appears on the face, upper chest, hands, lower arms, feet, and calves. Livor Mortis Absent Excessive blood loss Severe anemia Death from wasting diseases Lobar pneumonia Medicolegal Importance Helps estimate time of death. Indicates body posture at death. Indicates if the body was moved post-death. Distribution may indicate the cause of death.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 140, 141 Essentials of forensic medicine & Toxicology, K.S. Narayan Reddy, 35th Edition, Page 114, 115, 117

↑ *Back to this question in Part A*

Q19: A forensic pathologist is examining the body of a 50-year-old male found deceased under suspicious circumstances, with elevated core temperature within two hours after death. Which of the following conditions is not typically associated with this postmortem finding? (Q847296)

A. Burns

B. Tetanus

C. Septicemia

D. Pontine hemorrhage

Correct Answer: A. Burns

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Algor mortis refers to the gradual cooling of the body after death until it reaches the surrounding environmental temperature . Mechanism: After death Metabolism stops Heat production ceases Heat is gradually lost through radiation, conduction, convection, and evaporation Normal Rate of Cooling: Parameter Approximate value Average fall in body temperature ~0.5–1°C per hour (or ~1–1.5°F/hr) Time to reach ambient temperature 18–24 hours Normal body temperature at death ~37°C Elevated body temperature within the first two hours after death points toward a diagnosis of Postmortem caloricity. Postmortem Caloricity refers to the condition where body temperature rises or remains elevated after death instead of falling . Causes of Postmortem Caloricity: Disturbed heat regulation Increased heat production (excessive muscle contraction) Excessive bacterial activity Sunstroke Pontine hemorrhage (Option D) Tetanus (Option B) Strychnine poisoning Septicaemia (Option C) Cholera Burns (Option A) usually cause loss of body heat due to destruction of skin and fluid loss, so post-mortem caloricity is not seen in burns.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 139

Essentials of forensic medicine & Toxicology, K.S. Narayan Reddy, 35th Edition, Page 114

↑ *Back to this question in Part A*

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Q20: A forensic investigator examines a body in a room at 22°C. The normal body temperature is 37°C, and the rectal temperature is 31°C. The rate of temperature fall is approximately 0.6°C per hour. What is the estimated time since death? (Q847295)

A. 8 hours

B. 9 hours

C. 10 hours

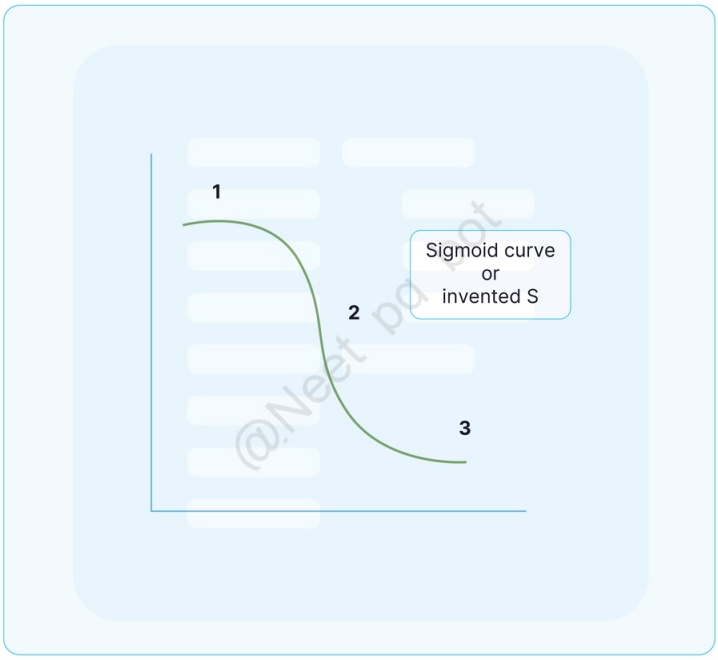
D. 12 hours

Correct Answer: C. 10 hours

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Formula for Estimation of Time Since Death (TSD): TSD (in hours) = Normal body temperature - Rectal temperature/ Rate of temperature fall per hour Rate of temperature fall per hour In this scenario: Estimated TSD = (37°C - 31°C) = 6 °C = 6/0.6 = 10 hours Phases in Reduction of Core Body Temperature (CBT): The cooling pattern of a body after death follows a sigmoid, biexponential, or inverted S-shape. 3 Phases of Fall of CBT: Isothermic Phase: No significant loss of heat or fall in core (rectal) temperature. Intermediate Phase: CBT starts to fall in a regular, linear, and constant pattern. Terminal Phase: Rate of cooling gradually declines as the body temperature approaches the environmental temperature.



References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 138 Essentials of forensic medicine & Toxicology, K.S. Narayan Reddy, 35th Edition, Page 113,114

↑ *Back to this question in Part A*

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Q21: A forensic investigator is examining a 45-year-old male found deceased in his apartment. To determine the time of death using algor mortis, which of the following sites is ideal for measuring core body temperature? (Q847294)

A. Nostrils

B. Rectum

C. oral

D. External auditory meatus

Correct Answer: B. Rectum

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Rectum is the ideal site for core temperature measurement in algor mortis, except in cases of sodomy. Algor mortis Refers to the cooling of the body after death, where the core body temperature equilibrates with the surrounding environment. First detectable sign of death, followed by rigor mortis. Onset About 30 minutes to 1 hour after death. Mechanism Death → Heat loss (conduction, convection, radiation, evaporation) → ↓Body core temperature Sites for Core Temperature Measurement Rectum (8-10 cm above the anus): Ideal site for measurement except in cases of sodomy. (Option B) External auditory meatus (Option D) Subhepatic region Nostrils (up to the cribriform plate) (Option A) Intracerebral (through the orbit) Instruments for Core Temperature Measurement Thanatometer/Chemical thermometer: 25 cm long thermometer with a range of 0 to 50°C. Electronic thermocouple with a digital readout Timing of Reading Body temperature readings and environmental temperature should be recorded at 1 to 2-hour intervals to obtain the rate of fall of temperature. Effect of Illness on Cooling In serious illness, circulation begins to fail before death, causing hands and feet to cool before the rest of the body. Medicolegal Importance Inner core temperature measurements are important for estimating the time since death and are more reliable than surface temperature measurements.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 138

Essentials of forensic medicine & Toxicology, K.S. Narayan Reddy, 35th Edition, Page 112,113

www.ncbi.nlm.nih.gov/books/NBK539741/

↑ *Back to this question in Part A*

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Q22: A 45-year-old male is found dead in his apartment with no signs of external trauma. Based on the provided image of the eye showing hazy corneas and sunken eyeballs, what is the most likely time since death? (Q847293)

A. Less than 2 hour

B. 3 - 4 hours

C. 6 - 7 hours

D. 10 - 12 hours



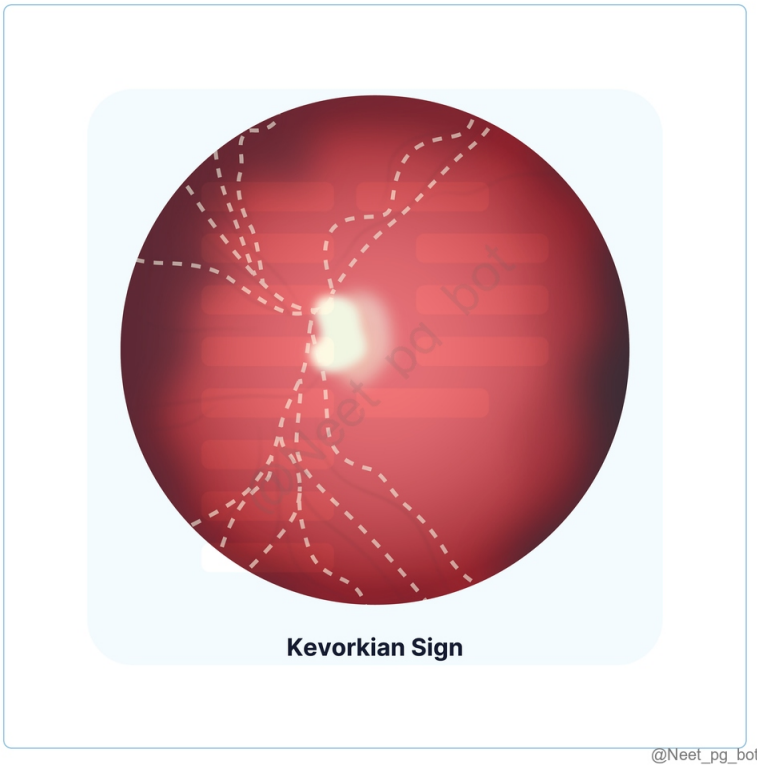
Correct Answer: B. 3 - 4 hours

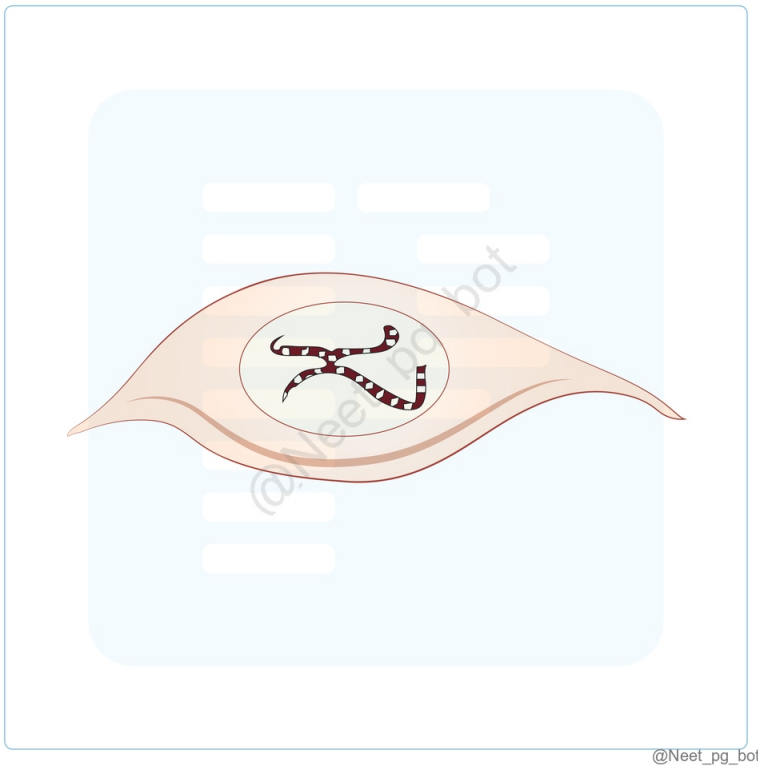
■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The image shows tache noire that forms after 3-4 hours, indicating that this case fits within that time frame. Corneal haziness usually develops within 2 hours, and sunken eyeballs develop within minutes. These findings support an estimated time of death around 3-4 hours ago. Postmortem Changes in Eye: Medicolegal Importance: Changes in the retina and vitreous humor are more significant for estimating the time since death. Part of Eye Features Time Since Death (TSD) Retina Kevorkian Sign: Fragmentation or segmentation of blood column in retinal vessels (cattle trucking or shunting) Occurs within minutes and lasts about an hour. Seen using an opthalmoscope. Few minutes Vitreous Humor Vitreous humor resists putrefaction, making it ideal for TSD estimation. Potassium and hypoxanthine rise postmortem from retinal autolysis; potassium levels (via Sturner & Gantner formula) accurately indicate TSD. - Sclera Tache Noire : Appears as two yellow triangles on the sclera

(base on limbus, apex at medial or lateral canthus), which darken to brown and then black. Caused by desiccation and deposition of cellular debris, mucus, and dust on exposed conjunctiva and the sclera underneath. Forms if eyelids remain open for 3-4 hours postmortem. 3 - 4 hours Cornea Corneal haze appears in 2 hrs (delayed if lids closed); clears with water, becomes permanent after 10–12 hrs. Within 2 hours Eyeball Eyes sink and soften as IOP falls from 10–22 mmHg to zero within 2 hrs. Within 2 hours (IOP becomes zero)







References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Pg: 137,138 Essentials of forensic medicine & Toxicology, K.S. Narayan Reddy, 35th Edition, Page 112

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10292726/ https://www.ncbi.nlm.nih.gov/books/NBK549867/#

↑ *Back to this question in Part A*

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Q23: The appearance of facial pallor after death is an example of which category of postmortem changes? (Q847292)

A. Immediate changes

B. Early changes

C. Late changes

D. Suspended animation

Correct Answer: B. Early changes

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The appearance of facial pallor after death is an example of Early postmortem change. The changes that occur after death, which assist in estimating the time of death and distinguishing between death and suspended animation, can be categorized as follows: Changes After Death Immediate Changes (Option A) Early Changes (Option B) Late Changes (Option C) Irreversible cessation of: Brain function Circulation Respiration Loss of elasticity of the skin Facial pallor Primary muscle relaxation Contact pallor and flattening Changes in the eyes Algor mortis Livor mortis Rigor mortis Putrefaction Adipocere formation Mummification

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 136.

↑ *Back to this question in Part A*

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Q24: A 45-year-old male is brought dead to the hospital. The doctor ties a ligature around the base of the fingers and notices no bluish discoloration or edema. Which test is the doctor using to check for the absence of circulation? (Q847291)

A. Icard’s test

B. Magnus test

C. Diaphanous test

D. Pressure test

Correct Answer: B. Magnus test

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The Magnus test (ligature test) involves applying a ligature at the base of the fingers. If no bluish discoloration or edema is seen, it indicates a lack of circulation. Tests to Detect Stoppage of Respiration Winslow's Test: A mirror or a surface of water placed on the chest shows no movement or reflection of light. Feather Test: A feather or fine cotton fibers held in front of the nostrils show no movement. Mirror Test: A mirror held near the mouth and nostrils shows no haziness, indicating no exhalation. Tests to Detect Stoppage of Circulation Magnus Test (Ligature Test): No bluish discoloration or edema appears on the fingers when a ligature is applied at their base. (Option B) Diaphanous Test (Transillumination Test): The web space between the fingers fails to show redness when transilluminated from behind. (Option C) Icard's Test: Injected fluorescein dye does not produce yellowish-green discoloration, unlike in a living person. (Option A) Pressure Test: Fingernails remain pale and do not turn reddish after applying and releasing firm pressure. (Option D)

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Pages 136, 137

↑ *Back to this question in Part A*

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Q25: A 45-year-old woman is declared dead after a cardiac arrest. 2 hours later, a forensic expert strikes the quadriceps with a reflex hammer and observes contraction. What does this indicate about the state of the patient’s tissues? (Q847290)

A. Molecular death has occurred

B. Muscle tissues have lost all responsiveness

C. Zsako’s phenomenon is present

D. Muscles are in rigor mortis

Correct Answer: C. Zsako’s phenomenon is present

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The observed muscle response in the quadriceps upon stimulation is characteristic of Zsako’s phenomenon , which occurs during the supravital period shortly after death. This phenomenon indicates that the

muscle fibers are still reactive and viable for a short time post-mortem. Supravital period The "supravital period" or "intermediary life" refers to the time during which certain tissues remain viable even after irreversible cardiac arrest. Organ harvesting for transplantation is done during this period. Tendon reaction (Zsako's phenomenon) It occurs after somatic death when molecular death has not occurred. Occurs during the supravital period . It is a stage of Primary relaxation . Striking the lower part of the quadriceps femoris, about 10 cm above the kneecap, with a reflex hammer, causes the patella to move upward due to full muscle contraction. Seen within 2–3 hrs after death . This response is caused by propagated excitation of muscle fibers, after death. Molecular death (Option A) indicates complete cessation of cellular functions, which is not the case here, as the muscle shows a response. Muscle tissues are completely non-responsive (Option B) , which implies that the muscles are entirely inactive, which contradicts the observed muscle response. If rigor mortis (Option D) were fully established, there would be no muscle response.

References:

Essentials of forensic medicine & Toxicology, K.S. Narayan Reddy, 35th Edition, Page 100

↑ *Back to this question in Part A*

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Q26: Suspended animation is most likely to occur after which type of poisoning? (Q847289)

A. Cyanide poisoning

B. Strychnine poisoning

C. Phosphorus poisoning

D. Barbiturate poisoning

Correct Answer: D. Barbiturate poisoning

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Barbiturates are CNS depressants that, in large doses, cause deep sedation and respiratory depression , potentially leading to suspended animation where vital signs like heart rate, respiration, and reflexes may become undetectable, mimicking death, but the condition is reversible with timely intervention. Suspended Animation (Apparent Death) Suspended animation refers to a condition where vital signs, such as heartbeat and respiration, are undetectable using standard clinical methods due to temporary interruption or reduction of these functions to minimal levels. Mechanism The metabolic rate significantly decreases, allowing cells to meet their oxygen needs through dissolved oxygen in body fluids. Types Voluntary: Occurs in individuals practicing yoga or in trance states Involuntary: Occurs in conditions like hypothermia, barbiturate (Option D) or opiate poisoning, newborns, drowning, electrocution, heatstroke, cholera, post-anesthesia, shock, cerebral concussion, or insanity Management Resuscitation can be achieved using cardiac massage, electrical stimulation, and artificial respiration. An ECG or EEG is required before issuing a death certificate to confirm death. Cyanide poisoning (Option A) causes rapid

tissue asphyxia and death due to cellular hypoxia, but it does not lead to suspended animation, as there is no temporary or reversible cessation of vital signs. Strychnine poisoning (Option B) leads to severe muscle convulsions and death from respiratory paralysis, without a state of suspended animation. Phosphorus poisoning (Option C) results in progressive organ failure, especially liver damage, but does not cause suspended animation.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 126, 137

↑ *Back to this question in Part A*

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• [02_Forensic Thanatology] 005 Previous Year Questions

« Back to Folder Directory

[02_Forensic Thanatology] 005 Previous Year Questions — Quick Jump

Q1 (p. 532)	*Q2 (p. 533)*	*Q3 (p. 534)*	*Q4 (p. 536)*	*Q5 (p. 537)*	*Q6 (p. 539)*
Q7 (p. 542)	*Q8 (p. 542)*	*Q9 (p. 543)*	*Q10 (p. 545)*	*Q11 (p. 546)*	*Q12 (p. 547)*
Q13 (p. 547)	*Q14 (p. 548)*	*Q15 (p. 549)*	*Q16 (p. 549)*	*Q17 (p. 550)*	*Q18 (p. 553)*
Q19 (p. 553)	*Q20 (p. 554)*	*Q21 (p. 555)*			

Q1: Post-mortem examination of a dead body reveals contraction of the hands with absent primary relaxation. What is this suggestive of? (Q857929)

A. Rigor Mortis

B. Livor Mortis

C. Cadaveric spasm

D. Algor Mortis

Correct Answer: C. Cadaveric spasm

Explanation: adaveric spasm (instantaneous rigor) is a rare postmortem phenomenon where the muscles stiffen immediately at the time of death without passing through the usual phase of primary muscular relaxation seen in typical rigor mortis. Key Features: Immediate onset: Occurs at the moment of death. Muscle groups affected: Usually involves small muscle groups, especially the hands and fingers. Violent deaths: Often associated with sudden, traumatic, or violent deaths. Emotional stress: Common in situations involving intense nervous tension before death, like drowning, suicides, or combat situations. Clenched fist: A classic sign , often seen when the deceased was holding an object firmly at death (e.g., weapon or grass in homicide). {{caption_text}} Rigor mortis (Option A): Involves a gradual stiffening of muscles, typically starting 2-6 hours after death, with a period of primary relaxation beforehand. Livor mortis (Option B): Postmortem lividity, where blood settles due to gravity, causing purple discoloration. Algor mortis (Option D): Is the cooling of the body after death.



References:

Cadaveric spasm

↑ *Back to this question in Part A*

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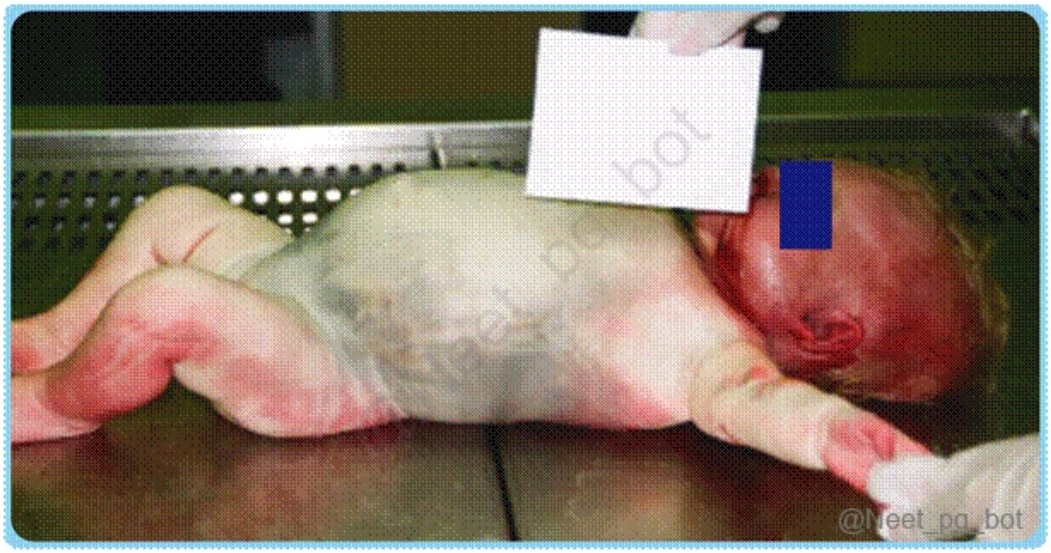
Q2: In a dead body, bloating of face, tongue protrusions were noted along with the findings in the image. Identify the phenomenon: (Q858474)

A. Electrocution

B. Crocodile burns

C. Scalds

D. Putrefaction



Correct Answer: D. Putrefaction

Explanation: Correct Option: D) Putrefaction Various signs and changes are observed during putrefaction, including bloating of the face and other body parts, as well as tongue protrusion. Putrefaction Putrefaction is driven by bacterial activity, resulting in tissue breakdown and gas production. Characteristics of Putrefaction: Bacterial Involvement: Primarily caused by Clostridium perfringens. Lytic Enzyme: The main enzyme involved is lecithinase, which breaks down cell membranes. Stages of Putrefaction: Color Change: The first internal change is reddish-brown discoloration of the aortic intima. The first external change is green discoloration in the right iliac fossa due to the breakdown of hemoglobin. Mechanism of Color Change: Hydrogen Sulfide Production: Bacteria produce hydrogen sulfide, which forms a green compound with hemoglobin. The cecum is the primary site of discoloration due to high bacterial activity. Gas Formation: Gas production leads to bloating, with gases like carbon dioxide, methane, and hydrogen sulfide. Liquefaction of Tissue: Tissues become liquefied, losing structural integrity, contributing to the characteristic odor of decomposition. Timing of Discoloration: Discoloration begins within 12-18 hours in summer and 1-2 days in winter, influenced by temperature and bacterial activity. Electrocution & Crocodile burns (Option A & B) refers to the injury or death caused by an electric shock. It does not specifically result in bloating of the face, tongue protrusion, or putrefaction. Electrocution-related findings would typically involve specific burn patterns or injury marks associated with the electrical source. Crocodile burns are seen in high voltage electric burns. Scalds (Option C) are burns caused by contact with hot liquids or steam. Changes, such as blisters and skin peeling are seen. Scalds are acute injuries and do not involve postmortem processes

References:

Essentials of forensic medicine & Toxicology, K.S. Narayan Reddy, 35th Edition, Page 120-124.

https://www.ncbi.nlm.nih.gov/books/NBK539741/

↑ *Back to this question in Part A*

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Q3: A child who is a victim under the POCSO Act is brought to the Department of forensic medicine for age estimation. The X-ray image of the hand is shown below. What is the likely age of the child? (Q854900)

A. 4 years

B. 7 years

C. 10 years

D. 13 years



Correct Answer: D. 13 years

Explanation: The hand X-ray shows advanced skeletal maturation with phalangeal and metacarpal epiphyses nearly or fully fused. All (or nearly all) carpal bones are visible, a feature attained by early adolescence. The distal radius/ulna physes are narrowing and show signs of impending fusion, consistent with ~12–14 years. The pattern of ossification and closure is far beyond what is expected in early childhood. Bone age estimation using the Greulich & Pyle atlas places this degree of maturity in the early teen years. Clinically and forensically, this radiographic appearance best matches about 13 years. Therefore the most likely age is 13 years. Incorrect Options: Option A) 4 years: At 4 years many carpal ossification centers are absent and epiphyses are wide and unfused - the X-ray shows far more mature bone than expected. Option B) 7 years: By 7 years only a few carpals are ossified and phalangeal epiphyses are still clearly separate - not the near-fusion seen here. Option C) 10 years: At 10 years there is still noticeable growth plate width and incomplete carpal development; this image demonstrates more advanced closure than typical for 10 years.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 72

↑ *Back to this question in Part A*

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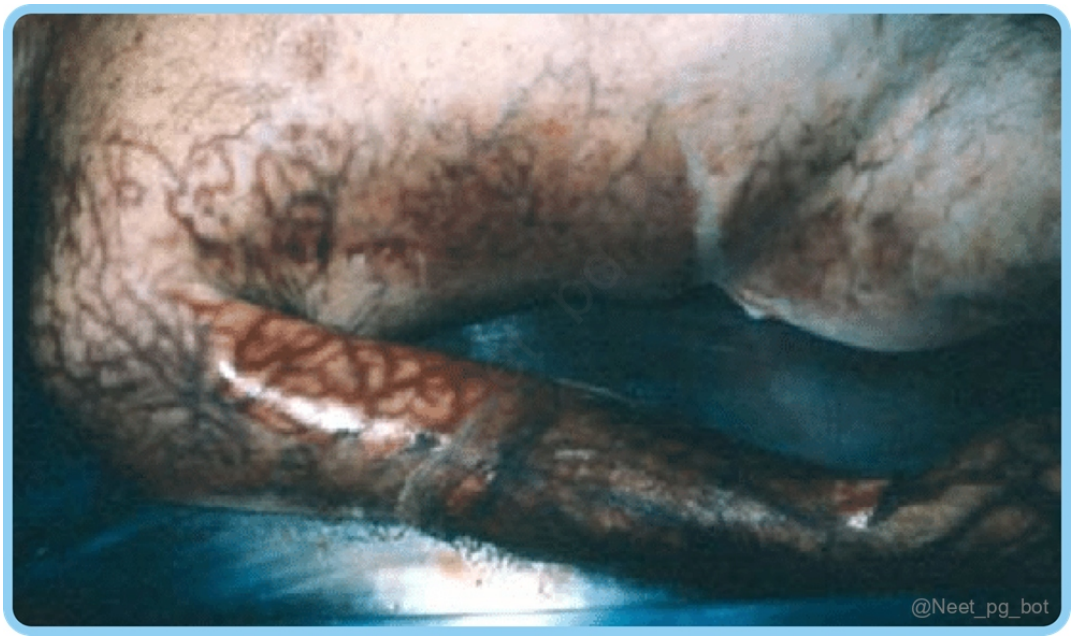
Q4: Which of the following is true regarding the post-mortem change shown in the image given below? (Q856306)

A. Seen within first 12 hours of death

B. It occurs due to the accumulation of deoxygenated blood

C. It results due to bacterial activity

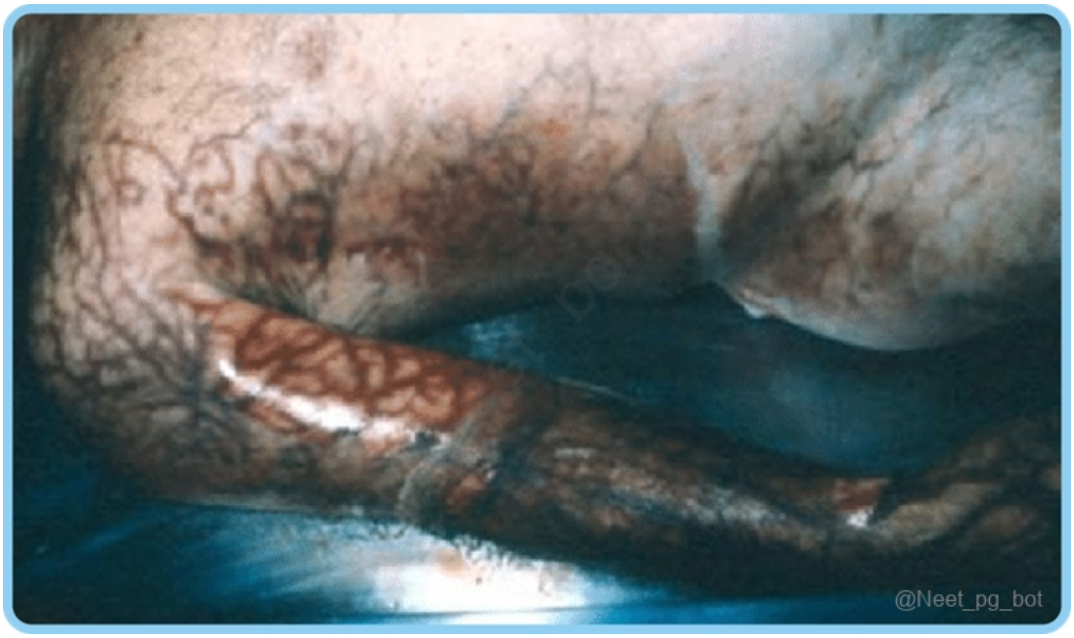
D. It is seen in case of lightning



Correct Answer: C. It results due to bacterial activity

Explanation: The branching pattern along the blood vessels is typical of marbling , which occurs due to bacterial (Clostridium welchii) decomposition of hemoglobin into sulfmethemoglobin. This phenomenon usually appears 24 hours after death. Marbling Definition Refers to a characteristic pattern in the skin caused by decomposition. Mechanism After death, bacteria (Option C) spread through blood vessels, decomposing hemoglobin into sulfmethemoglobin (Option B) , which causes greenish or reddish-brown staining of the vessel walls. Pattern Marbled pattern follows a linear branching pattern, resembling tree branches, which initially appears red and later transitions to a greenish hue. Onset and Timing Begins to develop 24 hours after death. Becomes prominent by

36-48 hours. Color Changes Over Time Skin’s reddish-green marbling may turn dark green or nearly black within 3 to 4 days. Areas of Marbling Shoulders, roots of the limbs, thighs, sides of the abdomen, chest, and neck. Medicolegal Importance Helps in determining the time since death Image {{caption_text}}



References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 147

Essentials of forensic medicine & Toxicology, K.S. Narayan Reddy, 35th Edition, Page 114-126, 257

↑ *Back to this question in Part A*

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Q5: The phenomenon shown below is typically seen in the case of ? (Q856282)

A. Case of torture phalanges

B. Case of suspension or hanging more than 72 hours

C. Case of immersion in water for 36 hours

D. Case of colliquative liquefaction due to immersion in hot water



Correct Answer: C. Case of immersion in water for 36 hours

Explanation: Correct Option C - Case of immersion in water for 36 hours Immersion in water for an extended period can lead to specific postmortem changes. These changes include maceration of the skin, separation of the epidermis, and swelling due to water absorption.Additionally, there may be a softening and detachment of the skin, known as a "washerwoman's hands" or "glove-like" appearance. Other features that can be observed include skin slippage, wrinkling, and a pale appearance. Condition Cause Symptoms Treatment Immersion Syndrome (Trench/Immersion Foot/Hand) {{caption_text}} Prolonged exposure to severe cold (<10ºC) and dampness (common in warfare, trenches, or sea immersion) Affects extremities (feet, hands) Cold, numbness, burning, cyanosis Air drying, protecting extremities from trauma and infection, gradual rewarming by air exposure at room temperature (avoid heat, massaging, or moistening the skin) Case of torture phalanges (Option A) Torture can cause various injuries and damage to the phalanges, such as fractures, dislocations, or soft tissue injuries. Torture-related injuries would have different characteristics and patterns than those resulting from water immersion. Case of suspension or hanging more than 72 hours (Option B) Prolonged suspension or hanging can lead to characteristic postmortem changes, such as livor mortis (postmortem lividity), rigor mortis (stiffening of the body), and changes in the neck due to ligature marks or fractures. Case of colliquative liquefaction due to immersion in hot water (Option D) refers to the process of tissue breakdown and liquefaction that occurs in certain conditions, such as prolonged immersion in warm or hot water.



References:

Goutam Biswas Review of Forensic Medicine and Toxicology, 3rd edition, pages 264-265

↑ *Back to this question in Part A*

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Q6: Identify the following post mortem change: (Q855316)

A. Tattooing

B. Suggillation

C. Putrefaction

D. Decomposition



Correct Answer: B. Suggillation

Explanation: Livor Mortis Other Names Postmortem staining, subcutaneous hypostasis, cadaveric lividity, suggillation , cogitation, vibices, and darkening of death. Definition Bluish or purplish-red discoloration caused by the gravitational settling of blood in the toneless capillaries and venules of the dependent parts of the dead body. Site Superficial layers of the dermis Mechanism Blood in capillaries and venules → Stagnates and sinks in dependent parts due to gravity → Bluish purple discoloration due to deoxy hemoglobin. Begins 0.5 - 1 hour Fully Developed Within 4 hours Fixation of Livor Mortis Typically, within 6-12 hours Confirmation of Fixation Apply thumb pressure against the skin for a few seconds → Blanching → Livor mortis not fixed. Primary Lividity Occurs as lividity reaches maximum intensity between 6 to 12 hours after death. Secondary Lividity Shifting of lividity can occur if the body is moved within a few hours after death. Duration of Persistence Staining persists until putrefaction begins. Distribution Depends on position of the body: Supine Appears on the back of neck, entire back, flanks, except areas under pressure (contact pallor). Prone Appears on the front part of the body. Side Appears on the dependent side. Head downwards Appears as a blackened face and neck. Vertical suspension Appears on legs and hands (glove and stocking appearance) and external genitalia. Drowning Appears on the face, upper chest, hands, lower arms, feet, and calves. Livor Mortis Absent Excessive blood loss Severe anemia Death from wasting diseases Lobar pneumonia Medicolegal Importance Helps estimate time of death. Indicates body posture at death. Indicates if the body was moved post-death. Distribution may indicate the cause of death. Image {{caption_text}} Tattooing (Option A) refers to the deposition of gunpowder particles on the skin when fired from a close distance. It creates small punctate marks around the entrance wound and is associated with firearm injuries , not a postmortem change. Putrefaction (Option C) refers to the decomposition of the body caused by bacterial activity, leading to the breakdown of tissues, gas formation, color changes, and a characteristic odor. This process occurs after death but is not the immediate postmortem change indicated in the question. Decomposition (Option D) occurs through autolysis (self-digestion by body enzymes) and putrefaction (bacterial breakdown, primarily by Clostridium perfringens). Putrefaction involves lecithinase breaking down cell membranes, gas formation, and color changes like green discoloration. Timing of decomposition varies with temperature, starting within 12-18 hours in summer. {{caption_text}}





References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 140, 141 Essentials of forensic medicine & Toxicology, K.S. Narayan Reddy, 35th Edition, Page 114, 115, 117

↑ *Back to this question in Part A*

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Q7: In an autopsy of suspected poisoning, which organ, along with the stomach, part of the intestine, and liver, is preserved? (Q857649)

A. Kidney

B. Lungs

C. Muscle

D. Heart

Correct Answer: A. Kidney

Explanation: ollect venous blood (preferably from femoral, iliac, or axillary veins) in a tube with lithium heparin or EDTA, or fluoride/oxalate if alcohol is suspected. Vomit and Stomach Contents : Place in a clean glass jar or plastic tub with a tight-fitting lid. Feces : For heavy metal poisoning, collect 20-30g of rectal contents in a screw-topped jar or snap-on-lid container. Liver and Other Organs : Liver concentrates many drugs. Half the liver and gallbladder should be placed in a clean container. Bile may also be required for certain drug analyses (e.g., chlorpromazine, morphine). Hair and Nail Clippings : For heavy metal poisoning (e.g., arsenic, lead), collect hair pulled at the roots and nail clippings. These metals are detectable in keratin. Exhaled Air : Collected as required, with no preservative needed. Scene Residues : Collect relevant materials from the scene, such as tablets or containers, with no preservative. Other Organs and Specimens: Urine, sweat, saliva, spleen, kidneys , brain Lungs (Option B) : Not typically preserved unless the poisoning involves inhaled toxins. Muscle (Option C) : Not usually preserved unless there's a specific reason, such as muscle breakdown from certain toxins. Heart (Option D) : Preserved only if there's suspicion of cardiac involvement in the poisoning, but not a primary focus in most cases.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 477, 478

↑ *Back to this question in Part A*

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Q8: What is the first postmortem change that occurs in a dead body? (Q857047)

A. Maggot formation

B. Putrefaction

C. Greenish discoloration of right iliac fossa

D. Mummification

Correct Answer: C. Greenish discoloration of right iliac fossa

Explanation: Greenish discoloration of the right iliac fossa is the first postmortem change that happens, typically within 24–48 hours after death . It results from the breakdown of red blood cells and the release of hemoglobin, which reacts with the tissue and gives a greenish hue. The right iliac fossa is where the large intestine is located, and the green discoloration indicates the onset of decomposition, particularly the production of hydrogen sulfide by bacteria in the intestines. Decomposition: Decomposition is the biological process by which organic substances break down into simpler matter, critical for recycling nutrients in ecosystems. It occurs through two main mechanisms: Autolysis and Putrefaction. Autolysis Putrefaction Autolysis is the self-digestion of tissues caused by the body's own enzymes after death. Characteristics of Autolysis: Initiation: Begins immediately after death when metabolic processes cease. Mechanism: Enzymatic action leads to cell lysis, altering tissue appearance and texture. Examples of Autolytic Changes: Clouding of the Cornea: The first observable external change, losing transparency due to cellular breakdown. Changes in Brain Glandular Tissue: The first internal change, where neuronal and glial cells undergo lysis. Note: Aseptic Autolysis: Occurs in intrauterine fetal demise, leading to mummification without bacterial involvement. Putrefaction is driven by bacterial activity, resulting in tissue breakdown and gas production. Characteristics of Putrefaction: Bacterial Involvement: Primarily caused by Clostridium perfringens. Lytic Enzyme: The main enzyme involved is lecithinase, which breaks down cell membranes. Stages of Putrefaction: Color Change: The first internal change is reddish-brown discoloration of the aortic intima. The first external change is green discoloration in the right iliac fossa due to the breakdown of hemoglobin. Mechanism of Color Change: Hydrogen Sulfide Production: Bacteria produce hydrogen sulfide, which forms a green compound with hemoglobin. The cecum is the primary site of discoloration due to high bacterial activity. Gas Formation: Gas production leads to bloating, with gases like carbon dioxide, methane, and hydrogen sulfide. Liquefaction of Tissue: Tissues become liquefied, losing structural integrity, contributing to the characteristic odor of decomposition. Timing of Discoloration: Discoloration begins within 12-18 hours in summer and 1-2 days in winter, influenced by temperature and bacterial activity. Incorrect Options: Maggot formation (Option A) occurs during the later stages of decomposition. Maggot infestation usually begins a few hours after death, but it's not the first change that happens in the body. This is a sign of decomposition, but it does not occur immediately after death. Putrefaction (Option B) is the process of decay caused by bacterial action, which begins a few hours after death. It leads to the breakdown of tissues and release of gases, causing bloating and a foul smell. While putrefaction is a significant postmortem change, it is not the first to occur. Mummification (Option D) occurs in specific environmental conditions, such as very dry climates, and involves the preservation of the body due to dehydration. It happens much later in the decomposition process and is not the first change after death.

References:

Essentials of forensic medicine & Toxicology, K.S. Narayan Reddy, 35th Edition, Page 120-124.

https://www.ncbi.nlm.nih.gov/books/NBK539741/

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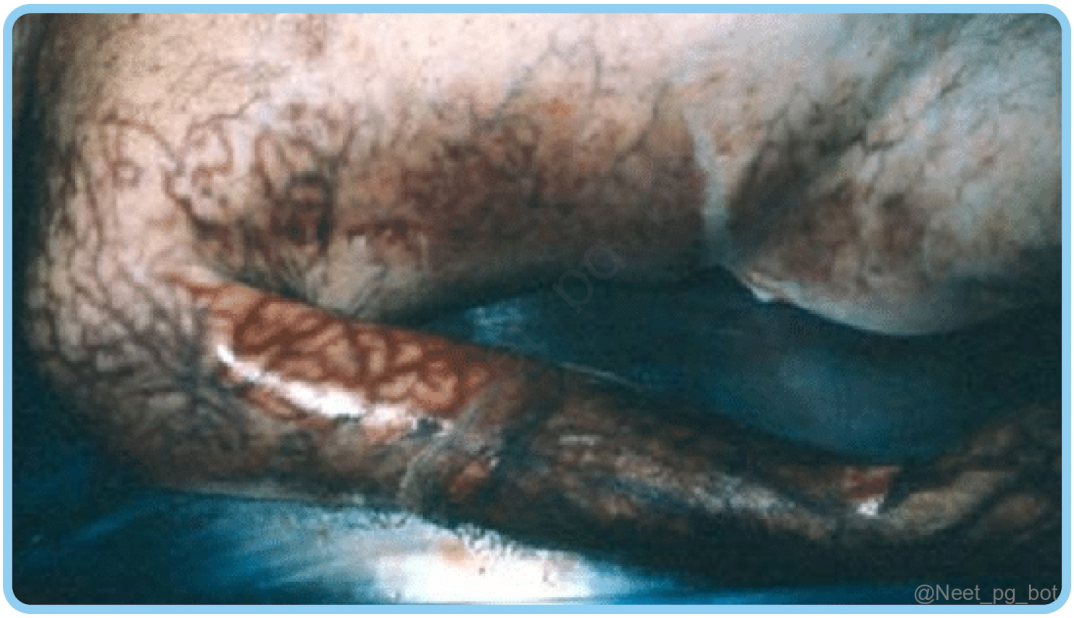
Q9: Identify the postmortem change given in the following image. (Q855787)

A. Marbling

B. Tattooing

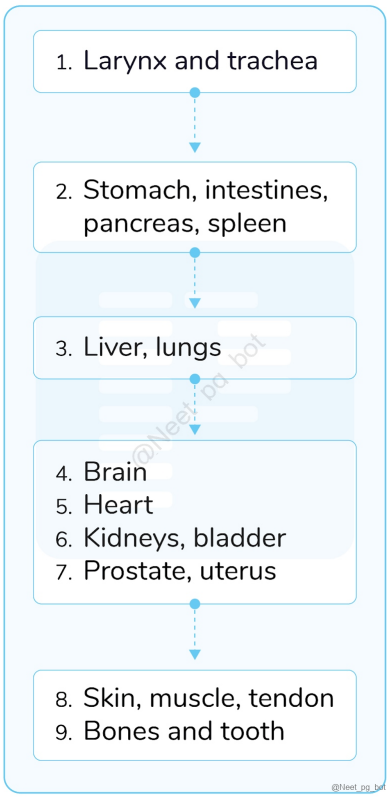
C. Lividity

D. Filigree burns



Correct Answer: A. Marbling

Explanation: Marbling is a postmortem change characterized by a branching, vein-like pattern on the skin due to the breakdown of hemoglobin and bacterial proliferation (e.g., Clostridium welchii) within blood vessels. The discoloration results from the conversion of hemoglobin to sulfhemoglobin, producing a greenish-black appearance. Starts at 24 hours, visible between 36-48 hours. Helps in determining time since death. Tattooing (Option B): Tattooing refers to the deposition of gunpowder particles on the skin during close-range firearm discharge. It appears as punctate abrasions and is unrelated to postmortem decomposition. Lividity (Option C): Lividity, or postmortem hypostasis, is the pooling of blood in dependent areas of the body after death. It results in a purplish-red discoloration, but it lacks the branching pattern seen in marbling. Filigree burns (Option D): Filigree burns occur when an electrical current flows through the skin, creating a pattern that resembles lace or a branching network. It is a premortem finding, not a decomposition change. Learning Objective: Putrefaction Stimulated by bacterial activity (primarily Clostridium welchii or Clostridium perfringens). Three stages of change: Color change . Gas formation (producing bloating and distention). Liquefaction of tissues (softening and breakdown of tissues). Color changes: Green discoloration in the right iliac fossa due to hydrogen sulfide produced by bacteria. Starts in 12-18 hours in summer and 1-2 days in winter. Putrefaction sequence: Non-gravid uterus is the last organ to decompose in females. Prostrate is the last organ to decompose in males. Factors inhibiting Putrefaction (Mnemonic CMS): Strychinine Metallic poison (Arsenic,Antimony,Thallium) CO , Cyanide & Carbolic acid. Post-mortem luminescence: Emission of light from the body due to bacterial or fungal activity (e.g., Photobacteria and Armillaria).



References:

Knight’s Forensic Pathology Pg no:65-74

↑ *Back to this question in Part A*

@Neet_pg_bot

Q10: Study of death in all aspects is known as: (Q858040)

A. Thanatology

B. Forensic anthropology

C. Toxicology

D. Molecular death

Correct Answer: A. Thanatology

Explanation: eath and Dying : Examining the biological, physiological, and medical aspects of death, as well as the experiences, emotions, and psychological processes associated with dying. Bereavement and Grief: Investigating the psychological, emotional, and social responses to the loss of a loved one, including theories of grief, coping mechanisms, and support for individuals experiencing bereavement. End-of-Life Care: Exploring the ethical, legal,

and practical considerations surrounding palliative care, hospice care, advance care planning, and the management of pain and symptoms in individuals nearing the end of life. Cultural and Religious Perspectives: Investigating how different cultures, religions, and belief systems understand and approach death, funeral rituals, mourning practices, and concepts of afterlife or spiritual continuity. Social and Legal Aspects: Examining the societal and legal frameworks surrounding death, including issues such as euthanasia, assisted suicide, funeral industry practices, organ donation, and legal rights and responsibilities related to death and dying. Forensic anthropology (Option B): Forensic anthropology involves the study of human remains. It involves applying the skeletal analysis, descriptive data, body marks, and photographs of the individual together to get to forensic inferences. Toxicology (Option C): Toxicology is the study of analysing suspect samples for the presence of toxins. It only deals with toxins that can be a cause of death- one aspect of death and not all of them. Molecular death (Option D): Molecular death is the death of cells and tissues individually. It occurs one to two hours after the stoppage of the vital functions.

References:

Thanatology

↑ *Back to this question in Part A*

@Neet_pg_bot

Q11: All of the following changes occur in chronic starvation except? (Q857941)

A. Hyperthermia

B. Exhaustion

C. Heart atrophy

D. Hypotension

Correct Answer: A. Hyperthermia

Explanation: hronic Starvation causes the development of the following changes: Loss of well-being, hunger, and hunger pains. Mental and physical lethargy and easy fatigue. Progressive loss of weight which is rapid in the first six months. Polyuria Increasing wasting, the body weight is reduced by about 40% of the normal. Pigmentation and anaemia Hypothermia and not Hyperthermia; peripheral vascular stasis in cold and hypotension Extreme lethargy, gross mental retardation and loss of self-respect Oedema, first in the feet and lower limbs Reduced resistance to infection causing diarrhoea, dysentery, tuberculosis, etc.

References:

Chronic starvation

↑ *Back to this question in Part A*

@Neet_pg_bot

Q12: What is the Zasko phenomenon? (Q866421)

A. Tendon reflex occurring after death

B. Seepage of blood from wounds around time of death

C. Clotting of blood after death

D. Gaping of wound along tension lines

Correct Answer: A. Tendon reflex occurring after death

Explanation: The Zasko phenomenon refers to the persistence of certain tendon reflexes for a short period after death. It occurs due to residual neuromuscular excitability before complete cessation of neuronal activity and before rigor mortis sets in. These reflexes can occasionally be elicited by tapping tendons soon after death and may be used in early postmortem examinations to help estimate the time since death. Incorrect Options: Option B - Seepage of blood from wounds is a perimortem finding but is not the Zasko phenomenon. Option C - Clotting of blood after death is a normal postmortem change, not related to reflexes. Option D - Gaping of wounds along tension lines is due to skin elasticity and is unrelated to postmortem reflex activity.

↑ *Back to this question in Part A*

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Q13: The temperature of the body of a deceased person is found to be 39°C. Which of the following is the most probable reason? (Q855268)

A. Cyanide poisoning

B. Septicemia

C. Corrosive poisoning

D. Intra-abdominal hemorrhage

Correct Answer: B. Septicemia

Explanation: Septicemia, which is a systemic infection with widespread inflammation, is a common cause of fever in both living and deceased individuals. It can cause hyperthermia due to the body's inflammatory response. Elevated body temperature within the first two hours after death points toward a diagnosis of Postmortem caloricity. Postmortem Caloricity: Refers to the condition where the body temperature remains elevated for the first two hours after death. Causes of Postmortem Caloricity: 1. Disturbed heat regulation 2. Increased heat production (excessive muscle contraction) 3. Excessive bacterial activity Sunstroke Pontine hemorrhage Tetanus Strychnine poisoning Septicaemia Cholera Note: Burns do not typically cause postmortem caloricity. Incorrect

Options: Cyanide poisoning (Option A): Cyanide poisoning typically causes rapid death and may lead to hypothermia rather than fever. Cyanide inhibits cellular respiration, leading to metabolic acidosis, but does not usually result in a fever like septicemia. Corrosive poisoning (Option C): Corrosive poisoning (e.g., acid or alkali ingestion) can cause significant damage to tissues, but it does not typically result in a high body temperature like 39°C. It might lead to shock and other complications, but fever is not the hallmark sign. Intra-abdominal hemorrhage (Option D): Intra-abdominal hemorrhage typically results in hypovolemic shock due to blood loss, leading to low body temperature (hypothermia) rather than fever.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 139

Essentials of forensic medicine & Toxicology, K.S. Narayan Reddy, 35th Edition, Page 114

↑ *Back to this question in Part A*

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Q14: A 42-year-old HIV-positive patient died, and his body was brought for post-mortem. The method of autopsy to be done is: (Q855245)

A. Ghon technique

B. Letulle technique

C. Virchow technique

D. Rokitansky technique

Correct Answer: D. Rokitansky technique

Explanation: Methods of Autopsy 1. Virchow's Method (M/C) One-by-one organ removal. (Option C ruled out) Fast and easy. Typically used for general autopsies. 2. Ghon's/en-Block Method Targeted organ removal (Cervical, Thoracic, Abdominal, Pelvic blocks). (Option A ruled out) Organ relations remain intact. Thoracic block for chest-related issues, pelvic block for sexual assaults. Useful when preserving inter-organ relationships . 3. Lettule's/en-Masses/Evisceration (Option B ruled out) Large masses of organs removed together (C+T+A+P). Complete viscera removal. Blood vessels and vascular supply intact. Suitable for minor bleeding cases. 4. Rokitansky/In-situ Method (Option D) Inside dissection. Used in infectious diseases (HIV, Hepatitis, COVID-19) . Highly transmissible diseases. Also used for infants <1 year to minimize contamination risk.

References:

https://documents-cloud.cap.org/estore/pdf/PUB119_IntroAutopsy_Sample.pdf

↑ *Back to this question in Part A*

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Q15: The method of autopsy carried out en masse to remove from the tongue to the prostate is: (Q855243)

A. Virchow technique

B. Rokitansky technique

C. Ghon technique

D. Letulle technique

Correct Answer: D. Letulle technique

Explanation: Letulle technique is named after Maurice Letulle which involves the removal of organs together in one mass from tongue to prostate Methods of Autopsy 1. Virchow's Method (M/C) One-by-one organ removal. (Option A ruled out) Fast and easy. Typically used for general autopsies. 2. Ghon's/en-Block Method Targeted organ removal (Cervical, Thoracic, Abdominal, Pelvic blocks). (Option C ruled out) Organ relations remain intact. Thoracic block for chest-related issues, pelvic block for sexual assaults. Useful when preserving inter-organ relationships . 3. Lettule's/en-Masses/Evisceration (Option D) Large masses of organs removed together (C+T+A+P). Complete viscera removal. Blood vessels and vascular supply intact. Suitable for minor bleeding cases. 4. Rokitansky/In-situ Method (Option B ruled out) Inside dissection. Used in infectious diseases (HIV, Hepatitis, COVID-19) . Highly transmissible diseases. Also used for infants <1 year to minimize contamination risk.

References:

https://documents-cloud.cap.org/estore/pdf/PUB119_IntroAutopsy_Sample.pdf

↑ *Back to this question in Part A*

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Q16: Cadaveric spasm is seen in death due to all of the following except? (Q854646)

A. Suicidal gun-shot wound

B. Electrocution

C. Drowning

D. Traumatic asphyxia

Correct Answer: A. Suicidal gun-shot wound

Explanation: In instantaneously fatal suicidal gunshots (especially head shots), there is no active muscular struggle at the moment of death . The gun remaining in hand is due to: Pugilistic attitude in burns, or Position of the weapon due to recoil , not cadaveric spasm. Cadaveric spasm occurs in: Drowning Electrocution Traumatic asphyxia Homicidal struggles Suicides by hanging Deaths involving strong emotion + muscular activity

References:

Knight’s Forensic Pathology Pg no: 62-65

↑ *Back to this question in Part A*

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Q17: Which of the following eye signs can be appreciated in the image? (Q860449)

A. Tache noire

B. Kevorkian sign

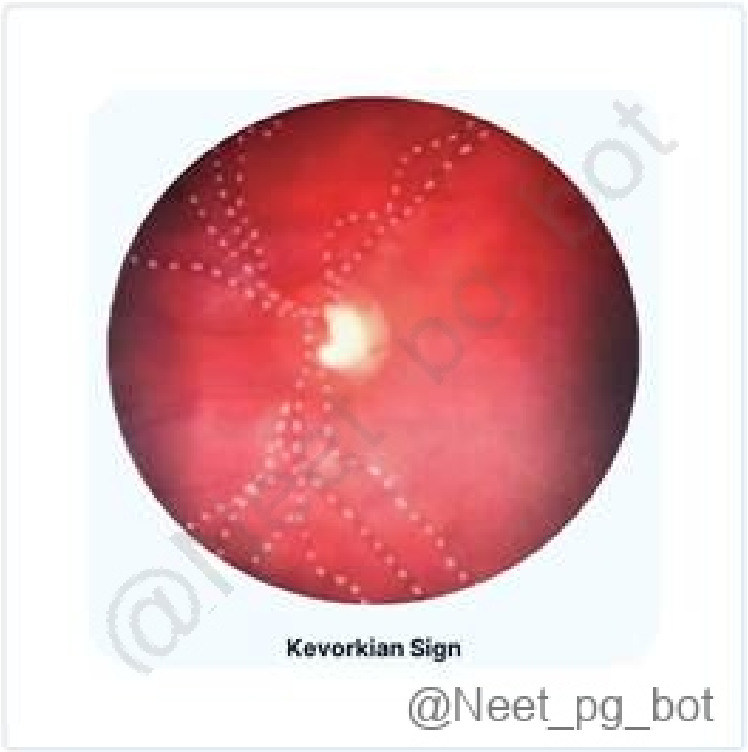
C. Corneal changes

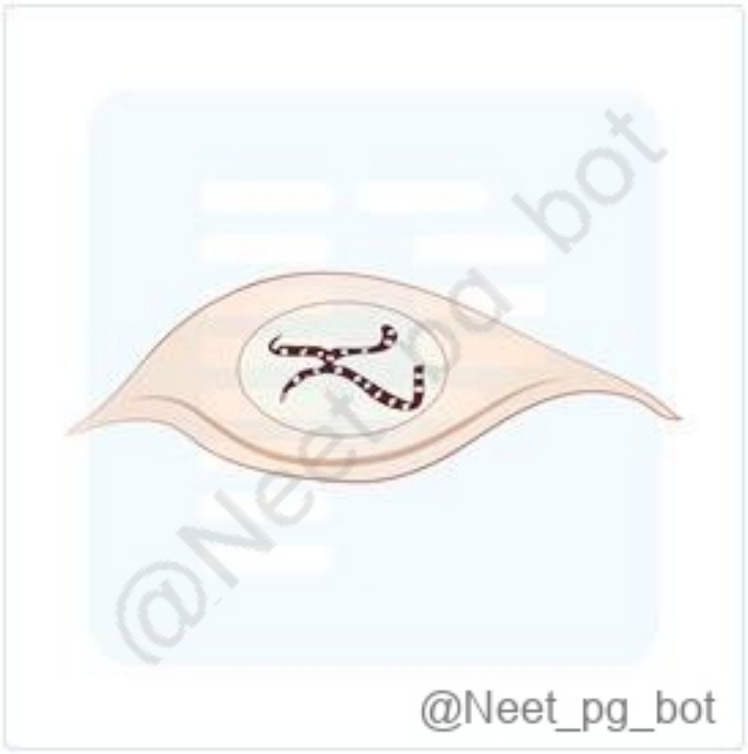
D. Vitreous humour changes



Correct Answer: A. Tache noire

Explanation: Tache noire sclérotique is seen in the given image. It appears as a triangular area of cell debris and mucus, with color changes from yellow to brown or black after 3 to 6 hours of death. Postmortem Changes in Eye: Medicolegal Importance: Changes in the retina and vitreous humor are more significant for estimating the time since death. Part of Eye Features Time Since Death (TSD) Retina (Option B) Kevorkian Sign: Fragmentation or segmentation of blood column in retinal vessels (cattle trucking or shunting) Occurs within minutes and lasts about an hour. Seen using an opthalmoscope. Few minutes Vitreous Humor (Option D) Vitreous humor's accessibility and resistance to putrefaction make it ideal for forensic analysis. Potassium along with hypoxanthine increases due to autolysis of choroid and retinal cells. Potassium levels provide accurate TSD estimates , unaffected by external factors. The Sturner and Gantner formula is used to estimate TSD from potassium levels. - Sclera (Option A) Tache Noire: Appears as two yellow triangles on the sclera (base on limbus, apex at medial or lateral canthus), which darken to brown and then black. Caused by desiccation and deposition of cellular debris, mucus, and dust on exposed conjunctiva and the sclera underneath. Forms if eyelids remain open for 3-4 hours postmortem. 3 - 4 hours {{caption_text}} Cornea (Option C) Cornea becomes hazy within 2 hours of death due to drying and dust deposition. Delayed for about 2 hours if lids are closed after death. Transient haziness can be removed by applying water, but permanent opacity occurs after 10-12 hours due to decomposition. Within 2 hours Eyeball Eyes appear sunken and become softer within minutes due to reduced intraocular tension. Intraocular pressure drops from 10-22 mmHg during life to zero within 2 hours. Within 2 hours (IOP becomes zero)







References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Pg: 137,138

Essentials of forensic medicine & Toxicology, K.S. Narayan Reddy, 35th Edition, Page 112

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10292726/

https://www.ncbi.nlm.nih.gov/books/NBK549867/#

↑ *Back to this question in Part A*

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Q18: Which of the following is true regarding adipocere formation? (Q844168)

A. Preservation by saponification

B. High temperature needed

C. Cool and dry climate needed

D. Occurs within minutes to hours

Correct Answer: A. Preservation by saponification

Explanation: Correct Option A - Preservation by saponification: Adipocere formation, also known as "grave wax," is a process where body fat turns into a waxy substance due to saponification. This process involves the hydrolysis of fats in the body by bacteria, leading to the formation of a soapy, wax-like substance that helps in the preservation of the body. Incorrect Options: Option B - High temperature needed: Adipocere formation generally occurs in a cool, moist environment. High temperatures are not conducive to this process; rather, the process is enhanced in cooler conditions which slow down decomposition and support the saponification process. Option C - Cool and dry climate needed: While a cool climate can favor adipocere formation, a dry climate is not ideal. Adipocere formation requires moisture to facilitate the saponification process. Therefore, a cool and moist environment is more conducive to adipocere formation. Option D - Occurs within minutes to hours: Adipocere formation is a relatively slow process that can take several weeks to months to develop fully, not minutes to hours.

References:

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↑ *Back to this question in Part A*

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Q19: In medicolegal examination accused 18 year old male claims he is 16 year old. Which joint x-ray should be done? (Q844147)

A. Head & shoulder

B. Elbow and ankle

C. Knee and wrist

D. Elbow & hip

Correct Answer: C. Knee and wrist

Explanation: Correct Option C - Knee and wrist: Knee and wrist X-rays are commonly used to assess skeletal maturity and bone age in medico-legal examinations. These joints are particularly useful for evaluating the maturity of the bones and growth plates, which helps in estimating the chronological age of an individual. The epiphyseal ossification patterns in the knee and wrist are well-documented and reliable indicators of skeletal age. Incorrect Options: Option A - Head & shoulder: X-rays of the head and shoulder are less useful for determining bone age because the skeletal maturity indicators are less distinct in these regions compared to the knee and wrist. Option B - Elbow and ankle: While the elbow and ankle can provide some information on bone age, they are not as commonly used or as reliable as the knee and wrist for this purpose. The elbow and ankle are not as definitive in assessing the maturity of growth plates. Option D - Elbow & hip: The elbow and hip can be used to assess bone age, but they are not as commonly employed as the knee and wrist. The hip is less frequently used for this purpose because of variability in ossification patterns.

↑ *Back to this question in Part A*

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Q20: The dead body shows the following finding as in image . What is this case? (Q844142)

A. Hanging

B. Throttling

C. Choking

D. Smothering



Correct Answer: D. Smothering

Explanation: Correct Option D - Smothering: Smothering is characterized by the presence of bruises around the perioral region and nail abrasions around the lips and nose. Petechial hemorrhages are also commonly observed in smothering cases. This form of asphyxia occurs when an object or material covers the nose and mouth, obstructing the airways and preventing breathing. Incorrect Options: Option A - Hanging: In hanging cases, there is typically a ligature mark around the neck, and the pattern of petechiae is usually more prominent in the eyes and face rather than the perioral region. There are often no specific bruises around the lips or nail abrasions. Option B - Throttling: Throttling involves a deep bruise or contusion around the neck, commonly seen as a result of manual compression. This would not typically present with bruises specifically around the perioral region or nail abrasions. Option C - Choking: Choking usually does not result in significant external trauma or bruising around the perioral area. Instead, it is characterized by signs of airway obstruction without specific bruises around the lips or petechial hemorrhages.

↑ *Back to this question in Part A*

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Q21: A body brought for autopsy is cold and has developed rigor mortis in all 4 limbs and livor mortis at the back/fixed, but no signs of putrefaction. What will be the estimated time since death? (Q852471)

A. 12-24 hrs

B. 6-12 hrs

C. 24-48 hrs

D. 36-48 hrs

Correct Answer: A. 12-24 hrs

Explanation: Rigor mortis develops within 2–6 hours, is complete in 12 hours, and persists for ~24–36 hours. Livor mortis appears 1–2 hours after death and becomes fixed in 8–12 hours. The presence of full rigor in all limbs and fixed lividity indicates the body is beyond the early postmortem period. No signs of putrefaction suggest it is still within the first 24 hours, as decomposition begins later. Combining these signs, the estimated time since death is 12–24 hours. Incorrect Options: Option B) 6–12 hours – Rigor may be developing but not yet complete in all limbs; livor mortis may not be fixed. Option C) 24–48 hours – Putrefaction usually begins after ~24 hours; absence of decomposition rules this out. Option D) 36–48 hours – Putrefactive changes would likely be present by this time.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 140, 141 Essentials of forensic medicine & Toxicology, K.S. Narayan Reddy, 35th Edition, Page 114, 115, 117

↑ *Back to this question in Part A*

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• [03_Post Mortem Techniques] 006 Postmortem Autopsy And Torture

« Back to Folder Directory

[03_Post Mortem Techniques] 006 Postmortem Autopsy And Torture — Quick Jump

Q1 (p. 557)	*Q2 (p. 560)*	*Q3 (p. 561)*	*Q4 (p. 561)*	*Q5 (p. 562)*	*Q6 (p. 563)*
Q7 (p. 563)	*Q8 (p. 564)*	*Q9 (p. 565)*	*Q10 (p. 565)*	*Q11 (p. 566)*	*Q12 (p. 570)*
Q13 (p. 573)	*Q14 (p. 573)*	*Q15 (p. 577)*	*Q16 (p. 580)*	*Q17 (p. 581)*	*Q18 (p. 582)*
Q19 (p. 582)	*Q20 (p. 583)*	*Q21 (p. 585)*	*Q22 (p. 586)*	*Q23 (p. 587)*	*Q24 (p. 588)*

Q1: What is the type of torture mentioned in the image given below? (Q846938)

A. Telefono

B. Falanga

C. Passing the board

D. Nail torture



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Correct Answer: A. Telefono

■ *Listen (English)*

■ *Listen (Hindi)*

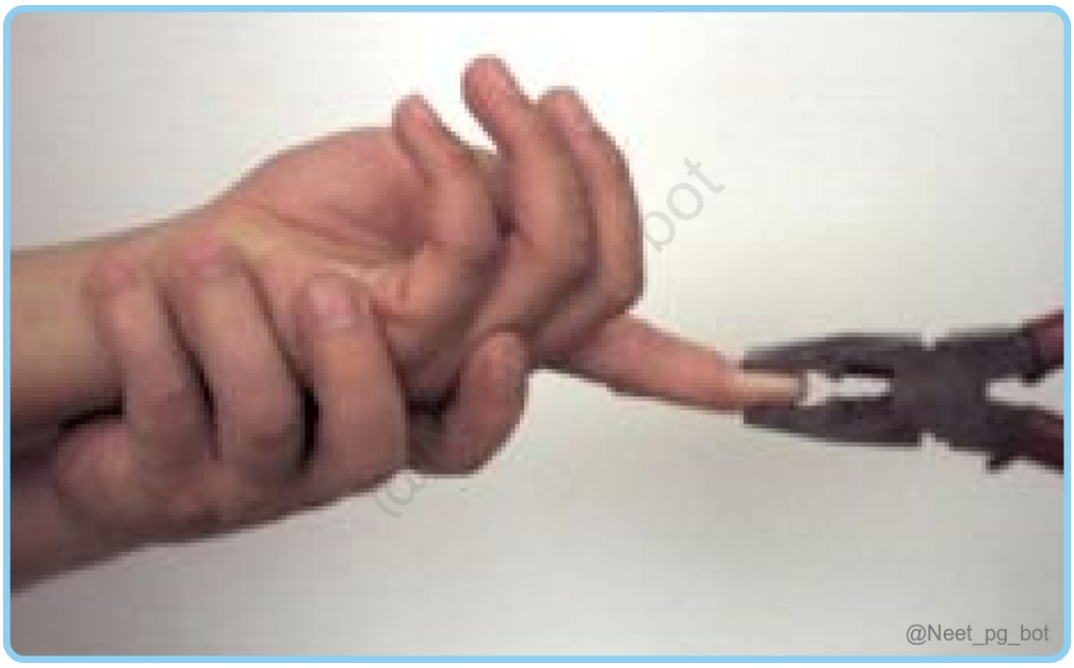
Explanation: The given image depicts Telefono Physical torture subtypes: Types of torture Description Telefono/Ear torture (Option A) Repeated and simultaneous slapping of both the ears by open hands of the torturer. Ruptured tympanic membrane. Falanga or Bastinado (Option B) Most common form of torture. Victim is suspended upside down and then beaten on the soles by blunt instruments such as sticks, clubs or rifle butts. Haematoma of the soles. Passing the board or Beating buttocks (Option C) Victim is forced to the ground and beaten viciously with the board club or baton on the buttock. Nail torture (Option D) Victims' nails (either fingernails or toenails) are subjected to various forms of abuse, such as being pulled out, crushed, or having sharp objects driven under them.







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References:

Goutam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Pages 446-448.

↑ *Back to this question in Part A*

@Neet_pg_bot

Q2: Which of the following enzymes is of diagnostic value to confirm an anaphylactic death? (Q885937)

A. Amylase

B. Chymase

C. Tryptase

D. Lactase

Correct Answer: C. Tryptase

Explanation: Mast cell degranulation is the key pathological event in anaphylaxis. Tryptase is a mast cell-specific enzyme released during degranulation and remains stable post-mortem . Elevated serum tryptase levels at autopsy are considered the most reliable biochemical marker of anaphylaxis. Amylase (Option A): Amylase is a digestive enzyme and has no role in anaphylaxis diagnosis. Chymase (Option B): Chymase is also released from mast cells, but tryptase is more specific, stable, and routinely used in forensic practice. Lactase (Option D): Lactase is released from the intestinal brush-border enzyme and is unrelated to allergic reactions.

References:

Reddy KSN & Murty OP, The Essentials of Forensic Medicine and Toxicology, 35th Edition, Page 323

↑ *Back to this question in Part A*

@Neet_pg_bot

Q3: In cases of conflagration, which of the following metals is most likely to be detected in the charred human remains? (Q885935)

A. Mercury

B. Arsenic

C. Cadmium

D. Lead

Correct Answer: B. Arsenic

Explanation: Arsenic is a non-volatile metal and is heat-stable, allowing it to persist even after exposure to very high temperatures during conflagration. Hence, arsenic can still be detected in burnt or charred human remains. Mercury (Option A): Mercury is highly volatile; it vaporizes on heating and is usually lost during fire. Cadmium (Option C): Cadmium is a volatile metal; it not reliably detected after intense burning. Lead (Option D): Though lead is less volatile than mercury, it can melt and disperse.

References:

Reddy KSN & Murty OP, The Essentials of Forensic Medicine and Toxicology, 35th Edition, Page 458

↑ *Back to this question in Part A*

@Neet_pg_bot

Q4: Consider the following statements regarding second autopsy: A second autopsy may be conducted to verify or challenge the findings of the first autopsy. It can be performed only with proper legal permission. The findings of a second autopsy are not admissible in court. Second autopsies are commonly performed in cases of suspected foul play or dispute over cause of death. (Q885930)

A. 1 and 2 only

B. 1, 2, and 4 only

C. 2 and 3 only

D. All of the above

Correct Answer: B. 1, 2, and 4 only

Explanation: A second autopsy (also called re-autopsy) is performed after the initial autopsy , usually to verify, confirm, or challenge the findings of the first examination. It is an important medico-legal procedure in cases where the cause of death is disputed, foul play is suspected, or family/parties request further clarification. Purpose: To verify or confirm findings of the first autopsy. Indications: Suspected foul play, disputed cause of death, or inconclusive first autopsy. Legal requirement: Must have proper authorization (police, magistrate, or court). Court admissibility: Findings are admissible if legally and properly conducted. Best practice: Ideally done by a different forensic pathologist for objectivity.

References:

Review of Forensic Medicine and Toxicology by Gautam Biswas, 3rd Edition, Page 116, 117

↑ *Back to this question in Part A*

@Neet_pg_bot

Q5: Which of the following is a confirmatory sign of live birth? (Q885926)

A. Presence of lanugo

B. Hydrostatic (lung float) test positive

C. Vernix caseosa on the skin

D. Presence of meconium in the intestine

Correct Answer: B. Hydrostatic (lung float) test positive

Explanation: Determining whether a fetus or infant was born alive is a key forensic question, especially in suspected infanticide, neonatal death, or stillbirth cases. When decomposition is absent, several clinical and autopsy features are used. The hydrostatic (lung float) test is the most widely accepted confirmatory test for live birth. Lungs of a live-born infant float in water because the baby has breathed and air is present in the alveoli. Floating lungs → Respiration has occurred → Baby was born alive. Sinking lungs → No respiration → Baby was stillborn (must rule out decomposition gases). Sign Method / Evidence Crying / Respiration Clinical observation or hydrostatic (lung float) test Air in lungs Lung float test / inflation test Air in stomach / intestines Breslau's second life test (stomach-bowel test) Milk in stomach Raygat's test Muscle movements / reflexes Observed immediately after birth or during autopsy (if fresh) External signs of respiration Vagitus, chest expansion Presence of lanugo (Option A): Merely indicates fetal development; does not prove respiration . Vernix caseosa on the skin (Option C): Protective coating; only indicates gestational maturity. Presence of meconium in the intestine (Option

D): May occur antepartum or intrapartum; not evidence of live birth .

References:

Review of Forensic Medicine and Toxicology by Gautam Biswas, 3rd Edition, Page 324

↑ *Back to this question in Part A*

@Neet_pg_bot

Q6: Raygat’s test is used to determine: (Q885925)

A. Whether the newborn had breathed

B. Whether the child was born alive

C. Presence of air in the stomach and intestines

D. Whether milk was ingested by the newborn

Correct Answer: D. Whether milk was ingested by the newborn

Explanation: Raygat’s test is performed to determine whether a newborn has ingested milk , which is positive evidence of live birth . Procedure: The stomach of the newborn is examined after death . If milk is present in the stomach , it confirms that the baby had suckled , implying it was born alive Clinical / Forensic Relevance: Used in medico-legal cases to distinguish stillbirth from live birth. Helps in suspected infanticide or neonatal death investigations. Often performed alongside lung and Breslau tests for stronger evidence of live birth. Positive Raygat’s test = milk in stomach → evidence of live birth Milk may not be present if the baby was immediately separated from mother or died before suckling. Combined evaluation (lungs, stomach, intestines) gives more reliable forensic evidence.

References:

Review of Forensic Medicine and Toxicology by Gautam Biswas, 3rd Edition, Page 327

↑ *Back to this question in Part A*

@Neet_pg_bot

Q7: Breslau’s second life test is used to determine: (Q885921)

A. Whether the newborn had breathed

B. Whether the child was born alive

C. Whether respiration occurred in utero

D. Whether air entered the lungs due to putrefaction

Correct Answer: D. Whether air entered the lungs due to putrefaction

Explanation: Breslau's second life test is performed to differentiate true respiration from false aeration of lungs due to putrefaction . It helps determine whether air present in the lungs is the result of decomposition rather than breathing. The test specifically addresses the fallacy of the hydrostatic (lung float) test , where lungs may float even without respiration due to putrefactive gas formation . In a live-born infant , air is swallowed during respiration and may be present in the stomach and small intestine , supporting evidence of live birth. However, air can also appear due to decomposition or in stillborn infants attempting to clear airway obstruction. Breslau's second life test (stomach-bowel test) involves removing the stomach and intestines after applying double ligatures , immersing them in water, and making an incision between the ligatures. Escape of air bubbles indicates that respiration has occurred. Additionally, presence of milk in the stomach is positive proof of live birth .

References:

Review of Forensic Medicine and Toxicology by Gautam Biswas, 3rd Edition, Page 327

↑ *Back to this question in Part A*

@Neet_pg_bot

Q8: Letulle method of autopsy refers to removal of: (Q885854)

A. Individual organs one by one

B. Thoracic and abdominal organs in separate blocks

C. All thoracic, abdominal, pelvic and cervical organs together as a single block

D. Only thoracic organs as a single mass

Correct Answer: C. All thoracic, abdominal, pelvic and cervical organs together as a single block

Explanation: The Letulle method (En masse method) of autopsy involves the removal of all organs of the neck, thorax, abdomen, and pelvis together as a single continuous block . This block is then dissected systematically outside the body . Maintains anatomical relationships between organs Useful in: Cardiovascular deaths Trauma Poisoning Septicemia Individual organs one by one (Option A): This describes the Virchow method , not Letulle. Thoracic and abdominal organs in separate blocks (Option B): This is the Ghon method , where organs are removed in regional blocks. Only thoracic organs as a single mass (Option D): This is incorrect; Letulle includes cervical, thoracic, abdominal, and pelvic organs , not thorax alone.

References:

Review of Forensic Medicine and Toxicology by Gautam Biswas, 3rd Edition, Page 103
https://www.pathologyoutlines.com/topic/forensicsautopsytechniques.html

↑ *Back to this question in Part A*

@Neet_pg_bot

Q9: Autopsy should be conducted at the body recovery site in which of the following cases? (Q885849)

A. Advanced decomposed body

B. Body recovered from a mass disaster site

C. Body recovered from water

D. Burnt body recovered from closed premises

Correct Answer: B. Body recovered from a mass disaster site

Explanation: Autopsy is ideally conducted in a well-equipped mortuary . However, in exceptional circumstances , autopsy or detailed medico-legal examination may be carried out at the body recovery site when transport of the body is impractical or may lead to loss of crucial evidence . In mass disasters (air crashes, train accidents, earthquakes), autopsy and preliminary examination are often performed at the recovery site to aid in rapid identification, documentation, and preservation of evidence , and to avoid loss of forensic data during transport. Other Situations Where Autopsy May Be Done at Recovery Site: Mass fatality incidents (natural or man-made) Highly mutilated or fragmented bodies Remote or inaccessible locations (mountains, forests, war zones) Exhumation cases (autopsy done at burial site) Disaster victim identification (DVI) operations Epidemics or biological disasters requiring containment Advanced decomposed body (Option A): Although decomposition makes examination difficult, the body is usually shifted to a mortuary where better lighting, instruments, and forensic facilities are available. Decomposition alone is not an indication for site autopsy. Body recovered from water (Option C): Drowned bodies are routinely transported to mortuaries for autopsy to: Confirm drowning Differentiate ante-mortem vs post-mortem immersion Look for injuries or foul play. Burnt body recovered from closed premises (Option D): Burnt bodies require detailed internal examination , toxicology, and identification procedures best done in a mortuary. Hence, not performed at the recovery site .

References:

https://www.ncbi.nlm.nih.gov/books/NBK539901/?utm_source=chatgpt.com

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↑ *Back to this question in Part A*

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Q10: Corpus delicti refers to: (Q885842)

A. Confession of the accused

B. Dead body of the victim in all cases

C. Proof that a crime has been committed

D. Motive behind the crime

Correct Answer: C. Proof that a crime has been committed

Explanation: Corpus delicti literally means “body of the crime.” It refers to the essential facts and evidence that prove a crime has actually been committed , independent of any confession by the accused. Presence of a dead body is NOT mandatory to establish corpus delicti (e.g., murder can be proved without recovery of the body). Confession of the accused (Option A): A confession alone cannot establish corpus delicti . There must be independent evidence of the crime. Courts do not rely solely on confessions. Dead body of the victim in all cases (Option B): Recovery of a dead body is not compulsory . Circumstantial and forensic evidence (bloodstains, weapon, witnesses) can prove corpus delicti. Motive behind the crime (Option D): Motive explains why a crime was committed, not whether it occurred. Motive is not a component of corpus delicti.

References:

Review of Forensic Medicine and Toxicology by Gautam Biswas, 3rd Edition, Page 56

↑ *Back to this question in Part A*

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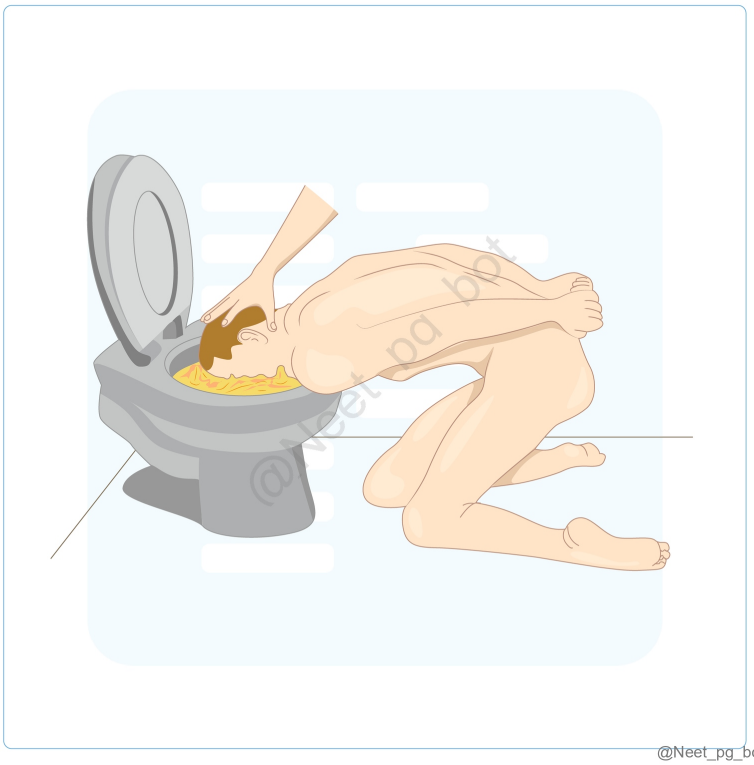
Q11: What is the type of torture mentioned in the image given below? (Q846940)

A. Wet Submarine

B. Black Slave

C. Iron Chair

D. Judas cradle



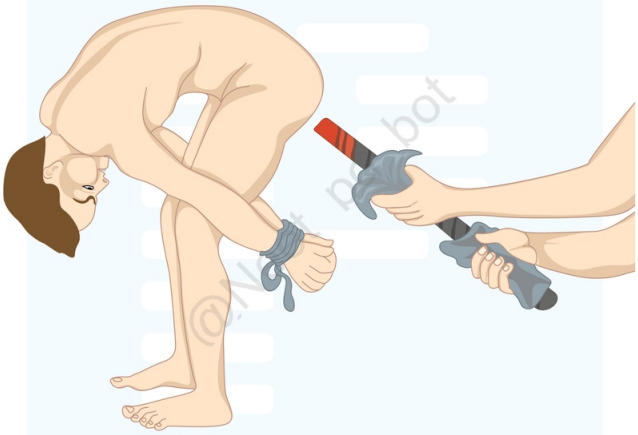
Correct Answer: A. Wet Submarine

- *Listen (English)*
- *Listen (Hindi)*

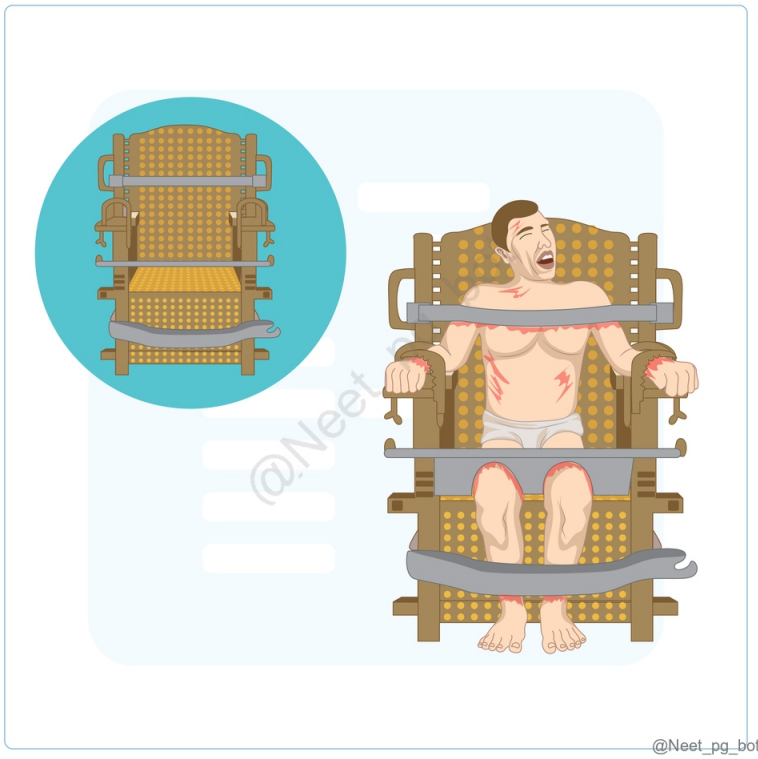
Explanation: The given image depicts a Wet Submarine Physical torture subtypes: Types of torture Description Wet Submarine (Option A) Involves submerging the victim's head in water or a similar liquid to create a sensation of drowning. Fecal matter and other debris in the airways. Black Slave (Option B) Hot metal skewer is inserted up the anus of the victim. Perianal and rectal burns were seen. Iron Chair/Confession chair /Interrogation chair (Option C) The victim is tied to an iron chair equipped with either wooden or iron spikes, which could be heated from below. Judas cradle (Option D) The victim is first stripped and then suspended over a pointed pyramid. The torture using ropes and pulleys, used to raise and lower the victim so that the point would penetrate the anus, vagina or scrotum.

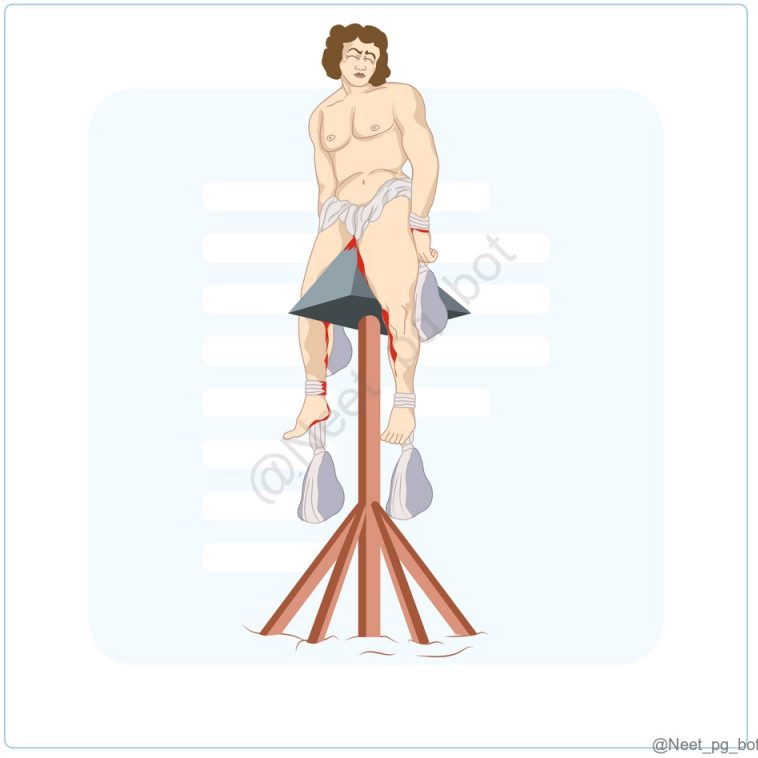


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References:

Goutam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Pages 446-448.

↑ *Back to this question in Part A*

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Q12: What is the type of torture mentioned in the image given below? (Q846939)

A. La Bandera

B. Parrot Perch

C. Crucifixion

D. Jack Knife Position



Correct Answer: B. Parrot Perch

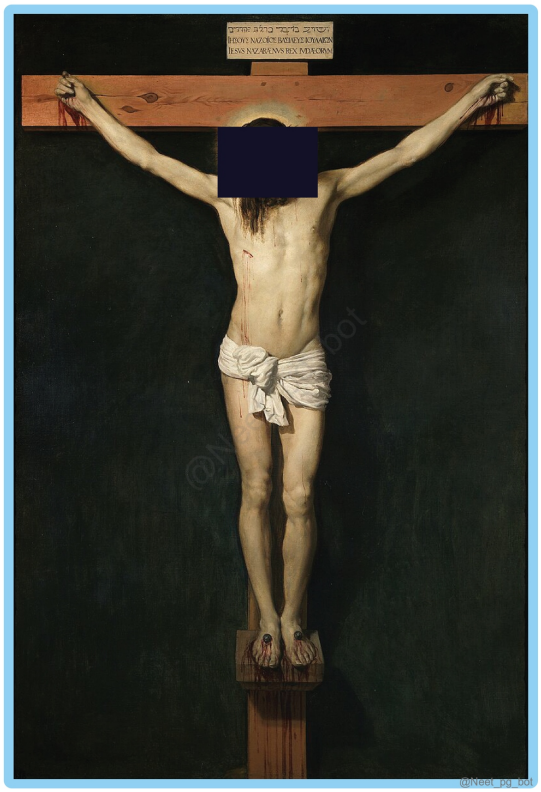
■ *Listen (English)*

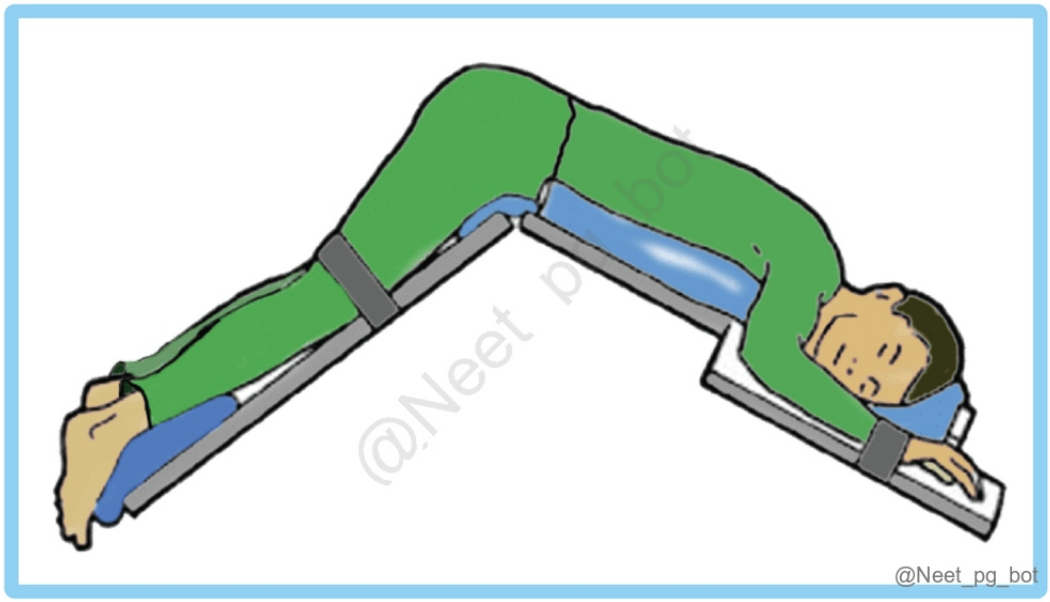
■ *Listen (Hindi)*

Explanation: The given image depicts Parrot Perch Physical torture subtypes: Types of torture Description La Bandera (Option A) Involves hanging the victim by their wrists, often with weights attached to the feet, causing intense pain in the arms and shoulders. Nerve and muscle damage with joint injuries seen. Parrot Perch/Jack or ‘Pau de arara’ (Option B) Victim is suspended head down from a horizontal pole placed under the knees with the wrist bound to the ankles. Crucifixion/Palestine hanging (Option C) The victim is nailed or tied to a cross, leaving them to hang in an agonizing position, often leading to death by asphyxiation or exhaustion. Jack Knife Position (Option D) The victim is bent forward, usually with their legs straight and their upper body folded down toward the knees, causing muscle cramps and restricted breathing.


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References:

Goutam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Pages 446-448.

↑ *Back to this question in Part A*

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Q13: Which of the following statements about medicolegal autopsy is wrong? (Q846926)

A. Always complete autopsy

B. Consent of kin is required

C. Requisition from police or magistrate is required

D. Objective reporting to the police or magistrate is required

Correct Answer: B. Consent of kin is required

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Consent of kin is not required for medicolegal autopsy, but is required for pathological autopsy. Medicolegal autopsy/necropsy/postmortem examination Definition A complete autopsy is a detailed examination of the entire body, both internally and externally, including the brain, chest, and abdominal organs, and musculoskeletal system,s conducted primarily for legal purposes. Objectives Identify the deceased and determine the cause and time of death In newborns, confirm live birth and viability In mutilated/skeletal remains, verify human origin, probable cause, and time since death Restore the body cosmetically before release to relatives Essential Requirements Performed by a registered medical practitioner with specialized training or experience in forensic medicine (forensic pathology) Meticulous examination Complete autopsy (Option A ruled out) Materials sent to the forensic science laboratory: Preservation of records and evidence Objective reporting to the police or magistrate is required. (Option D ruled out) Consent of kin is not required (Option B) Requisition from police or magistrate (Option C ruled out)

References:

Parikh's Textbook of Medical Jurisprudence, Forensic Medicine and Toxicology, 8th Edition, Pages 94-95, 104

↑ *Back to this question in Part A*

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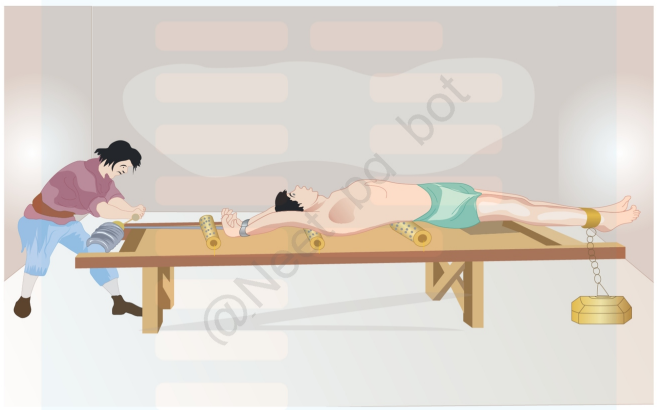
Q14: What is the type of torture mentioned in the image given below? (Q846937)

A. Chepuwa

B. Belana

C. Sawhorse

D. Operating table

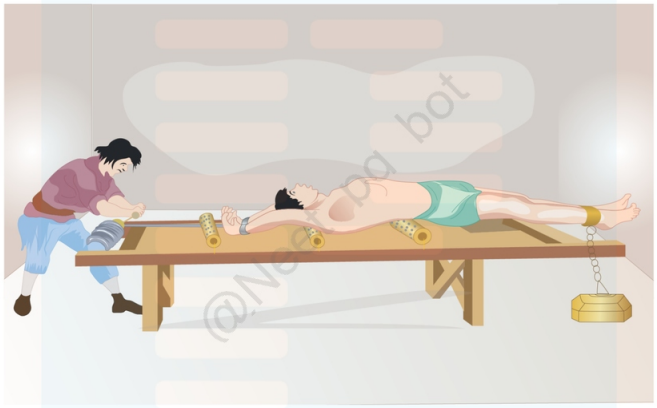


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Correct Answer: B. Belana

- *Listen (English)*
- *Listen (Hindi)*

Explanation: The given image depicts Belana Physical torture subtypes: Types of torture Description Belana or The roller (Option B) The pole is placed on the back of the victim and is pressed down with great weight and then rolled up over the legs and the body. Crushing of soft tissue and damage to muscles of the legs and the body. Chepuwa (Option A) The thighs of the victim are placed under two wooden rods and pressed to induce severe pain. {{caption_text}} Sawhorse or ‘el cabellete’ (Option C) Forced straddling on a sharp object like a saw. Perineal bruising was seen. Operating table or ‘el quirofano’ (Option D) Beating on the abdomen while lying on a table with the upper half of the body unsupported. Bruise, ruptured abdominal viscera.



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References:

Goutam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Pages 446-448

↑ *Back to this question in Part A*

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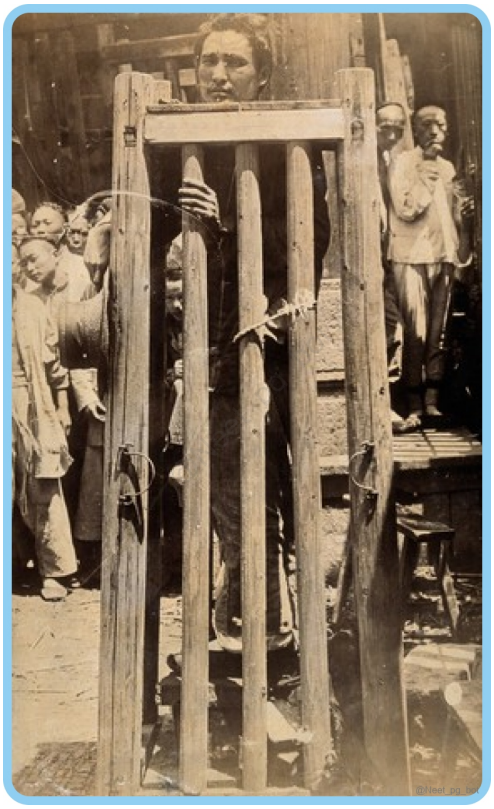
Q15: What is the type of torture mentioned in the image given below? (Q846936)

A. Scaphism

B. Dry Submarine

C. Picana

D. El Plantón



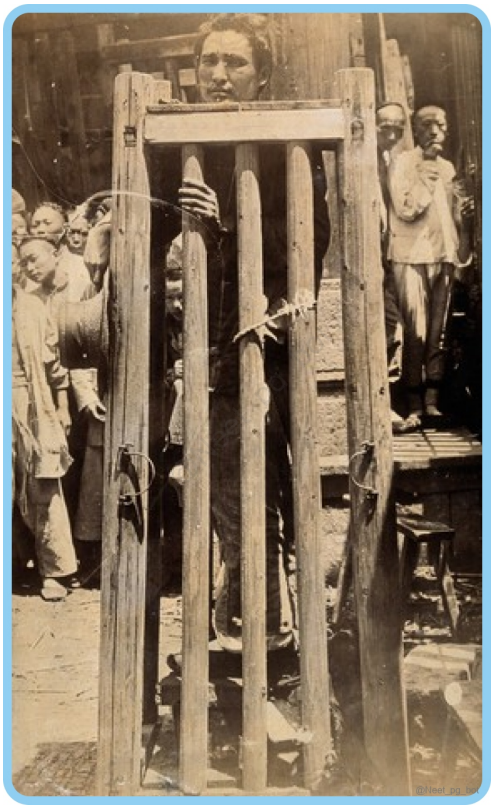
Correct Answer: D. El Plantón

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The given image depicts El Planton Physical torture subtypes Types of Torture Description El Plantón (Option D) Victim is forced to stand for extended periods in the ‘Army Corps’ poster or body folding or on one leg. Dependent edema and petechiae. Scaphism (Option A) An ancient form of execution involving being trapped between two boats and subjected to insects and exposure. Dry Submarine (Option B) Form of suffocation where the victim's head is wrapped in a plastic bag, causing breathing difficulty. Lung petechiae are seen.

Picana/Electric cattle prod (Option C) An electric torture method that applies electric shocks to the genital region. Reddish brown lesions at points of contact with burning and scarring.





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References:

Goutam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Pages 446-448.

↑ *Back to this question in Part A*

@Neet_pg_bot

Q16: A 45-year-old man who had been incarcerated for political dissent is reported to have died under suspicious circumstances. The autopsy reveals multiple injuries consistent with physical torture. In considering international guidelines for the medical investigation of such cases, which key document outlines principles and standards for identifying and investigating torture for a Police Surgeon? (Q846935)

A. Declaration of Tokyo

B. Istanbul Protocol

C. Declaration of Helsinki

D. Nuremberg Code

Correct Answer: B. Istanbul Protocol

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Declaration / Document Focus / Purpose Istanbul Protocol Documentation and investigation of torture and ill-treatment Declaration of Tokyo Guidelines for doctors on torture related to detention and imprisonment (Option A ruled out) Declaration of Helsinki Ethical principles for medical research involving human subjects (Option C ruled out) Nuremberg Code Ethics in human experimentation post-WWII (Option D ruled out) Geneva Conventions Treatment of combatants and civilians during armed conflict Declaration of Malta Guidelines on physicians' roles during hunger strikes , especially in custodial settings

References:

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1879451/?page=1

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www.ncbi.nlm.nih.gov/pmc/articles/PMC3121268/

pubmed.ncbi.nlm.nih.gov/28989165/

↑ *Back to this question in Part A*

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Q17: A 45-year-old man was found dead under suspicious circumstances, and his body was buried without a post-mortem examination. Months later, new evidence suggests foul play, and the family now requests further investigation. The local police inspector wishes to exhume the body to re-examine the cause of death. Which of the following authorities is legally empowered to order an exhumation in this case? A) Police Inspector B) First Class Magistrate C) Sub-Inspector of Police D) Medical Officer E) Sub-Divisional Magistrate (Q846934)

A. All except D

B. All except C and D

C. Only B and E

D. None of the above

Correct Answer: C. Only B and E

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: In India, only specific magistrates can order exhumation: First Class, District, Sub-Divisional, Executive Magistrates. Law enforcement cannot order exhumation independently. Exhumation Legal disinterment of a previously buried body Conducted when post-burial examination is necessary Under Section 196(4) of Bharatiya Nagarik Suraksha Sanhita (BNSS), 2023 (which replaces Section 176 of the CrPC), provisions relating to inquest and exhumation empower the Executive Magistrate to order exhumation when necessary. Common Reasons Criminal Cases: Re-examine suspected homicides disguised as suicides/accidents. Investigate deaths from criminal abortion or negligence. Retrieve evidence (e.g., bullets). Civil Cases: Insurance/worker's compensation claims. Professional negligence cases. Inheritance disputes or identity verification. Correct burial errors (If the wrong body was buried) Procedure Requirements Timing & Personnel: Must be conducted during daylight (start in the morning). A medical officer, magistrate, and police officer are required. Documentation: Verify grave location and markers. Collect soil samples (above, below, and beside the body/coffin). Document body position and appearance. Create a detailed grave diagram. Photograph grave, coffin, and body. Handling Guidelines Avoid altering the body (no use of disinfectants or pesticides). Use plank or plastic sheet for removal if decomposition is minimal. Transport the body to the mortuary for post-mortem examination.

References:

Goutam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Pages 119, 120

↑ *Back to this question in Part A*

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Q18: A 28-year-old man is found dead at home and poisoning is suspected. During the autopsy, the forensic pathologist decides to dissect the stomach to examine its contents. Which of the following is the most appropriate procedure for stomach dissection to preserve evidence of poisoning and ensure accurate forensic analysis? (Q846933)

A. Open the stomach along the greater curvature and discard the contents

B. Open the stomach along the lesser curvature and collect the contents for toxicology

C. Open the stomach along the greater curvature and collect the contents for toxicology

D. Incise the stomach along the pylorus and drain the contents into the small intestine

Correct Answer: C. Open the stomach along the greater curvature and collect the contents for toxicology

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: In forensic autopsies, the stomach is usually opened along the greater curvature to minimize disruption of stomach anatomy and allows the pathologist to collect and examine the stomach contents effectively, which is critical in cases of suspected poisoning. Procedure for Stomach Dissection: Two ligatures are applied at the cardiac end of the esophagus and two ligatures are below the pyloric end of the stomach. The stomach is removed by cutting between the double ligatures at both ends. The stomach is then opened along the greater curvature . The mucous membrane is examined for the presence of any stains, congestion, hemorrhage, desquamation, ulceration, sloughing, or perforation. The contents of the stomach are noted with respect to quantity, nature of material/food, state of digestion, color, and smell.

References:

Goutam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Pages 104-110

↑ *Back to this question in Part A*

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Q19: A 35-year-old male is found dead in his apartment under suspicious circumstances. External examination reveals petechial hemorrhages around the eyes, with no obvious external trauma. The circumstances suggest a possible asphyxial death. During autopsy, which of the following should be opened first to identify definitive signs of asphyxia? (Q846932)

A. Skull and abdomen

B. Neck and thorax

C. Thorax and abdomen

D. Skull and thorax

Correct Answer: A. Skull and abdomen

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: In suspected asphyxial deaths, the skull and abdomen are opened first so blood can drain from the neck vessels, providing a cleaner field for examining neck structures for hemorrhages or ligature marks. Suspected Cases Autopsy Suspected head injury Skull is usually opened first, followed by the thorax and abdomen. Some surgeons prefer opening the skull after draining blood from the heart for better visualization. Suspected asphyxial deaths (neck compression) Open the skull and abdomen first, then dissect the neck. (Option A) Draining blood from neck vessels via the skull provides a cleaner field for neck examination. All other cases Open the thorax and abdomen first, followed by the skull (Option C ruled out)

References:

Gautam Biswas - Review of Forensic Medicine and Toxicology, 3rd Edition, Page 102.

↑ *Back to this question in Part A*

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Q20: In a forensic autopsy of a female victim needing comprehensive thoracic, abdominal, and neck organ inspection, especially neck structures vital for hanging or strangulation cases, which incision best balances access with cosmetic body preservation? (Q846931)

A. I-shaped Incision

B. Y-shaped Incision

C. Modified Y-shaped Incision

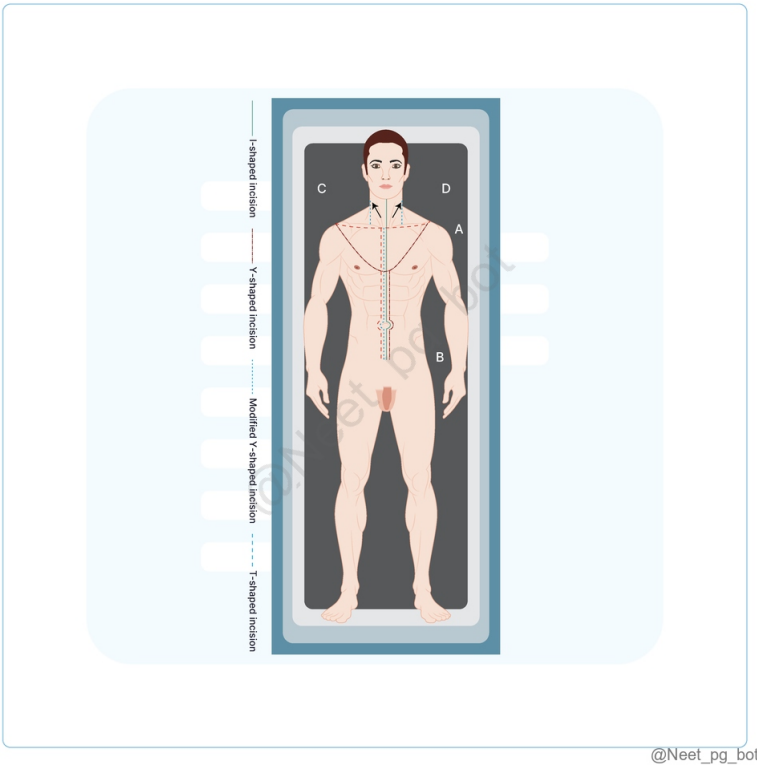
D. T-shaped Incision

Correct Answer: C. Modified Y-shaped Incision

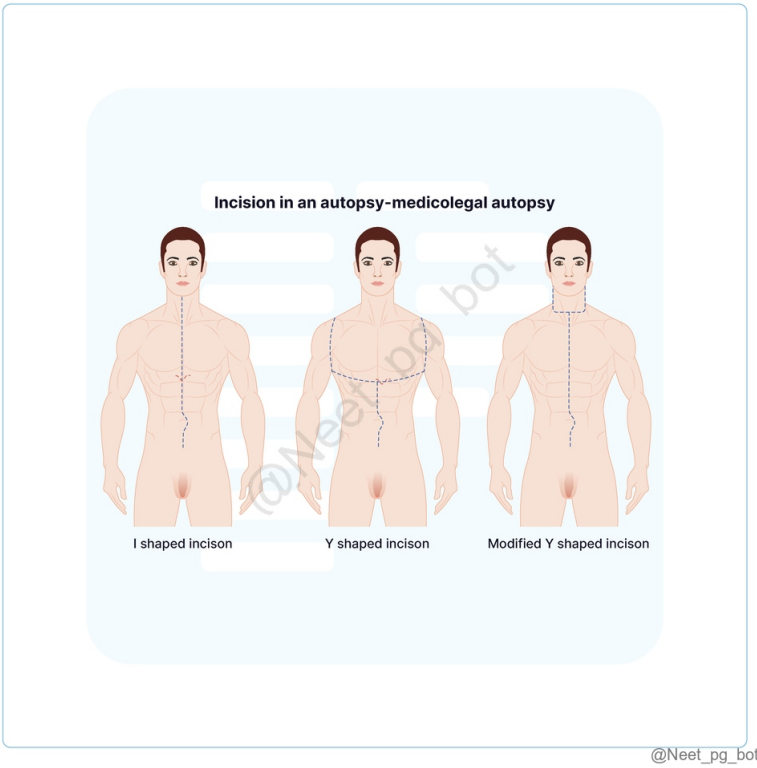
■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The modified Y-shaped incision provides comprehensive exposure of the thoracic, abdominal, and neck organs , making it ideal for forensic cases requiring detailed neck examination. It allows better cosmetic closure , reducing postmortem disfigurement and minimizing the risk of fluid leakage sometimes seen with the traditional Y-shaped incision. The incision runs midline from the suprasternal notch to the symphysis pubis , extends laterally over the clavicles , and passes behind the ears , optimizing both access and appearance. I-shaped incision (Option A) provides limited exposure, mainly of the abdomen, and does not allow detailed examination of thoracic or neck organs. Indications include: Routine clinical autopsy where neck examination is not required Cases of known abdominal pathology Situations requiring a better cosmetic outcome Non-forensic hospital autopsies Y-shaped incision (Option B) exposes thoracic and abdominal organs but offers poor access to neck structures and may increase postmortem fluid leakage. Indications include: Standard medicolegal autopsy Suspicious or unnatural deaths Cases requiring detailed thoracic organ examination Cardiac, pulmonary, and abdominal pathology evaluation T-shaped incision (Option D), rarely used, a horizontal cut across the shoulders (bilateral acromion processes) and a vertical cut from the suprasternal notch down to the pubic symphysis. Indications include: Selected forensic cases requiring enhanced chest wall exposure Situations where a better cosmetic closure is desired than a Y-incision Special institutional preference cases An X-incision (or cruciate incision) in an autopsy is a specialised technique used primarily to examine the back of the body, often in cases of suspected torture or custodial death with injuries from blunt instruments. This technique involves cutting from the back of the shoulder (acromion) to the opposing hip (iliac crest) to assess for hidden subcutaneous haemorrhages.



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References:

Parikh's Textbook of Medical Jurisprudence, Forensic Medicine and Toxicology, 8th Edition, Page 107

www.ncbi.nlm.nih.gov/books/NBK539901/

↑ *Back to this question in Part A*

@Neet_pg_bot

Q21: A 60-year-old man was discovered deceased under suspicious circumstances, and a full medico-legal autopsy was requested to establish the cause of death. During the procedure, the pathologist employed a technique in which each organ is removed and examined individually, instead of removing all the organs together in one mass. Which autopsy technique does this describe? (Q846930)

A. Letulle

B. Rokitansky

C. Gohn

D. Virchow

Correct Answer: D. Virchow

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: In the Virchow method (by Rudolf Virchow), each organ is removed and examined individually , rather than removing all organs together as a single mass Evisceration techniques in autopsy: En Masse (Letulle) (Option A ruled out) This is an "en masse" technique where the entire organ block (all thoracic and abdominal organs) is removed from the body as one single unit and then dissected. Virchow's Method (Option D) This method involves the removal and dissection of organs one by one. This approach allows for a detailed examination of each organ. In Situ Dissection (Rokitansky) (Option B ruled out) This technique involves "in situ" dissection, where the organs are examined and dissected while still inside the body, with minimal or no removal. En block (Ghon) (Option C ruled out) This is an "en bloc" technique where the organs are removed in functional blocks (e.g., the thoracic block, the abdominal block, the urogenital block).

References:

Goutam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Pages 103-104

↑ *Back to this question in Part A*

@Neet_pg_bot

Q22: 2-5% of autopsies cannot determine the cause of death even after extensive lab investigations. What are such autopsies called? (Q846929)

A. Obscure autopsy

B. Negative autopsy

C. Virtual autopsy

D. Clinical autopsy

Correct Answer: B. Negative autopsy

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: In a negative autopsy, the cause of death remains unknown Obscure autopsy (Option A ruled out) Negative autopsy (Option B) The cause of death may not be clear at the time of dissection but can often be determined after detailed clinical, and laboratory investigations, and interviews Examples: Epilepsy, reflex vagal inhibition, uremia, and anesthetic overdose The cause of death remains unknown even after extensive laboratory investigations Occurs in 2-5% of all postmortem cases Virtual autopsy(Option C) : Radiological (CT/MRI) postmortem. Clinical autopsy (Option D) : Done in hospitals for medical/diagnostic purposes, not medico-legal.

References:

Goutam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Page 116

↑ *Back to this question in Part A*

@Neet_pg_bot

Q23: Given below are a few statements on various kinds of autopsy. Which of them is true? A psychological autopsy is done after suicide. Virtopsy combines 2D surface scanning/CAD photogrammetry with radiologic imaging like MRI. Psychological autopsy involves data collection. The ability to identify the infection status of antemortem from postmortem wounds is limited in Virtopsy. Easy to identify postmortem artifacts using Virtopsy (Q846928)

A. All are true

B. All except 2, 4 and 5

C. All except 2 and 4

D. All except 2 and 5

Correct Answer: D. All except 2 and 5

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Virtual autopsy/Virtopsy Virtopsy is a non-invasive alternative to traditional autopsy using imaging instead of physical dissection. Technology Utilizes 3D surface scanning, MSCT, MRI, and CAD photogrammetry to create a digital, objective record. (Option D) This can be shared online for secondary opinions and presented as evidence in court if required. Features Provides high-resolution, colored 3D images in various sections Allows visualization of body surfaces, deeper tissues, organs, coronary vessels, pulmonary emboli, soft tissue trauma, and bone injuries Limitations High cost of equipment Radiologic imaging limitations, interference from metal Limited ability to distinguish internal organ colors Incomplete database for diagnosis Challenges in identifying infection status , antemortem vs. postmortem wounds (Options B and C ruled out) Difficulty in identifying postmortem artifacts and subtle tissue injuries, and differentiating certain pathological conditions (Option D) Psychological autopsy - Meticulous collection of data after someone’s suicide to understand the circumstances of their death.

References:

https://www.ncbi.nlm.nih.gov/books/NBK7126/#:~:text=Studies%20involving%20psychological%20autopsy%20gather,if%20any%2C%20negative%20elements%20in Parikh's Textbook of Medical Jurisprudence, Forensic Medicine and Toxicology, 8th Edition, Page 134

↑ *Back to this question in Part A*

@Neet_pg_bot

Q24: Which of the following statements regarding clinical autopsy is false? (Q846927)

A. Consent from kin is required

B. Requested by a clinician

C. Always complete

D. Tests are done in a medical laboratory

Correct Answer: C. Always complete

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Clinical autopsy can be partial or complete Clinical/Pathological Autopsy: Conducted to determine the cause of death Requires consent from the next of kin or relatives (Option A ruled out) Requested by a clinician (Option B ruled out) The autopsy report is provided to the clinician Necessary tests are done in the concerned medical laboratory (Option D ruled out) Complete or partial autopsy, depending on the consent given (Option C)

References:

Parikh's Textbook of Medical Jurisprudence, Forensic Medicine and Toxicology, 8th Edition, Page 104

↑ *Back to this question in Part A*

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• [03_Post Mortem Techniques] 007 Previous Year Questions

« Back to Folder Directory

[03_Post Mortem Techniques] 007 Previous Year Questions — Quick Jump

Q1 (p. 589) *Q2 (p. 590)* *Q3 (p. 590)* *Q4 (p. 591)* *Q5 (p. 592)* *Q6 (p. 593)*
Q7 (p. 594)

Q1: A family died in a closed room that was full of smoke from a wood fire. Which of the following findings is likely to be seen on the body? (Q860438)

A. Cherry red hypostasis

B. Cyanosis

C. Blackish discoloration

D. Brown colored pigmentation

Correct Answer: A. Cherry red hypostasis

Explanation: In this scenario, a family died in a closed room full of smoke from a wood fire, which likely caused carbon monoxide (CO) poisoning. Cherry-red post-mortem staining is a hallmark sign of carbon monoxide (CO) poisoning. Postmortem Staining in Poisoning Cases Postmortem staining (Livor mortis) is the skin discoloration after death due to blood settling in dependent areas. The color of the staining can indicate certain types of poisoning: Poison Postmortem Staining Characteristics Opium (Option C ruled out) Purple or blackish staining Carbon monoxide (Option A) Cherry red discoloration (COHb > 30%) Hydrogen sulfide Greenish discoloration in tissues Datura Asphyxial signs (no specific color) Organochlorine/Kerosene Asphyxial signs (no specific color) Phosphates, aniline, and nitrites (Option D ruled out) Brown-colored pigmentation Carbon Monoxide Physical Appearance Odourless, colorless, non-irritating gas, lighter than air Sources of Poisoning Incomplete combustion of almost of fuel (wood, charcoal, gas, kerosene) Automobile exhaust Fires: A common cause of accidental CO poisoning resulting in mass deaths - large building (hotel, theatre, block of flats, etc.) in flames Paint remover (especially methylene chloride) Tobacco smoke Normal CO level in plasma 1 to 5 % 7 to 8 % in smokers Mode of Action 230 to 270 times greater affinity for hemoglobin than oxygen Leftward shift of the oxyhemoglobin dissociation curve Reduced arterial oxygen content Inactivating mitochondrial cytochrome oxidase - cellular respiration is interfered CO-induced brain injuries are common in basal ganglia, cerebral white matter, hippocampus, and cerebellum. Clinical Features Depends on the concentration of CO in the blood CO exposure during pregnancy is teratogenic Diagnosis Carboxyhemoglobin level (COHb) in blood Arterial blood gases Treatment Oxygen (100%) through a tight-fitting mask or endotracheal tube, until COHb falls to 15 to 20% Hyperbaric oxygen: Inhalation of oxygen at a pressure greater than 1 atmosphere absolute Autopsy Findings Cherry red (pink) color of skin, inner aspects of lips, nail beds, tongue, palms and soles Cutaneous bullae (skin blisters) in the calves, buttocks, wrists, and knees Cherry pink color of blood and tissues Firmer white matter of the brain Necrosis and cavitation of basal ganglia Cyanosis (Option B) is not appreciated in CO poisoning.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 539, 564, 587, 590, 602.

↑ *Back to this question in Part A*

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Q2: A person dies suddenly, and his family is abroad. During the autopsy, his viscera are preserved for toxicological analysis. Which of the following substances can still be detected in the visceral organs even if it was not recently ingested before death? (Q860502)

A. Morphine

B. Aconite

C. Arsenic

D. Alcohol

Correct Answer: C. Arsenic

Explanation: Among the options, arsenic is the poison that can be detected in visceral organs even if the person did not consume it immediately before death. This is because arsenic accumulates in body tissues over time due to its slow elimination and remains present in organs such as the liver and kidneys regardless of recent intake. Morphine (Option A): Only present if recently ingested or administered; not naturally stored in organs. Aconite (Option B): A plant toxin that appears in the body only after recent consumption. Alcohol (Option D): Primarily detected only if recently consumed; endogenous amounts are negligible.

References:

https://pmc.ncbi.nlm.nih.gov/articles/PMC8840458

↑ *Back to this question in Part A*

@Neet_pg_bot

Q3: In a fetal autopsy, why is it important to open the abdomen and note the position of the diaphragm by passing a finger before opening the thorax? (Q840092)

A. To accurately measure abdominal organ size

B. To confirm the diaphragmatic position to avoid postmortem air artifact in the lungs

C. To check for intra-abdominal hemorrhage before thoracic examination

D. To evaluate gastrointestinal malformations early in the autopsy

Correct Answer: B. To confirm the diaphragmatic position to avoid postmortem air artifact in the lungs

Explanation: In a fetal or neonatal autopsy, the abdomen is opened first and the diaphragm is checked by passing a finger before the thorax is opened to ensure that no air is accidentally introduced into the thoracic cavity. Introducing air could falsely inflate the lungs and lead to an incorrect interpretation that the infant had breathed - creating a false-positive hydrostatic (lung-float) test . This step is therefore critical when distinguishing live birth from stillbirth . To accurately measure abdominal organ size (Option A): Organ measurements are not the reason for opening the abdomen first and can be done later in the autopsy. To check for intra-abdominal hemorrhage before thoracic examination (Option C): Hemorrhage assessment is important but not the priority in determining live birth vs. stillbirth. To evaluate gastrointestinal malformations early in the autopsy (Option D): GI malformation assessment does not influence lung aeration testing and is not why the abdomen is opened first.

References:

https://pmc.ncbi.nlm.nih.gov/articles/PMC1860427/ https://pmc.ncbi.nlm.nih.gov/articles/PMC6379179/

↑ *Back to this question in Part A*

@Neet_pg_bot

Q4: Blood during autopsy is preserved in? (Q860079)

A. NaF

B. NaCl

C. Formalin

D. Rectified spirit

Correct Answer: A. NaF

Explanation: For toxic analysis, like in alcohol abuse, the ideal preservative for blood is sodium fluoride. It inhibits glycolysis by blocking enolase Prevents post-collection fall in glucose Preserves alcohol concentration, making it essential in suspected alcohol poisoning Various methods of preserving viscera: Saturated salt solution Formalin fixation Freezing Alcohol preservation Formaldehyde solution Formalin-alcohol solution Frozen section Liquid nitrogen Specimens for Analysis Specimen Importance Blood Primary specimen; collect from femoral, iliac, or axillary veins to avoid contamination. Preservative: Lithium heparin or EDTA tube, Sodium fluoride/oxalate (Option A) , if alcohol is suspected Urine Useful for detecting parent compounds and metabolites of poisons. Preservative: No preservative, sodium fluoride is added, if alcohol is Suspected Gastric Contents Helps identify ingested poisons and their concentrations through vomitus and stomach contents analysis. Preservative: Saturated

salt solution if there is no chance of acid poison. (Option B) Rectified spirit if poisoned by acid (Option C) . Liver Analyzes metabolism and concentration of drugs; critical when blood/urine concentrations are low. Bile can detect specific substances like chlorpromazine and morphine. Preservative: Saturated salt solution if there is no chance of acid poison. Rectified spirit if poisoned by acid. Hair and Nails Detects heavy metal poisoning; metals accumulate in keratin. Neutron activation analysis identifies specific metals and exposure patterns. Scene Residues Provides clues about the poison through materials found at the scene, such as tablets or empty containers. Formalin (Option C) is commonly used for general tissue preservation and fixation in anatomical pathology, but it is not specifically preferred for toxicology autopsy. It may affect the results of toxicological analyses.

References:

Goutam Biswas Review of Forensic Medicine and Toxicology, 3rd edition, page 114.

↑ *Back to this question in Part A*

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Q5: During a police investigation, some bones are uncovered from the crime scene. Which of the following tests would aid in differentiating between human and canine bones, during the forensic analysis? (Q860091)

A. Precipitin test

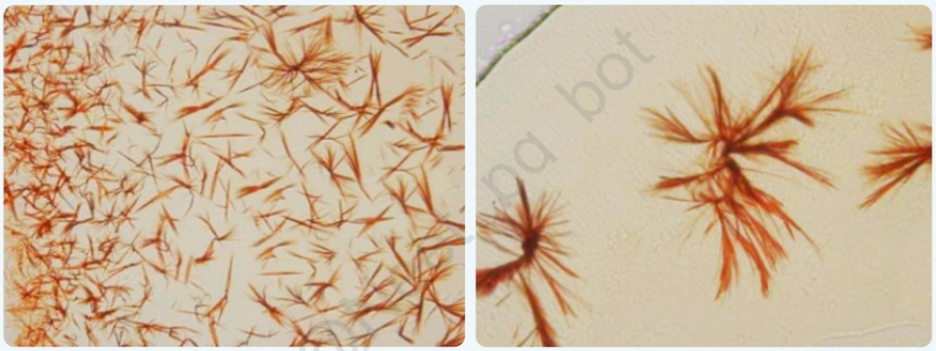
B. Acid-phosphatase

C. LDH

D. Teichmann test

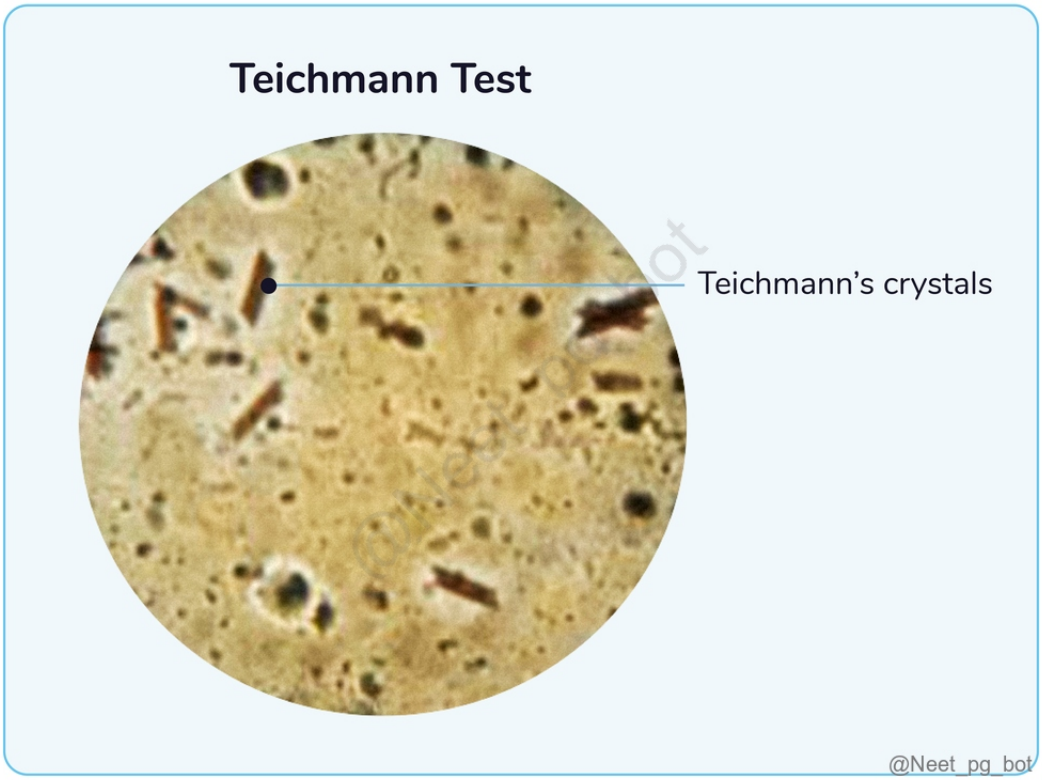
Correct Answer: A. Precipitin test

Explanation: The test which can give the species differentiation is the precipitin test. Precipitin tests can be done by extracting species-specific protein from bone into a solution and testing it against specific antisera of humans. The techniques such as electrophoresis or gel diffusion can now identify human tissue. Confirmatory Tests for Blood Stains in Forensic Medicine Confirmatory tests are critical for identifying blood presence and origin in forensic investigations. Methods include chemical, immunological, and mass spectrometry techniques for reliable results. Chemical Confirmatory Tests Test Description Takayama Test {{caption_text}} Detects hemoglobin by forming red, feathery crystals of pyridine ferroprotoporphyrin. Teichmann Test (Option D ruled out) {{caption_text}} Converts hemoglobin to hemin, creating brownish-yellow rhomboid crystals, confirming blood presence. Immunological Tests Test Description Precipitin Test (Option A) Identifies species origin through antibody-antigen reactions, using antisera specific to human blood. HemaTrace Test Uses monoclonal antibodies to detect human hemoglobin, showing a visible pink band for confirmation. Mass Spectrometry Techniques Thread Spray Mass Spectrometry : Analyzes whole blood directly on textiles, differentiating species based on lipid composition and hemoglobin chains. It offers high sensitivity and specificity. Acid-phosphatase (Option B) This test can be used to detect seminal fluid. LDH (Option C) cannot be used for species differentiation.



Haemochromogen crystals formed with Takayama reagent and human blood

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References:

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7896278/

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8617621/

↑ *Back to this question in Part A*

@Neet_pg_bot

Q6: What is the typical shape of the algor mortis cooling curve? (Q830732)

A. Hyperbolic

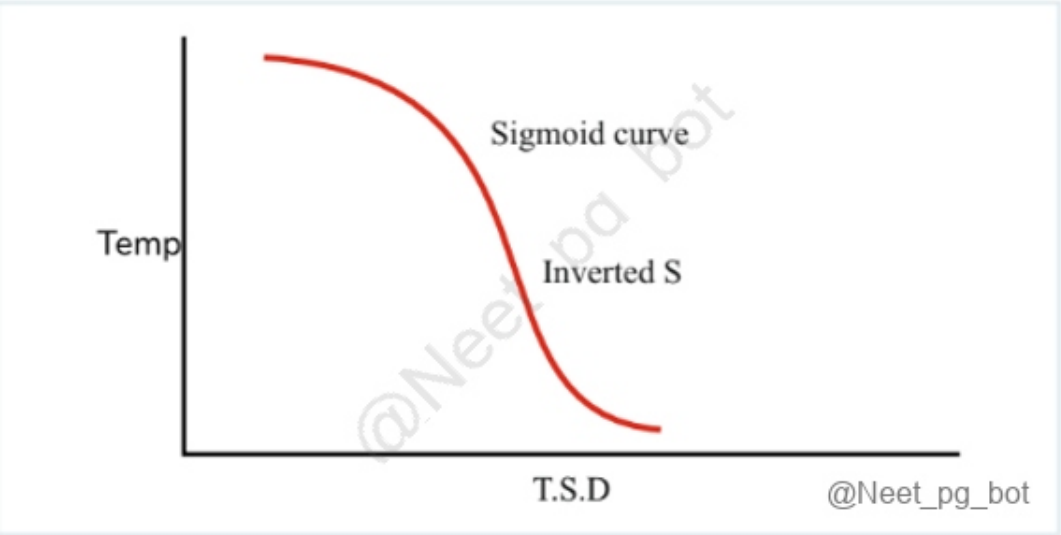
B. Sigmoid

C. Linear

D. Parabolic

Correct Answer: B. Sigmoid

Explanation: Correct Option B - Sigmoid: This is the characteristic shape of post-mortem cooling. The body cools gradually at first, reaches a midpoint, and then cools more rapidly. Incorrect Options: Option A - Hyperbolic: A hyperbolic curve would suggest rapid initial cooling followed by a slower decline, which is not characteristic of post-mortem cooling. Option C - Linear: This option implies a constant rate of cooling over time. Again, the linear cooling pattern doesn't accurately represent the post-mortem cooling process, which is more complex. Option D - Parabolic: A parabolic curve would imply a constant rate of cooling, which doesn't align with the observed pattern of post-mortem cooling.



References:

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↑ *Back to this question in Part A*

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Q7: What is the specific name of the test performed by the doctor during the autopsy where they tied the bronchus and submerged the lung in water to determine if it floats

or sinks? (Q859427)

A. Gettler's test

B. Ploucquet's test

C. Hydrostatic test

D. Diatom's test

Correct Answer: C. Hydrostatic test

Explanation: The test described, where the bronchus is tied and the lung is immersed in water to check whether it floats or sinks, is known as the Hydrostatic test. Hydrostatic test/ Raygat's test/ Breslau's 1 life test/ Lung floatation test If the baby had respired, the alveoli would be expanded/ dilated. Thus, as the lungs are expanded, alveoli are dilated & the specific gravity decreases. Alveoli are dilated d/t presence of residual air. When lungs are expanded, specific gravity becomes <1. Thus, they float when they are placed in the water This test is performed to assess the buoyancy of the lung, as the presence of air within the lung tissue causes it to float in water. It is used as a supportive indication of drowning, as drowning often leads to the aspiration of water into the lungs, resulting in increased lung buoyancy. Incorrect Options: Gettler's test (Option A): It is based on the chloride concentration in the blood samples of heart chambers. Normally, chloride concentration in both right side chambers & left side chambers should be equal Ploucquet's test (Option B): Plouquet's test is a test used to detect ratio between Weight of the lung to the Weight of the baby. Diatom's test (Option D): Diatom's test is a forensic examination that involves analyzing the presence of diatoms, in various tissues and , fluids to determine if a person was submerged in water.

References:

Hydrostatic test

↑ *Back to this question in Part A*

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• [04_Forensic Traumatology] 008 Mechanical Injuries

« Back to Folder Directory

[04_Forensic Traumatology] 008 Mechanical Injuries — Quick Jump

Q1 (p. 596)	*Q2 (p. 596)*	*Q3 (p. 598)*	*Q4 (p. 599)*	*Q5 (p. 601)*	*Q6 (p. 602)*
Q7 (p. 604)	*Q8 (p. 605)*	*Q9 (p. 605)*	*Q10 (p. 606)*	*Q11 (p. 607)*	*Q12 (p. 607)*
Q13 (p. 609)	*Q14 (p. 609)*	*Q15 (p. 610)*	*Q16 (p. 610)*	*Q17 (p. 611)*	*Q18 (p. 612)*
Q19 (p. 613)	*Q20 (p. 617)*	*Q21 (p. 619)*	*Q22 (p. 620)*	*Q23 (p. 622)*	*Q24 (p. 622)*
Q25 (p. 626)	*Q26 (p. 627)*	*Q27 (p. 630)*	*Q28 (p. 630)*	*Q29 (p. 632)*	*Q30 (p. 634)*
Q31 (p. 636)	*Q32 (p. 638)*	*Q33 (p. 639)*	*Q34 (p. 641)*		

Q1: Blunt force trauma produces bruises more readily in areas with loose connective tissue. Which region is most likely to show early and prominent bruising? (Q885957)

A. Shin

B. Forearm

C. Buttock

D. Legs

Correct Answer: C. Buttock

Explanation: Areas with loose subcutaneous fat and connective tissue (like the buttocks, scrotum, or eyelids) allow blood to easily extravasate and spread, making bruises appear larger and more quickly. Shin (Option A): The shin has very tight skin over bone; hence less prominent bruise. Leg and Forearm (Option B & D): The forearm and leg have denser muscle and connective tissue compared to the gluteal region; hence, less prominent bruise.

References:

Reddy KSN. The Essentials of Forensic Medicine and Toxicology, 35th Edition, Page 169

↑ *Back to this question in Part A*

@Neet_pg_bot

Q2: A forensic surgeon is examining multiple stab wounds on a homicide victim. The wounds are wedge-shaped as in the image: Which of the following weapons is likely the cause of the injury here? (Q847158)

A. Scissors

B. Single-edged knife

C. Double-edged knife

D. Broken glass bottleneck

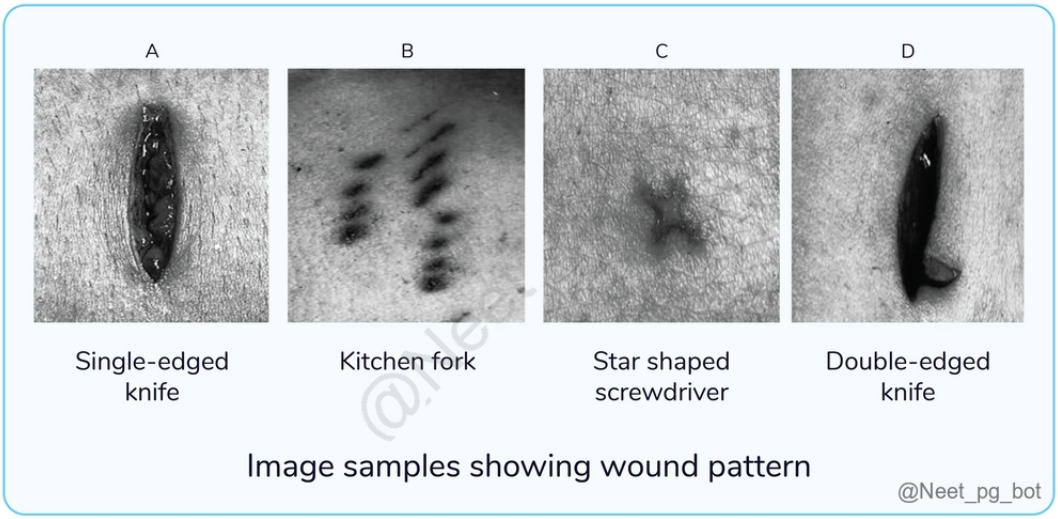


Correct Answer: B. Single-edged knife

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The wound described in the scenario as well as in the image is a wedge-shaped stab wound which is caused by a single-edged weapon like a knife. The shape of a stab wound depends on the weapon used: Weapon used Shape of wound Single-edged weapon Triangular or wedge-shaped surface wound One side is sharp, and the other is rounded, blunt, or squared off Double-edged weapon (Option C) Elliptical or slit-like wound Both sides are sharp or pointed Round object Circular wound Pointed square weapon Cross-shaped injury Broken bottle (Option D) Clusters of wounds of different shapes, sizes, depths, and irregular margins Screwdriver Slit-like stab wound with squared ends Scissors (Option A) Closed: Flat “Z” shaped Open: Like a knife Ice picks Small, round, or slit-like Fork Group of 3-4 wounds depending on the prongs of the fork



References:

The Essentials of Forensic Medicine & Toxicology, K. S. Narayan Reddy, 35th Edition, Pages 153, 155

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 202

↑ *Back to this question in Part A*

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Q3: Assertion : The appearance and shape of stab wounds are significantly influenced by the orientation of Langer's lines on the skin. Reason : Stab wounds that are parallel to Langer's lines tend to be narrow and slit-shaped, while those that cut across the lines may gape due to skin elasticity and the tension created along these lines. Analyze the above statements and answer accordingly. (Q847161)

A. Both assertion and reason are correct and the reason is the right explanation

B. The assertion is wrong but the reason is correct

C. Both assertion and reason are wrong

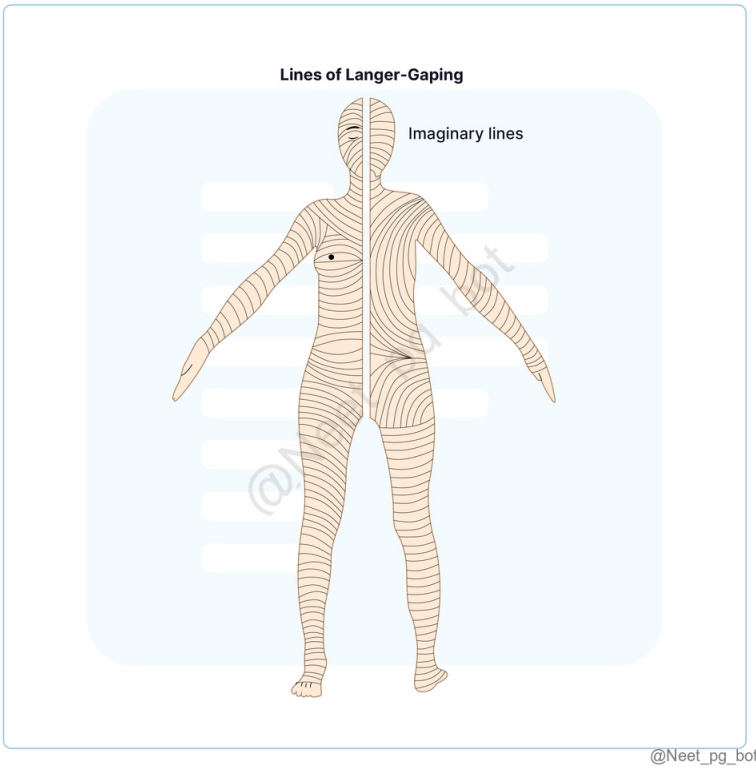
D. The assertion is true but the reason is wrong

Correct Answer: A. Both assertion and reason are correct and the reason is the right explanation

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation:



References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 203.

↑ *Back to this question in Part A*

@Neet_pg_bot

Q4: An old method of suicide conducted by Japanese samurai warriors as a ritual is shown below. Identify the cause of death in such cases. (Q847165)

A. Hypovolemic shock

B. Asphyxia

C. Vasovagal inhibition

D. Hypoxemia



Correct Answer: A. Hypovolemic shock

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The given scenario points to Harakiri, which is a method of suicide done by the victim using a short sword to inflict a single large stab L-shaped wound in the abdomen leading to a severe loss of blood volume causes the body to enter hypovolemic shock , leading to a sudden drop in intraabdominal pressure and thus causing cardiac collapse and death. Hara-kiri/Seppukku Hara-kiri refers to an unusual method of suicide where the victim inflicts a single large stab wound on the abdomen. It is associated with Japanese samurai warriors. Characteristics of the wound It is a single large stab wound made by the victim by moving the sword across the abdomen (usually left to right) and then turning it up to form an L-shape . Mechanism of injury The wound is made by a short sword while in a sitting position or By falling onto a ceremonial sword. A well-fixed knife can produce a wound like this, but only with enough momentum to do so. Cause of death The rapid, severe loss of blood volume causes the body to enter hypovolemic shock , leading to a sudden drop in blood pressure and failure of the circulatory system to deliver enough oxygen to the brain and vital organs. Death typically follows quickly from blood loss. This leads to sudden cardiac collapse and death .





References:

The Essentials of Forensic Medicine & Toxicology, K. S. Narayan Reddy, 35th Edition, Page 156.

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 204.

https://pubmed.ncbi.nlm.nih.gov/20456578/

https://www.ncbi.nlm.nih.gov/books/NBK430833/

↑ *Back to this question in Part A*

@Neet_pg_bot

Q5: A 30-year-old woman was attacked with an axe and suffered a chop wound from it. Which of the following is true about a chop wound? (Q847168)

A. The wound is a laceration on the surface and does not involve the underlying bone

B. The dimensions of the wound do not correspond to the weapon size

C. The margins of the wound are always irregular

D. The heel of the axe leaves a deeper wound than the toe of the axe

Correct Answer: D. The heel of the axe leaves a deeper wound than the toe of the axe

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: A chop wound is produced by heavy, sharp weapons like an axe, hatchet, or machete. It shows features of both incised and lacerated wounds due to the combination of sharp and blunt force. Chop wounds often involve bone, causing cuts, chips, or fractures. The wound margins may appear clean superficially but have underlying tissue bridging due to crushing. The heel of the axe (the part closest to the handle) strikes with greater force because it has more control and impact. Thus, the heel produces a deeper wound than the toe (the far end). Dimensions of a chop wound typically correspond to the weapon size. These characteristics help forensic experts determine the weapon type and the force applied. The wound is a laceration on the surface and does not involve the underlying bone (Option A) : Chop wounds frequently involve bone, causing fractures or grooves. They are not simple lacerations. The dimensions of the wound do not correspond to the weapon size (Option B) : Chop wounds usually match the width and shape of the weapon blade. Useful in weapon identification. The margins of the wound are always irregular (Option C): Margins are often clean and incised , not always irregular. Irregularity appears only when associated with crushing or splitting.

References:

The Essentials of Forensic Medicine & Toxicology, K. S. Narayan Reddy, 35th Edition, Page 149

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 200

↑ *Back to this question in Part A*

@Neet_pg_bot

Q6: A victim of an attack displays several injuries on the palms, flexor sides of the fingers, and interdigital spaces and are irregular and ragged cuts. Which of the following best describes the nature of these injuries? (Q847171)

A. Passive defense injuries sustained while raising arms for protection

B. Active defense injuries sustained while attempting to grasp the weapon

C. Lacerations from a blunt weapon

D. Injuries caused by falling onto a sharp object

Correct Answer: B. Active defense injuries sustained while attempting to grasp the weapon

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The wound in the given scenario points to an active defense wound where the victim has tried to grasp the weapon to prevent the attack and sustained injuries to the palm and on the fingers which would have been the case with a double-edged weapon. Defence wounds are caused by the immediate and instinctive reaction of the victim to save himself from an attack and are usually seen on the extremities. They are divided into two types: Active defense wounds Passive defense wounds Mechanism of injury The victim tries to grasp the weapon The victim raises the arms, legs, or hands Site Depends on the type of weapon. A single-edged weapon causes a single cut on the palm or the bends of fingers or thumb . A double-edged weapon produces cuts on both the palm and fingers . A typical knife defense wound is seen between the base of the thumb and the index finger. Extensor or ulnar surfaces of the forearms, wrists, back of the hands, knuckle. (Option A) Rarely on the shin and feet. Arms and posterior aspect of lower limbs and back. Type of Injuries Irregular and ragged cuts due to loosening of skin tension while gripping the knife. Fractures of the carpal bones, metacarpals, and digits (mostly blunt trauma). (Option D) Lacerations from a blunt weapon (Option C) are usually split lacerations when a part of the body gets crushed against a hard surface and causes injury. They have sharp edges (incised-looking laceration) unless much skin is involved and are seen mostly over areas with underlying bony prominences like eyebrows, forehead, etc. Injuries caused by falling onto sharp objects (Option D) can be puncture, penetrating, or perforating wounds, which have clean-cut margins and usually have the dimensions of the weapon causing it.



References:

The Essentials of Forensic Medicine & Toxicology, K. S. Narayan Reddy, 35th Edition, Pages 156-158

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Pages 195, 201, 206

↑ *Back to this question in Part A*

@Neet_pg_bot

Q7: A road traffic accident victim is noted to have the injuries shown in the image given below. These injuries involve loss of skin limited to which layer? (Q885950)

A. Partial thickness of epidermis

B. Full thickness of epidermis

C. Epidermis with superficial dermis

D. Epidermis with full dermis



Correct Answer: B. Full thickness of epidermis

Explanation: An abrasion is an injury involving the destruction of the full thickness of the epidermis without involving the dermis. Since the dermis contains blood vessels, a pure abrasion does not bleed profusely but may show pinpoint bleeding from the dermal papillae. Partial thickness of epidermis (Option A): Partial thickness describes a scratch, not an abrasion. Epidermis with superficial dermis (Option C): If the superficial dermis is involved, it is a graze-laceration. Epidermis with full dermis (Option D): Full dermis involvement results in a laceration, which heals with a permanent scar; true abrasions heal without scarring.

References:

Reddy KSN. The Essentials of Forensic Medicine and Toxicology, 35th Edition, Page 162

↑ *Back to this question in Part A*

@Neet_pg_bot

Q8: During medicolegal examination, an abrasion shows tapering at one end due to sliding contact. Which feature best determines the direction in which the force was applied? (Q885953)

A. Presence of epidermal tags

B. Marginal bruising

C. Terminal tailing of the lesion

D. Crushed hair shafts

Correct Answer: C. Terminal tailing of the lesion

Explanation: In a sliding or "graze" abrasion, the friction of the rough surface causes the epidermis to be pushed forward. The injury starts broad and shallow and ends with a "tail" or tapering at the point where the object lost contact with the skin. Presence of epidermal tags (Option A): Epidermal tags are found at the distal end (the end toward which the force was directed). Marginal bruising (Option B): Marginal bruising indicates impact but provides no direction.. Crushed hair shafts (Option D): Crushed hair shafts are seen in blunt force trauma (contusions/lacerations) and do not signify the direction.

References:

Biswas G. Review of Forensic Medicine and Toxicology, 5th Edition, Page 194

↑ *Back to this question in Part A*

@Neet_pg_bot

Q9: Which of the following statements regarding wounds and vital reactions is incorrect? (Q885956)

A. Injuries inflicted during life show an inflammatory response

B. Injuries sustained after death show active bleeding

C. Postmortem injuries lack tissue reaction

D. Antemortem injuries exhibit tissue response

Correct Answer: B. Injuries sustained after death show active bleeding

Explanation: Active bleeding requires blood pressure generated by a beating heart. Postmortem wounds are characterised by a lack of bleeding, or at most, a small amount of passive, non-clotting blood seepage due to gravity. Injuries inflicted during life show an inflammatory response (Option A): Antemortem injuries trigger the body's defensive inflammatory cascade. Postmortem injuries lack tissue reaction (Option C): Postmortem injuries occur in dead tissue where cellular respiration and circulation have ceased, hence no tissue reaction. Antemortem injuries exhibit tissue response (Option D): Antemortem injuries show signs like retraction of wound edges and clotting.

References:

Pillay VV. Textbook of Forensic Medicine and Toxicology, 19th Edition, Page 184

↑ *Back to this question in Part A*

@Neet_pg_bot

Q10: A forensic surgeon is examining a stab wound on a victim. Which of the following statement/s is/are true about the dimensions of the wound? Breadth of the wound is equal to the thickness of the weapon Depth is the greatest dimension of a stab wound The edges of the wound are clean-cut The length of the wound is usually slightly more than the width (Q847157)

A. 1, 2, and 3

B. 2,3

C. 1 and 3

D. All are correct

Correct Answer: B. 2,3

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Wound description: When describing a stab wound, it’s important to note the length, width, direction, and appearance of the wound's margins and angles. Margins The edges of the wound are clean-cut (statement 3) and typically show no abrasion or bruisin In cases of full blade penetration, a patterned abrasion or bruising may occur due to the hilt guard striking the skin The margins are regular, sharp, and well-defined; however, wounds caused by pointed or conical instruments may have lacerated edges Length The length of the wound is usually

slightly less than the width (statement 4) of the weapon because of skin stretching Breadth The breadth maybe equal to, less than/greater than the thickness of the blade (statement 1) due to gaping; proper approximation of the edges is necessary for accurate measurement Depth Depth is the greatest dimension of a stab wound (statement 2) and corresponds to the length of the weapon entering the body If the entire length of the weapon penetrates without producing an exit wound, this depth is critical Safety note: It is unsafe to determine the depth of a stab wound by probing in the emergency room, as this can disturb any loose clot and lead to severe hemorrhage Probing may also create a false track by passing between fascial planes or within muscles Depth assessment should be conducted in the operating theater during wound repair

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 201

↑ *Back to this question in Part A*

@Neet_pg_bot

Q11: A forensic expert is asked to estimate the age of a contusion in a suspected assault victim. Which method provides the most reliable estimation? (Q885975)

A. Gross colour changes

B. Detection of green pigmentation

C. Microscopic tissue examination

D. Chemical staining alone

Correct Answer: C. Microscopic tissue examination

Explanation: Histological/Microscopic examination is the gold standard. It identifies specific cellular timelines: Neutrophils (6-12 hrs), Macrophages (24-48 hrs), and The appearance of Hemosiderin (approx. 72 hrs). Gross colour changes (Option A): Gross color changes are unreliable because they depend on the depth of the bruise, the individual's skin color, and the lighting during examination. Detection of green pigmentation (Option B): Green pigmentation (biliverdin) occurs between 4-7 days, not very specific. Chemical staining alone (Option D): Chemical staining (Prussian Blue) is a part of histology, but does not give as complete a picture as total microscopic tissue assessment.

References:

Modi’s Medical Jurisprudence and Toxicology, 26th Edition, Page 544

↑ *Back to this question in Part A*

@Neet_pg_bot

Q12: At autopsy, discoloration is noted over dependent areas of the body. Which procedure helps confirm whether the finding represents true bruising? (Q885977)

A. Gettler's test

B. Incising the discoloured area

C. Benzidine test

D. Precipitin reaction



Correct Answer: B. Incising the discoloured area

Explanation: The given image denotes postmortem lividity/ livor mortis. Incising the discoloured area refers to the incision test . In a bruise , the blood has leaked into the tissues (extravasated) and cannot be washed away. In postmortem lividity , the blood is still inside the vessels; when incised, it can be easily washed off. Gettler's test (Option A): The Gettler Test or Chloride Test is a forensic method used to help determine if death was caused by drowning and differentiate between freshwater and saltwater drowning by measuring chloride levels in blood. Benzidine test (Option C): The Benzidine test only confirms the presence of blood, not its origin. It reacts with heme iron in hemoglobin, turning from clear to deep blue in the presence of blood, thereby aiding in preliminary crime scene analysis. Precipitin reaction (Option D): The precipitin reaction is used to identify the species of origin for biological stains like blood, semen, or saliva, by mixing an extract of the stain with specific antisera (e.g., rabbit anti-human serum) to form a visible, insoluble antigen-antibody complex (precipitate), proving if the sample is human or animal

References:

Gautam Biswas. Review of Forensic Medicine and Toxicology, 5th Edition, Page 156

↑ *Back to this question in Part A*

@Neet_pg_bot

Q13: A penetrating injury with symmetrical margins and a wedge-like appearance is observed during examination. Which weapon is most consistent with this injury? (Q885981)

A. Single-edged blade

B. Serrated knife

C. Double-edged blade

D. Blunt metallic rod

Correct Answer: C. Double-edged blade

Explanation: A double-edged weapon (like a dagger) produces a symmetrical, spindle-shaped or "wedge-like" wound because both ends of the blade are sharp, resulting in both angles of the wound being acute. Single-edged blade (Option A): A single-edged blade produces a "V-shaped" wound where one end is sharp, and the other is squared off (blunt). Serrated knife (Option B): Serrated knives produce jagged/irregular margins. Blunt metallic rod (Option D): Blunt rods produce circular or irregular puncture-lacerations.

References:

Reddy KSN. The Essentials of Forensic Medicine and Toxicology, 35th Edition, Page 187

↑ *Back to this question in Part A*

@Neet_pg_bot

Q14: While examining a cut injury produced over a bony surface, which of the following findings would favour an incised wound rather than a split laceration? (Q885984)

A. Linear cut mark on the underlying bone

B. Hair shafts bridging across the wound

C. Tissue bridges seen within the wound cavity

D. Surrounding contusion at the wound margins

Correct Answer: A. Linear cut mark on the underlying bone

Explanation: An incised wound is caused by a sharp edge that cleanly divides all tissues, including "nicking" or cutting the bone in a linear fashion. Hair shaft bridging and tissue bridges (Option B & C): These are pathognomonic for lacerations (blunt force), as these structures are more resistant to tearing than skin. Surrounding contusions at the wound margins (Option D): They are typical of the impact of a laceration.

References:

Pillay VV. Textbook of Forensic Medicine and Toxicology, 19th Edition, Page 201

↑ *Back to this question in Part A*

@Neet_pg_bot

Q15: A blunt force injury produces a laceration with characteristic radiating skin tears at both ends. What is this appearance called? (Q885986)

A. Sparrow’s foot

B. Wedging

C. Fish tailing

D. Swallow tailing

Correct Answer: D. Swallow tailing

Explanation: Swallow tailing occurs when a blunt object (like a car bumper) strikes the skin at an angle. The force "undermines" the skin and tears it in two directions at the end, resembling the tail of a swallow. Sparrow’s foot (Option A): It is a characteristic, small, V-shaped laceration on the face or limbs caused by shattering tempered glass, typically from a car windshield during a road accident, resembling bird tracks. Wedging (Option B): Wedging is seen in single-edged stab wounds. Fish tailing (Option C): Fish tailing refers to a characteristic tear or blunt/triangular shape at one end of a stab wound, indicating a single-edged knife made it.

References:

Modi’s Medical Jurisprudence and Toxicology, 26th Edition, Page 539

↑ *Back to this question in Part A*

@Neet_pg_bot

Q16: During autopsy, several superficial, parallel, linear cuts are observed along the ulnar aspect of the forearm. These findings are most suggestive of which manner of injury? (Q885990)

A. Defence injuries

B. Self-mutilation

C. Tentative cuts

D. Accidental sharp injury



Correct Answer: C. Tentative cuts

Explanation: Trial cuts (Hesitation marks) are superficial, parallel incisions made by a person before they summon the courage to make a deep, fatal cut. They are highly suggestive of suicide. Defence injuries (Option A): Defence wounds are found mostly on the palms or outer forearm and are usually deep and irregular. Self-mutilation (Option B): Self-mutilation is the deliberate, direct destruction or alteration of body tissue without conscious suicidal intent. Accidental sharp injury (Option D): Accidental injuries lack this organised, parallel pattern.

References:

Reddy KSN. The Essentials of Forensic Medicine and Toxicology, 35th Edition, Page 182

↑ *Back to this question in Part A*

@Neet_pg_bot

Q17: Histopathological examination of a wound shows polymorphonuclear leukocyte infiltration. What is the minimum time after injury when this change is typically observed? (Q885995)

A. Within 2 hours

B. Between 4-12 hours

C. Between 12-24 hours

D. After 72 hours

Correct Answer: B. Between 4-12 hours

Explanation: The emigration of Polymorphonuclear (PMN) leukocytes from the capillaries into the wound site is a vital reaction that typically begins within 4 to 8 hours and becomes prominent by 12 hours. Within 2 hours (Option A) , we only see biochemical changes (histamine/serotonin). Between 12-24 hours (Option C) is when infiltration is peaking, but it starts much earlier. After 72 hours (Option D) , the predominant cells are macrophages and fibroblasts.

References:

Knight's Forensic Pathology, 4th Edition, Page 142

↑ *Back to this question in Part A*

@Neet_pg_bot

Q18: Which of the following statements accurately describes the differences between a bruise and hypostasis? (Q847133)

A. Bruises are caused by ruptured vessels, but hypostasis from distension of vessels.

B. Bruises typically have clearly defined margins, but hypostasis merges with the surrounding area.

C. Bruises are often seen in the most dependent parts of the body, but hypostasis is only present at the site of injury.

D. Bruises do not cause elevation of the affected area, while hypostasis may cause swelling.

Correct Answer: A. Bruises are caused by ruptured vessels, but hypostasis from distension of vessels.

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Bruises are caused by ruptured vessels like veins, venules, and arterioles, which may be superficial or deep, whereas hypostasis is due to the distension of vessels that occurs after death. Aspect Bruise Hypostasis/ Postmortem staining Cause (Option A) Ruptured vessels that may be deep or superficial. Distension of vessels with blood in the dermis. Site (Option C) At the site of and surrounding the injury. May appear anywhere in the body. Over extensive areas of the most dependant parts. Appearance (Option D) Swollen. No elevation of the affected area. Epidermis May be abraded. Not abraded. Margins (Option B) Merge with the surrounding area. Clearly defined. Color Different colors according to the age of the bruise. Uniform, bluish-purple. Incision Extravasation of blood into surrounding tissues and are firmly clotted. Subcutaneous tissues are deep reddish-black. Blood is seen in blood vessels. Subcutaneous tissues are pale.

References:

The Essentials of Forensic Medicine & Toxicology, K. S. Narayan Reddy, 35th Edition, Page 141 Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 94

↑ *Back to this question in Part A*

@Neet_pg_bot

Q19: A 30-year-old man was involved in a road traffic accident and presented with abrasion marks visible on his body. The abrasion pattern appears consistent with a distinct type of injury mechanism. Based on the image provided, what type of abrasion is most likely in this scenario? (Q847004)

A. Linear Abrasion

B. Grazed Abrasion

C. Imprint Abrasion

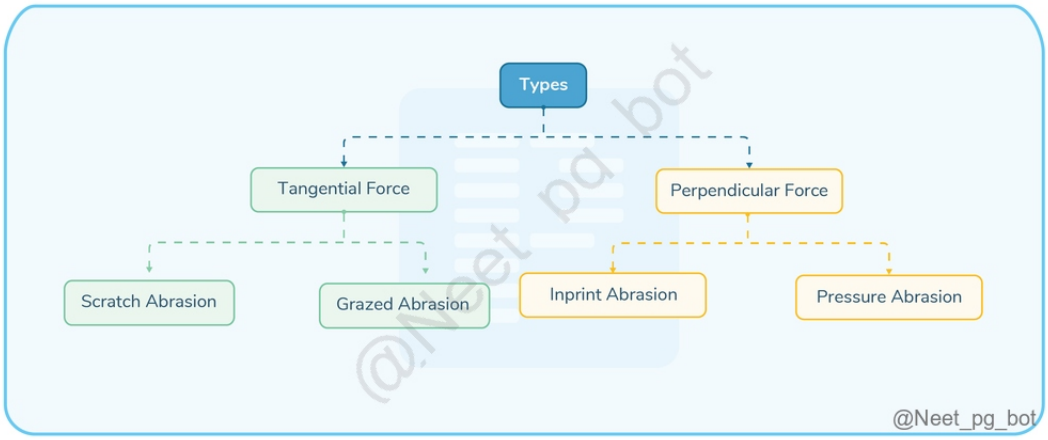
D. Pressure Abrasion



Correct Answer: C. Imprint Abrasion

- *Listen (English)*
- *Listen (Hindi)*

Explanation: Imprint abrasions occur when a patterned object, like a vehicle tyre or a textured surface, presses against the skin, leaving a distinct impression of the object. In this case, the patterned nature of the injury suggests an imprint abrasion. Abrasion: Abrasion is a superficial injury caused by the removal or damage of the skin's outer layer (epidermis) due to friction or pressure. It is classified into four main types: Scratch Abrasion (Linear Abrasion) (Option A) Grazed Abrasion (Sliding Abrasion) (Option B) Mechanism: Caused by tangential (side-to-side) force, producing a long and narrow abrasion. Features: Linear in nature, with length being more significant than width. Examples: Fingernail abrasion, thorn abrasion, and pin abrasion. Mechanism: Occurs when skin slides over a rough surface, resulting in superficial scrapes. Also Known As: Grinding abrasion, gravel rash, brush-burn. Features: Seen in road traffic accidents or falls, especially on exposed areas like knees or elbows. Imprint Abrasion (Patterned Abrasion) (Option C) Pressure Abrasion (Crushing Abrasion) (Option D) Mechanism: Results from compressive force applied perpendicular to the skin, leaving a distinct pattern of the object. Also Known As Impact abrasion, contact abrasion, patterned abrasion. Examples: Tyre marks, bite marks. Mechanism: Caused by a continuous vertical force applied to the skin, crushing the epidermis. Features: Deeper skin injuries are often seen with prolonged pressure, potentially leading to necrosis. Examples: Ligature marks in hanging or strangulation


Types
Tangential Force
Perpendicular Force
Scratch Abrasion
Grazed Abrasion
Inprint Abrasion
Pressure Abrasion
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References:

The Essentials of Forensic Medicine & Toxicology, K. S. Narayan Reddy, 35th Edition, Page 134-136.

↑ *Back to this question in Part A*

@Neet_pg_bot

Q20: Which of the following statements is correct regarding the forensic findings given in the following image? (Q847027)

A. Pressure abrasion marks are always superficial and heal without scarring.

B. Continuous vertical force can cause damage to both the epidermis and underlying structures.

C. Ligature marks caused by hanging do not show epidermal crushing.

D. Abrasions from strangulation are typically caused by horizontal shearing forces.



Correct Answer: B. Continuous vertical force can cause damage to both the epidermis and underlying structures.

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The image shows pressure abrasion caused by ligature strangulation . It involves a continuous vertical force that can crush the epidermis and even extend to deeper tissues, potentially leading to necrosis. This differs from superficial abrasions, which do not cause such depth of injury. Pressure Abrasion (Crushing Abrasion) Mechanism: Caused by a continuous vertical force (Option D) applied to the skin, crushing the epidermis (Option C) . Features: Deeper skin injuries (Option A) are often seen with prolonged pressure, potentially leading to necrosis. Examples: Ligature marks in hanging or strangulation.



References:

The Essentials of Forensic Medicine & Toxicology, K. S. Narayan Reddy, 35th Edition, Page 134-136.

↑ *Back to this question in Part A*

@Neet_pg_bot

Q21: A 35-year-old male is being evaluated for injuries as part of a medico-legal case. During the examination, an abrasion wound is noted to be brown in color. Based on the appearance of the wound, what is the most likely time since the injury occurred? (Q847034)

A. 12-24 hours

B. 2-3 days

C. 4-5 days

D. 6-7 days

Correct Answer: C. 4-5 days

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: By 4-5 days, the wound has undergone healing processes, and the scab typically appears brown, indicating desiccation and progress in wound healing. A scab forms as blood or lymph exudate dries up on the surface of the abrasion, providing valuable information regarding the age of the injury. The color progression of the scab is indicative of how long the abrasion has been present. Color changes of a scab over time Time Post-Injury Scab Color Description Before 12 hours No scab Exudate is still fluid and not yet dried. 12-24 hours Bright red Fresh blood and exudate are present. 2-3 days Reddish-brown Scab darkens, indicating it is ageing. 4-5 days Brown Scab continues to darken, turning brown. 6-7 days Black Scab becomes black, marking the late stage of healing. After 7 days Falls off Scab typically falls off after this period.

References:

The Essentials of Forensic Medicine & Toxicology, K. S. Narayan Reddy, 35th Edition, Page 136

↑ *Back to this question in Part A*

@Neet_pg_bot

Q22: Which of the following statements correctly differentiates between postmortem and antemortem abrasions? (Q847043)

A. Antemortem abrasions are yellowish-white or pale, whereas postmortem abrasions are reddish-brown to dark brown in color.

B. Postmortem abrasions are typically found on bony prominences, while antemortem abrasions can occur on any part of the body.

C. Congestion is definitive of postmortem abrasions.

D. Both postmortem and antemortem abrasions exhibit bleeding with clot formation.

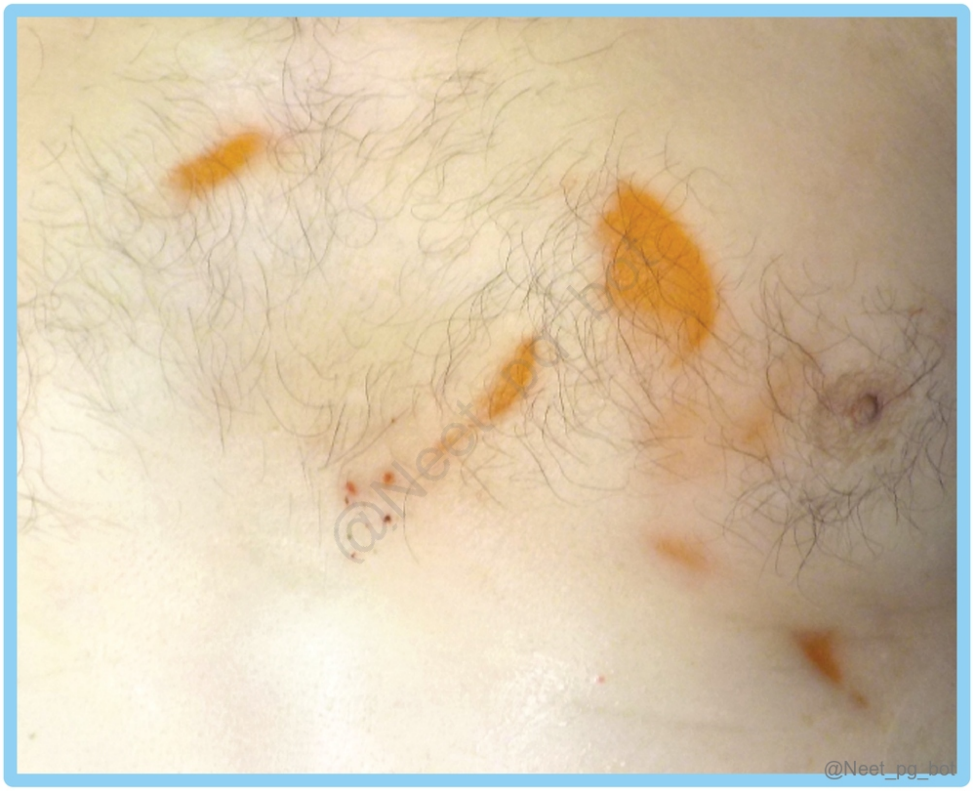
Correct Answer: B. Postmortem abrasions are typically found on bony prominences, while antemortem abrasions can occur on any part of the body.

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Postmortem abrasions are often the result of handling or movement of the body after death, and they typically occur over bony prominences where the skin is easily damaged. In contrast, antemortem abrasions can occur anywhere due to trauma experienced while the person is still alive. Postmortem Abrasion Vs Antemortem Abrasion Feature Postmortem Abrasion Antemortem Abrasion Image Intra-vital reaction or congestion (Option C) Absent Present Site (Option B) Typically found on bony prominences Can occur on any part of the body Color of abrasion (Option A) Yellowish-white or pale Reddish-brown to dark brown Scab formation Absent or minimal Present and well-formed Exudates Less or absent Increased (due to inflammatory reaction) Elevation (Scab) Less raised More raised due to active healing Bleeding/ Color changes (Option D) No active bleeding Active bleeding

with clot formation Healing process No healing process Healing starts with inflammation





References:

The Essentials of Forensic Medicine & Toxicology, K. S. Narayan Reddy, 35th Edition, Page 136,137. Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 189,190.

↑ *Back to this question in Part A*

@Neet_pg_bot

Q23: A 45-year-old female presents to the emergency department following minor trauma from bumping into a table corner. Physical examination reveals a bluish discoloration on the thigh. Based on its appearance, what is the most likely age of the bruise? (Q847099)

A. Day 4

B. 5 to 6 days

C. Few hours to 3 days

D. 2 weeks

Correct Answer: C. Few hours to 3 days

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The above clinical scenario shows a blue-colored bruise that can be considered to be around a few hours to 3 days old . Color Change Rate (due to hemoglobin breakdown) Color of bruise Age of bruise Red (oxygenated blood) Fresh bruise/ 1-2 hours Blue (deoxyhemoglobin) A few hours to 3 days (Option C) Bluish-black to brown (hemosiderin) 4th day (Option A ruled out) Greenish (haematoidin/biliverdin) 5 to 6 days (Option B ruled out) Yellow (bilirubin) 7 to 12 days Normal 2 weeks (Option D ruled out)

References:

The Essentials of Forensic Medicine & Toxicology, K. S. Narayan Reddy, 35th Edition, Page 140

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 194

↑ *Back to this question in Part A*

@Neet_pg_bot

Q24: A 30-year-old man presents with multiple bruises on his body following a fight. Upon examination, the physician notes a specific pattern of bruising on his back as shown: What is this type of bruise called? (Q847106)

A. Battle sign

B. Spectacle hematoma

C. Railway line type

D. Automobile tyre pattern



Correct Answer: C. Railway line type

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The above clinical scenario shows patterned contusions that appear as two parallel , linear hemorrhages with normal skin in between known as tram track or railway line-type contusions. Contusions/bruises can be classified into two types based on the way they appear: Ectopic/percolated/migratory bruise Patterned bruise In deep bruises, blood tracks along the fascial planes and may cause the bruise at a different site. This is also called percolated or migratory contusion. Examples: Spectacle hematoma (Option B) around the eyes after a blunt trauma to the forehead Bruise behind the ear due to basal skull fracture known as Battle sign (Option A) Bruise in thigh due to fractured pelvis Bruise around knee due to a kick on calf Grey Turner’s sign: Ecchymosis seen over the flank or side of the abdomen due to extensive retroperitoneal hemorrhage. Takes 24-48 hours to develop Cullen’s sign: Bluish-black discoloration of the periumbilical skin due to extensive retroperitoneal or intraabdominal bleeding. Causes can be ruptured ectopic pregnancy or acute pancreatitis The shape and size of the bruise resemble a part of the object that caused it. Shapes of bruises by different weapons: A solid body like a hammer or fist causes round bruises A doughnut bruise due to objects like a cricket ball A rod , stick , or whip leads to two parallel, linear hemorrhages with normal skin in between known as railway line or tram line bruises

Blows from a whip are elongated and partially encircle a limb or the body Tire patterns from an automobile accident (Option D)









References:

The Essentials of Forensic Medicine & Toxicology, K. S. Narayan Reddy, 35th Edition, Page 139

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 192

↑ *Back to this question in Part A*

@Neet_pg_bot

Q25: Given below is the picture of a patient with history of fall from a bike the day before. What is the name of this finding? (Q847121)

A. Spectacle hematoma

B. Grey Turner's sign

C. Cullen's sign

D. Battle sign



Correct Answer: B. Grey Turner's sign

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The sign here is the Grey Turner's sign which is the ecchymosis seen over the flank or side of the abdomen due to extensive retroperitoneal hemorrhage which is a type of migratory or ectopic bruise. Gravity

shifting of blood (ectopic/migratory bruise): Bruises may appear at sites distant from the actual injury (e.g., black eyes). The blood tracks along fascial planes or between muscle layers, following the path of least resistance, leading to bruising in superficial tissue areas. Therefore, the location of a bruise does not always reflect the site of injury. Grey Turner's sign: Ecchymosis observed over the flank or side of the abdomen which is indicative of extensive retroperitoneal hemorrhage. This sign typically develops within 24–48 hours. Cullen's Sign : (Option C) Bluish-black discoloration around the periumbilical area resulting from extensive retroperitoneal or intra-abdominal hemorrhage. Common causes include ruptured ectopic pregnancy or acute pancreatitis. Other examples: Spectacle hematoma (Option A) around the eyes after a blunt trauma to the forehead Bruise behind the ear due to basal skull fracture known as Battle sign (Option D) Bruise in thigh due to fractured pelvis Bruise around the knee due to a kick on the calf

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 192

The Essentials of Forensic Medicine & Toxicology, K. S. Narayan Reddy, 35th Edition, Page 139

↑ *Back to this question in Part A*

@Neet_pg_bot

Q26: A medicolegal case of assault is being examined at the emergency with the following contusions. What is the most likely explanation for the appearance of these bruises? (Q847126)

A. Natural bruises due to physical trauma

B. Artificial bruising to falsely accuse someone

C. Post-mortem bruising from blood settling

D. Bruising due to pre-existing medical condition



Correct Answer: B. Artificial bruising to falsely accuse someone

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The scenario here shows a bruise that is dark brown and irregularly shaped with well-defined margins and redness and inflammation of the surrounding tissues that point to artificial bruises. Contusions can be divided as follows: Artificial bruising True bruising (Option A) These are bruises created to make a false charge of assault . They are usually present on accessible parts of the body. They appear dark brown and irregular in shape. Redness and inflammation are seen in the surrounding tissues. Produced by the juice of a marking nut rubbed on the body. Well-defined margins with small vesicles. Itching is present. Other substances used: Plumbago Madar/calotropis Semicardium The cause of true bruising is trauma. They can be located anywhere in the body. They undergo typical color changes. Redness and inflammation are seen on the site. They are usually round with well-defined, diffuse, and irregular margins with no vesicles. They have extravasated blood as content and are not associated with itching. Postmortem bruising from blood settling (Option C): An injury produced before death may lead to a bruise later due to further escape of blood. A deep bruise may appear several hours or 1-2 days later, and deeper extravasation of blood may not appear at all. Caused by percolation and rapid hemolysis of stagnant blood, leading to the pigment being diffused locally. This produces a stain on the surface called a come-out bruise . Some bruises are difficult to detect, and hence, the examination of the whole body under UV light helps locate them. Bruising due to pre-existing medical conditions (Option D) like arteriosclerosis, purpura, leukemia, hemophilia, scurvy, etc., causes easy bruising but appears different from an artificial bruise, and a clear history of these diseases is present.





References:

The Essentials of Forensic Medicine & Toxicology, K. S. Narayan Reddy, 35th Edition, Page 139, 142 Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 195

↑ *Back to this question in Part A*

@Neet_pg_bot

Q27: Which of the following is not a cause of injury due to sharp force? (Q847000)

A. Laceration

B. Incision

C. Stab

D. Chop

Correct Answer: A. Laceration

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Laceration results from blunt force trauma rather than sharp force. It leads to irregular, jagged wounds caused by tearing of the tissue. Classification of Mechanical Injuries Blunt Force Injuries Sharp Force Injuries Abrasion: Superficial damage to the skin (scraping, rubbing off the outer layer). Contusion: Bruise caused by blood vessels rupturing under the skin due to impact. Laceration: Irregular tear in the skin or tissue caused by crushing or blunt trauma. Fractures/Dislocations: Breaks or misalignment of bones due to strong blunt impact. Incision: A clean-cut wound where the length is greater than the depth. Stab Wound: A deep wound where the depth is greater than the length. Chop Wound: A deep wound often associated with underlying fractures caused by heavy-bladed tools like an axe.

References:

The Essentials of Forensic Medicine & Toxicology, K. S. Narayan Reddy, 35th Edition, Page 133, 134. Parikhs Textbook of Medical Jurisprudence, Forensic Medicine and Toxicology, 8th Edition, Page 222.

↑ *Back to this question in Part A*

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Q28: During an autopsy, the forensic pathologist observes an injury on the thigh, which shows irregular edges, bruising, and embedded dirt. On further examination, the deeper tissues show uneven tearing, with visible nerve and blood vessel damage. What type of injury is most consistent with these findings? (Q847136)

A. Incised wound caused by a sharp object

B. Laceration caused by blunt force trauma

C. Abrasion caused by friction

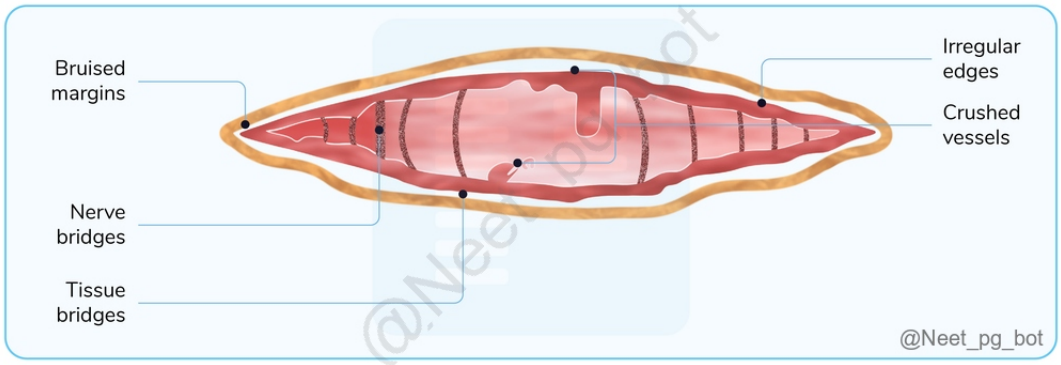
D. Puncture wound from a sharp object

Correct Answer: B. Laceration caused by blunt force trauma

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The irregular edges, bruising, and embedded dirt indicate a laceration resulting from blunt force . Such wounds often show uneven tearing and damage to underlying structures like nerves and blood vessels, consistent with the autopsy findings. Laceration Laceration is the tearing or splitting of the skin, mucous membranes, muscles, or internal organs due to a shearing or crushing force from a blunt impact over a broad area. When blunt force causes severe bruising and damage to deeper tissues, it is referred to as a crush injury . Characteristics Irregular Margins : Ragged, uneven edges with pointed or blunt ends, often showing small tears. Swallow Tails : Tearing at the ends of lacerations, diverging. Bruising : Seen around the wound, more pronounced in areas impacted at an angle or with downward force. Tissue Bridges : Deeper tissues are unevenly torn, leaving nerve, vessel, and connective tissue bridges. Hair Damage : Crushed hair bulbs; hair and skin tags may be embedded in the wound. Hemorrhage : Less severe bleeding as arteries are crushed and torn irregularly , retracting and allowing blood to clot . Soiling : Debris like mud, wood splinters, sand, glass, or hair can become embedded, carrying medico-legal significance. Wound Gaping : Impact from an angle causes tearing on the opposite side and abrasion on the impact side, leading to gaping. Incised wounds (Option A) have clean, smooth edges and do not show the uneven tearing or bruising present in this case. Abrasions (Option C) involve superficial skin damage and typically lack deep tissue involvement and significant bruising. Puncture wounds (Option D) are small and deep, usually causing localized damage without the extensive tearing or irregular margins seen here.



References:

The Essentials of Forensic Medicine & Toxicology, K. S. Narayan Reddy, 35th Edition, Pages 144, 145

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 197

↑ *Back to this question in Part A*

Q29: A 50-year-old woman presents to the emergency department after hitting her head on a metal beam. On examination, the wound has sharp edges but lacks undermining, and tissue bridges are visible. There is no significant underlying soft tissue present between the skin and the skull. What is the most likely type of injury? (Q847139)

A. Incised wound

B. Split laceration

C. Shearing laceration

D. Chop wound

Correct Answer: B. Split laceration

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Split lacerations are commonly seen in areas where the skin is close to bone , such as the scalp, with minimal underlying soft tissue. Although the edges may appear sharp, the presence of tissue bridges confirms the diagnosis of a laceration rather than an incised wound. Types of Laceration Split laceration Avulsion laceration Stretch laceration Tear laceration Cut laceration Types of Laceration Split Laceration (Option B) These occur when skin is crushed between two objects , such as the scalp being compressed between the skull and a hard surface like the ground or a blunt object. Seen on areas where the skin is close to bone , with minimal underlying tissue E.g., scalp, eyebrows, cheekbones, jaw, iliac crest, perineum, shin. Lacerations without excessive skin crushing can have sharp edges , resembling incised wounds. Also known as incised looking laceration . These are not undermined and show tissue bridges. Avulsion (Shearing Laceration) (Option C) Caused by a shearing force at an acute angle, detaching skin or organs from their attachments. The shearing and grinding force from a heavy object, like a lorry wheel passing over a limb, can cause the skin to separate from the underlying tissues, a condition known as avulsion or "flaying." This often results in crushed muscles and fractured bones. The detached skin may have extensive abrasions due to the tyre’s friction, but one portion is still in continuity with adjacent skin. Lacerations from shearing forces can leave the skin intact while separating the underlying soft tissue from the fascia, resulting in a blood-filled pocket. This type of injury is often observed on the back of the thighs in pedestrians hit by motor vehicles. Incised wounds (Option A) have clean, sharp edges from a cutting instrument. The presence of tissue bridges in this case indicates it is a split laceration rather than a clean cut. Chop wounds (Option D) involve significant tissue damage from extreme pressure. The sharp-edged, localized laceration with minimal underlying tissue damage does not fit the profile of a chop wound.





References:

The Essentials of Forensic Medicine & Toxicology, K. S. Narayan Reddy, 35th Edition, Pages 143, 144

↑ *Back to this question in Part A*

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Q30: A 32-year-old male was involved in a high-speed motor vehicle accident. Upon examination, the direction of the vehicle's movement can be inferred from the orientation of the skin flap, as shown in the image below. What is the most likely type of injury in this case? (Q847144)

A. Chop wound

B. Cut laceration

C. Stretch laceration

D. Tear laceration



Correct Answer: C. Stretch laceration

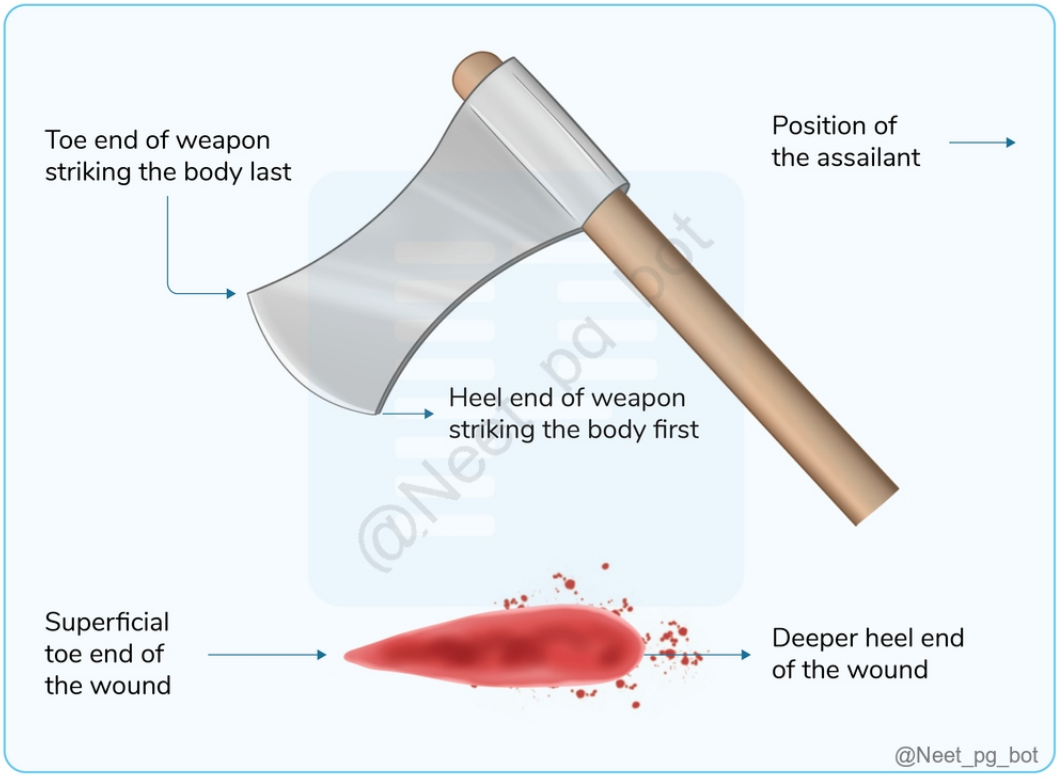
■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Stretch laceration occurs from overstretching of skin, commonly seen in motor vehicle accidents. The presence of a skin flap , irregular tissue tearing , and embedded foreign materials are typical characteristics. Additionally, the skin flap's orientation helps infer the direction of the vehicle's movement, which is consistent with stretch lacerations. Types of Laceration Stretch laceration (Option C) Caused by overstretching of fixed skin , leading to localized pressure and tearing, which creates a skin flap Commonly seen in motor vehicle accidents ,

with the skin flap potentially indicating the vehicle's direction . Can occur from kicking or bone deformity after a fracture, leading to compound injuries. Results in irregular skin and tissue tearing, with a risk of foreign materials entering the wound. Tear lacerations (Option D) Cut Lacerations (Option B) Result from impact with irregular or semi-sharp objects (e.g., car door handles, broken glass). Characterized by a deeper starting point that tapers off towards the end , representing another form of overstretching. Produced by heavy, sharp-edged instruments (e.g., axes, hatchets). Typically, they have abraded margins with bruising, although the term "cut laceration" is often considered less precise. Chop/ Slash wound (Option A) Deep, gaping wounds caused by a blow from a sharp-cutting edge of a heavy weapon (e.g., hatchet, axe, sword, chopper). Wound size corresponds to the cross-section of the blade. Undermining occurs in the direction of chop . The heel (lower end) of the axe typically strikes first , leading to deeper wounds than the toe (upper end). The deeper end indicates the assailant's position . Clean slicing through bone at impact; rebound can create irregular fragments; may lead to complete or incomplete amputations. Mostly homicidal injuries to exposed body parts (head, face, neck, extremities)





References:

The Essentials of Forensic Medicine & Toxicology, K. S. Narayan Reddy, 35th Edition, Pages 144, 149

↑ *Back to this question in Part A*

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Q31: During an autopsy of a 50-year-old male, the forensic pathologist observes a wound shown in the figure. Which of the following is correct regarding this type of wound? (Q847146)

A. Shallow at beginning, deeper towards end

B. Irregular margins with bruising

C. No significant hemorrhage

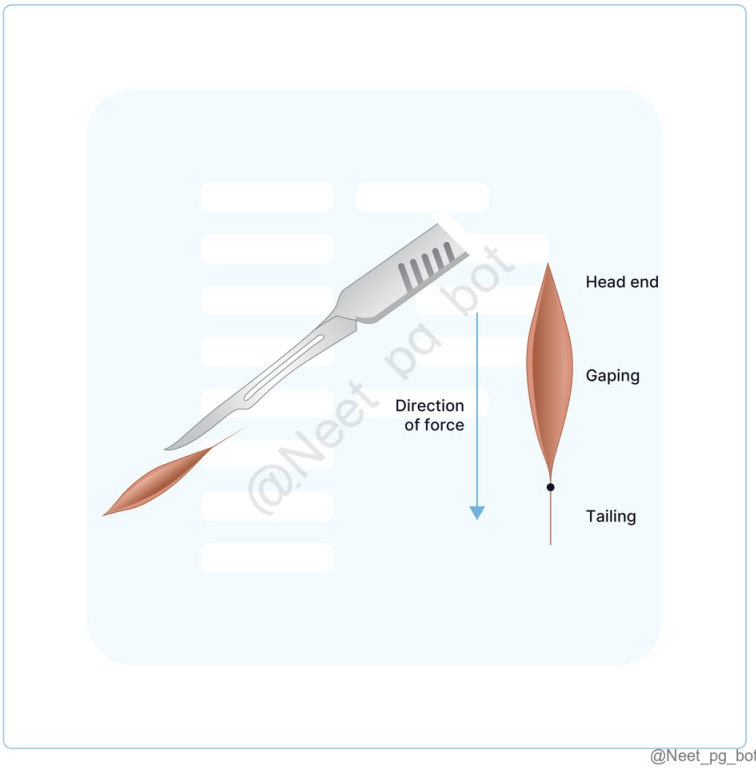
D. Clean, well-defined edges



Correct Answer: D. Clean, well-defined edges

- *Listen (English)*
- *Listen (Hindi)*

Explanation: The given image shows an Incised wound with clean and well-defined edges . Incised wounds An incised wound is a clean cut through the skin and subcutaneous tissues, typically longer than it is deep , caused by a sharp-edged instrument like a knife or razor. It results from pressure and friction against the tissue. Wound Structure: Margins: Clean, well-defined edges (Option D) , often everted; may appear inverted with adhered muscle fibers. No contusions or abrasions (Option B) , but may show wrinkling with multiple incisions. No bridging tissue. Width: Greater than the weapon's cutting edge due to tissue retraction. Length: Exceeds width and depth, with no relation to the weapon's edge. Shape: Usually spindle-shaped, with more gaping in the center ; gaping is influenced by the direction of cuts across skin fibers. Hemorrhage: Significant bleeding occurs from cleanly cut vessels. (Option C) Tailing Bevelling Deeper at the beginning due to greater knife pressure (the "head" of the wound). (Option A) Becomes shallower toward the exit. Indicating the cutting direction. A wound created by an obliquely entering blade features a beveled margin on one side, and an undermined area on the other side. Characteristic of sharp weapons Associated with homicidal injuries. Suggest the positions of the assailant and victim .



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References:

The Essentials of Forensic Medicine & Toxicology, K. S. Narayan Reddy, 35th Edition, Pages 146, 147.

↑ *Back to this question in Part A*

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Q32: A 45-year-old woman presents for a follow-up appointment after undergoing surgery for an abdominal incision. The physician observes that the wound is beginning to heal, with granulation tissue forming in the wound bed. What is the most likely duration of healing indicated by the presence of vascularized granulation tissue? (Q847151)

A. 7 days

B. 12 hours

C. 2–3 days

D. 4–6 days

Correct Answer: C. 2–3 days

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The presence of vascularized granulation tissue is a key indicator of the wound healing process and typically occurs during the 2-3 days post-injury phase. Age of Incised Wound: Duration Gross Findings Microscopic Findings Fresh Red with clotted blood Capillary dilation, neutrophil margination and emigration, reactive changes in histiocytes. 12 hours Margins red, swollen, and adherent; blood and lymph present Reactive changes in fibroblasts, monocytes in exudate. (Option B) 24 hours Continuous layer of endothelial cells covers surface; scab of the dried clot Endothelial growth at edges; formation of vascular buds. 2–3 days - Formation of vascularized granulation tissue (Fibroblast activity) (Option C) 4–6 days - Formation of new fibrils. (Option D) 7 days Scar formation Scar formation. (Option A)

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Pages 198, 199

↑ *Back to this question in Part A*

@Neet_pg_bot

Q33: A forensic pathologist examines a body and notes the following findings. What do these findings suggest? (Q847153)

A. The individual experienced a moment of hesitation before the fatal injury.

B. The injuries were caused by a blunt object.

C. The victim was attacked with a sharp instrument from a distance.

D. The wounds are consistent with self-inflicted injuries.



Correct Answer: A. The individual experienced a moment of hesitation before the fatal injury.

- *Listen (English)*
- *Listen (Hindi)*

Explanation: The presence of small, superficial cuts around a deeper wound suggests a possible moment of doubt or fear before inflicting the fatal injury. These small cuts can be indicative of hesitation , often observed in scenarios of self-infliction or in cases where the victim may have struggled before the lethal wound. Hesitation cuts: Hesitation cuts (also known as tentative cuts or trial wounds) are multiple, small, superficial cuts that typically involve only the skin. These cuts are often found at the beginning of a deeper incised wound. Psychological Aspect : They suggest that the individual may have hesitated while gathering the courage to make a decisive cut. Forensic Observation : In cases of homicidal sharp force injuries, multiple superficial, roughly parallel incised wounds may appear on the neck, often adjacent to a single deep, lethal incised wound, particularly in instances where torture is involved. Hesitation cuts are associated with sharp objects, not blunt ones . The nature of the wounds indicates a sharp instrument was likely used. (Option B) The close, parallel cuts suggest the attack occurred at close range , not from a distance. (Option C) While hesitation marks can appear in self-inflicted wounds, this option is too specific without confirming intent . The wounds could also result from an attack by another individual. (Option D)



References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 199.

↑ *Back to this question in Part A*

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Q34: A homicidal case with a stab wound over the abdomen is being examined. The weapon has passed through and through with a larger entry wound and a smaller exit wound. Which type of wound is this classified as? (Q847154)

A. Puncture wound

B. Perforating wound

C. Penetrating wound

D. Concealed wound

Correct Answer: B. Perforating wound

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The wound in the above scenario is a perforating wound as the weapon has passed through-and-through the body. Stab wound/Punctured wound Types of stab wounds Puncture wound: (Option A) Soft tissues are involved Penetrating wound: (Option C) Enters a body cavity or a viscus Perforating wound: Through-and-through puncture wounds The weapon enters the body from one side and comes out the other The wound of entry is larger than the exit Concealed wound (Option D) is a wound that is present in hidden areas of the body like the axilla, nostrils, etc., and is not a through-and-through wound.



References:

Essentials of Forensic Medicine and Toxicology, K. S. Narayan Reddy, 35th Edition, Pages 149, 155

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 201

↑ *Back to this question in Part A*

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• [04_Forensic Traumatology] 009 Regional Injuries

« Back to Folder Directory

[04_Forensic Traumatology] 009 Regional Injuries — Quick Jump

Q1 (p. 643)	*Q2 (p. 644)*	*Q3 (p. 645)*	*Q4 (p. 649)*	*Q5 (p. 651)*	*Q6 (p. 652)*
Q7 (p. 653)	*Q8 (p. 655)*	*Q9 (p. 657)*	*Q10 (p. 658)*	*Q11 (p. 661)*	*Q12 (p. 663)*
Q13 (p. 664)	*Q14 (p. 667)*	*Q15 (p. 669)*	*Q16 (p. 670)*		

Q1: What is the most commonly fractured bone in cases of basilar skull fractures? (Q847059)

A. Temporal bone

B. Occipital bone

C. Sphenoid bone

D. Frontal bone

Correct Answer: A. Temporal bone

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The temporal bone is the most commonly fractured in basilar skull fractures. These fractures can lead to serious complications, including damage to cranial nerves VII (facial nerve) and VIII (vestibulocochlear nerve) and the carotid artery, as well as potential cerebrospinal fluid (CSF) leaks. Temporal bone fracture Longitudinal Temporal Bone Fracture Transverse Temporal Bone Fracture The most common type (70-90% of temporal bone fractures). Runs parallel to the long axis of the petrous temporal bone. Otic Capsule is spared. Conductive hearing loss due to ossicle involvement and tympanic membrane involvement. Facial nerve involvement occurs in about 25% of cases. Less common (10-30% of temporal bone fractures). Extends perpendicular to the petrous temporal bone's long axis. Otic Capsule is involved, leading to sensorineural hearing loss. Ossicles and tympanic membranes are generally unaffected. Higher incidence of facial nerve involvement. Occipital bone (Option B), Sphenoid bone (Option C), Frontal bone (Option D): While the occipital, sphenoid, and frontal bones can be involved in basilar skull fractures, they are not as commonly fractured as the temporal bone. Their occurrences are significantly less frequent compared to fractures of the temporal bone.

References:

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www.ncbi.nlm.nih.gov/books/NBK535391/

↑ *Back to this question in Part A*

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Q2: In which of the following scenarios is a diastatic skull fracture most likely to occur? (Q847061)

A. An adult hit by a broad surface object

B. A child with increased intracranial pressure

C. A teenager experiencing a sports-related injury

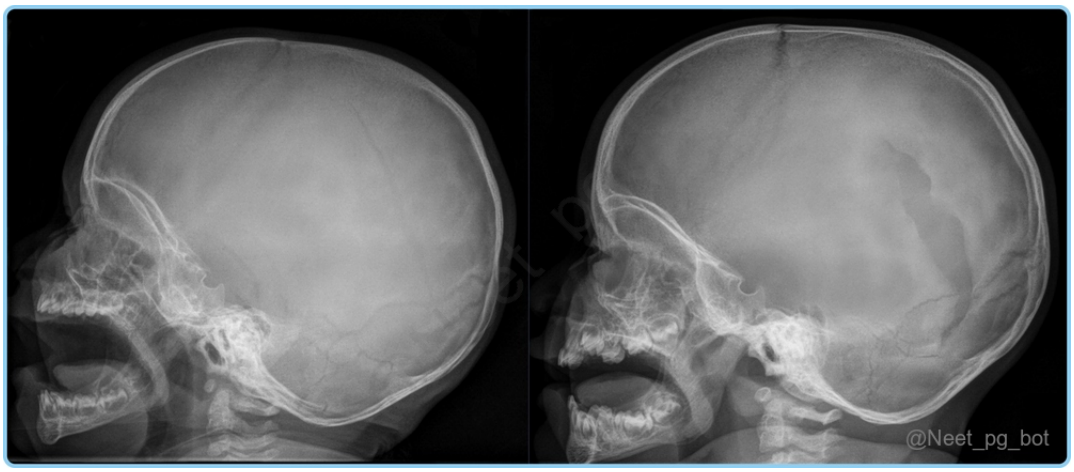
D. An elderly person falling onto their buttocks

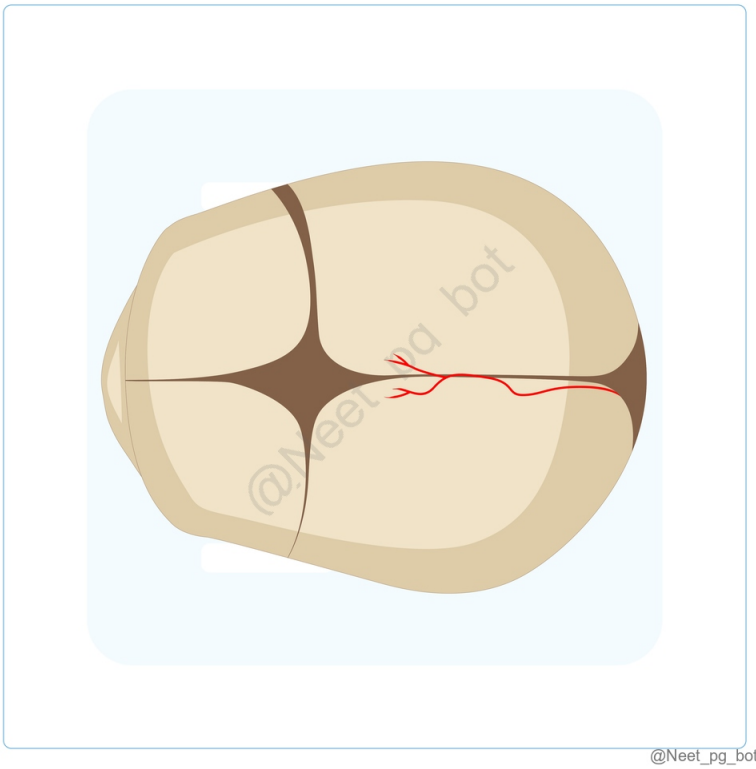
Correct Answer: B. A child with increased intracranial pressure

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Fissured Fracture (Linear Fracture) Diastatic Fracture (Sutural Fracture) The most common skull fracture accounts for about 70% of cases. Linear cracks may involve the vertex or skull base. It can affect the full thickness of the bone or just the inner/outer layers. The fracture line is irregular and fine, sometimes hard to detect on X-rays. It runs parallel to the compressive force. No depression of bone fragments. Involves the separation of cranial sutures. More common in children. Often occurs with other skull fractures, especially fissured fractures. Commonly seen at the sagittal suture. Causes: Impact against broad surfaces (e.g., falls or road traffic accidents). (Option A ruled out) Falls on feet or buttocks, transmitting force upwards. (Option D ruled out) Causes: Blunt trauma to the head. Increased intracranial pressure leads to suture separation. (Option B) Narrow fissure skull fracture A teenager experiencing a sports-related injury (Option C): Sports-related injuries typically do not involve sutural separation, which is specific to diastatic fractures.





References:

The Essentials of Forensic Medicine, KS Narayan Reddy, 35th Edition, Page 186, 187, 189

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 234, 236

↑ *Back to this question in Part A*

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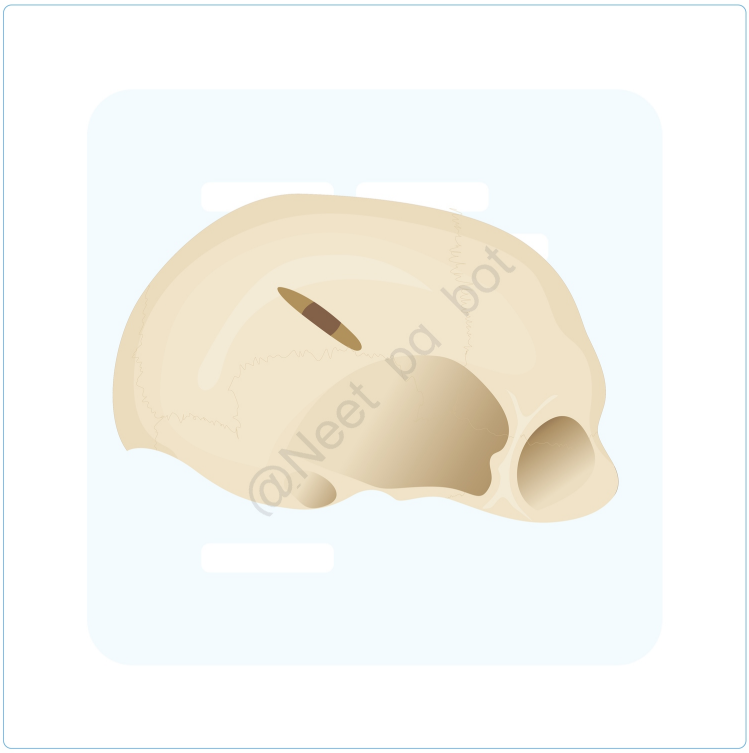
Q3: A 32 year old male is brought to the emergency after sustaining a gunshot wound to the head during a robbery. The bullet trajectory is reported as oblique. Which type of skull fracture is most commonly associated with this presentation? (Q847062)

A. Depressed fracture

B. Gutter fracture

C. Comminuted fracture

D. Elevated fracture



Correct Answer: B. Gutter fracture

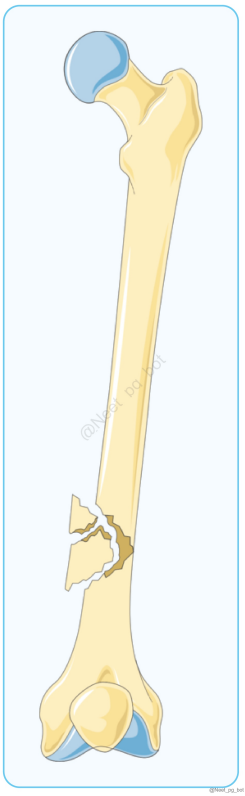
■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Depressed Fracture Comminuted Fracture Gutter Fracture Occurs when a fragment of the skull is pushed inward towards the brain. Caused by blows from heavy objects with a small surface (e.g., hammers, bricks). (Option A ruled out) The shape of the depressed area may resemble the object that caused the injury. Variants: Elevated Fracture : One end of the fractured fragment is raised above the skull, while the other is pushed inward. Caused by sharp objects like an axe. (Option D ruled out) Pond Fracture : Seen in infants, this smooth depression occurs without a fracture line, resembling a dent in a ping-pong ball. Caused by obstetrics forceps blade. Involves multiple intersecting fracture lines, breaking the bone into several fragments. Caused by high-impact trauma (e.g., vehicular accidents, crushing injuries). (Option C ruled out) It may occur alongside other

fractures (e.g., fissured or depressed fractures). Spider web-like patterns on an X-ray are characteristic of comminuted fractures. In severe cases, bone fragments may penetrate the brain or become displaced. A groove or channel is formed in the skull bone, often due to an oblique bullet wound. (Option B) Frequently associated with comminuted and depressed fractures of the inner skull table. Bone fragments can cause injury to the meninges or brain. Depressed fracture Comminuted fracture Gutter fracture







References:

The Essentials of Forensic Medicine, KS Narayan Reddy, 35th Edition, Page 187,188

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 234, 235, 236

↑ *Back to this question in Part A*

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Q4: A “motorcyclist fracture," typically results from what type of impact? (Q847063)

A. Side impact

B. Direct blow to the chin

C. Heavy blow to the vertex

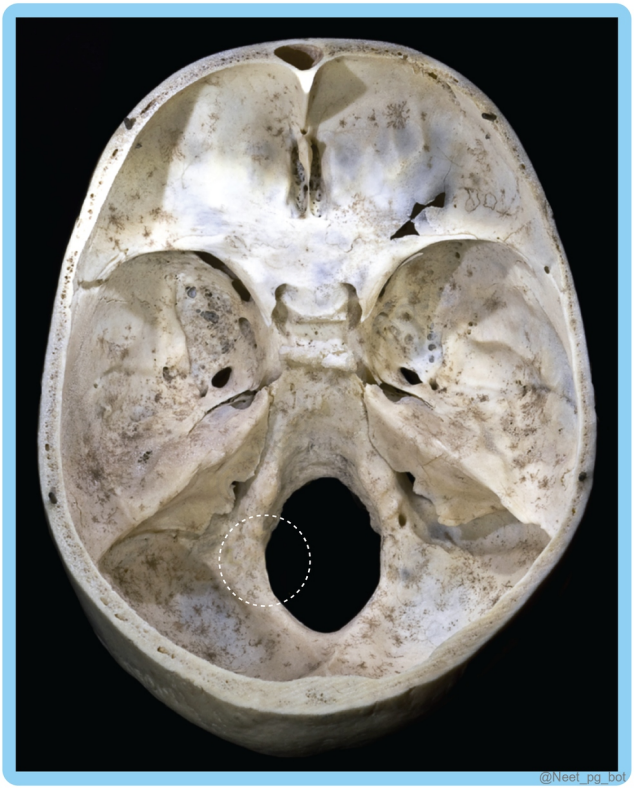
D. Blunt force to the occiput

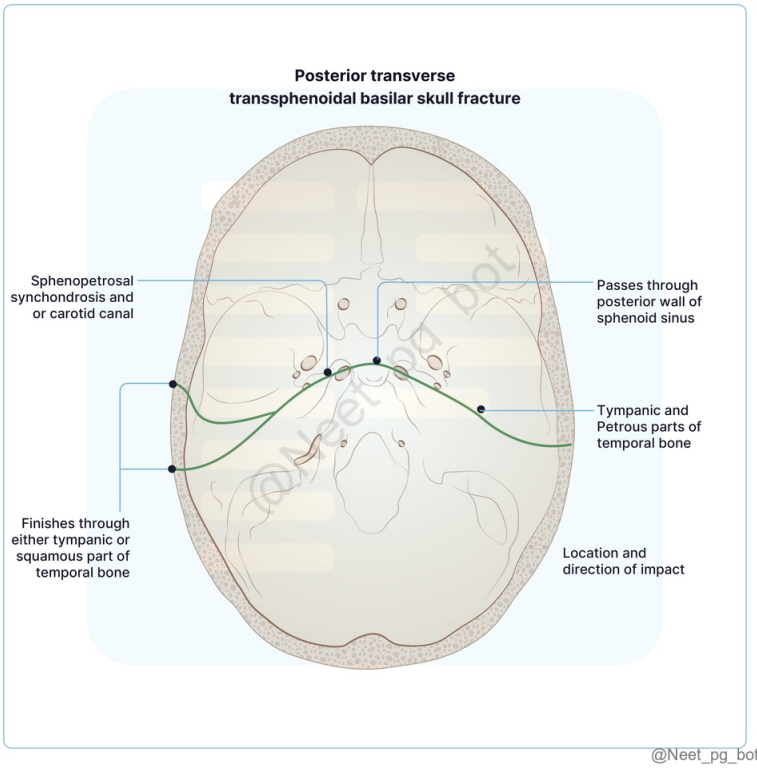
Correct Answer: A. Side impact

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Ring Fracture Motorcyclist Fracture (Hinge Fracture) Encircles the foramen magnum at the skull base. Runs from the sella turcica to the petrous ridges and posterior fossa. It can extend to the middle ear and roof of the nose. Transverse fracture at the skull base, splitting it and creating a "hinge" - nodding face sign . It extends from one petrous ridge across the sella turcica to the other petrous ridge. Caused by: (Option B, C and D ruled out) Falls landing on feet/buttocks (force transmitted through the spine). Heavy blows to the top of the skull/ vertex. Twisting of the head on the spine. Blows to the occiput or chin. Often caused by side impacts . (Option A) Ring fracture Hinge fracture





References:

The Essentials of Forensic Medicine, KS Narayan Reddy, 35th Edition, Page 189

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Pages 236-237

↑ *Back to this question in Part A*

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Q5: A 25-year-old male presents with facial trauma after being struck in the eye during a sports accident. Which radiographic finding is most indicative of a blowout fracture of the orbit? (Q847064)

A. Spider web-like pattern on X-ray

B. Ping-pong ball dent appearance

C. Teardrop sign

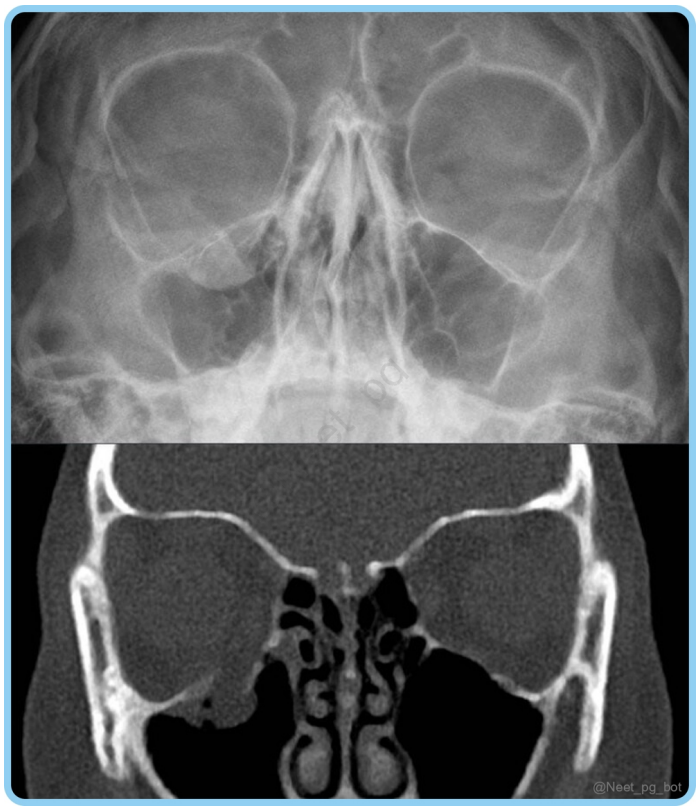
D. Circular crack around the skull base

Correct Answer: C. Teardrop sign

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Blowout fracture is a fracture of the bony orbit (eye socket) resulting from blunt trauma to the eye. It causes fractures to the medial wall and floor of the orbit. The teardrop sign is a significant radiographic finding in blowout fractures , indicating the herniation of orbital soft tissues, such as fat and muscles, into the maxillary sinus. This often leads to pain, restricted eye movements and diplopia. Blowout fracture of the right orbit showing the teardrop sign Spider web-like pattern on X-ray (Option A): The spider web-like pattern on an X-ray is characteristic of comminuted fractures , which involve multiple fracture lines creating a fragmented appearance. Ping-pong ball dent appearance (Option B): The ping-pong ball dent appearance is associated with pond fractures, which occur in infants and young children. This type of fracture is characterised by a smooth, concave indentation in the skull without a distinct fracture line. Circular crack around the skull base (Option D): A circular crack around the skull base is indicative of a ring fracture, which encircles the foramen magnum and is associated with severe trauma.



References:

The Essentials of Forensic Medicine, KS Narayan Reddy, 35th Edition, Page 188, 189

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 235, 236

↑ *Back to this question in Part A*

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Q6: A 45 year old woman falls and strikes the back of her head on the ground. Upon examination, she exhibits signs of a contrecoup injury affecting the frontal lobe. Which of the following statements about her injury is incorrect? (Q847075)

A. The injury results from the brain striking the frontal skull after an initial impact on the occipital region

B. Contrecoup injuries are commonly associated with RTAs

C. Contrecoup injuries primarily affect the areas directly beneath the point of impact

D. The rotational forces during the fall could contribute to the contrecoup mechanism

Correct Answer: C. Contrecoup injuries primarily affect the areas directly beneath the point of impact

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Coup injuries primarily affect the areas directly beneath the point of impact, while contrecoup injuries affect the side opposite the impact. Coup vs. Contrecoup Injuries Features Coup Contrecoup Definition Brain injury directly beneath the point of impact. Brain injury on the side opposite the impact. Mechanism Caused by direct impact force. Occurs when a moving head is suddenly decelerated by hitting a firm surface eg. striking the head on the ground after a fall during RTAs. (Option B ruled out) Occurrence More common when a moving object strikes the head. Common in falls or blows to a stationary head. Common scenarios Common in moving head striking an object, e.g., hitting a car dashboard in an accident. Seen in falls, where the head hits the ground or an unyielding surface, causing injury on the opposite side of the impact. Organs involved It can be seen in the brain, heart, spleen and lungs. (More commonly in the brain) Theories of Contrecoup Injuries: Shear Strain Theory (Holbourn): Brain particles are pulled apart due to rotational forces. (Option D ruled out) Vacuum Theory: A vacuum or cavity forms in the cranial cavity, exerting suction on the brain opposite the point of impact, causing damage. Deceleration Theory: Sudden arrest of the head causes the brain to strike the skull at the opposite pole of impact. Common scenarios: Occipital impact: Produces frontal contrecoup injury due to brain displacement against the frontal lobes. (Option A ruled out) Temporal or parietal impact: Results in contralateral contrecoup injury on the opposite side of the brain. Top of the head impact: Can cause ventral surface contusion of the cerebral hemisphere. Frontal region impact: May not produce occipital contrecoup injury due to the smooth internal surface of the posterior cranial fossa

References:

The Essentials of Forensic Medicine, KS Narayan Reddy, 35th Edition, Pages 192, 193

www.researchgate.net/publication/276136525_Significance_of_Contre-Coup_Injury_in_Trauma_to_Brain_for_Concluding_Manner_of_Death_A_Case_Report

↑ *Back to this question in Part A*

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Q7: In the context of intracranial haemorrhages, which of the following statements accurately describes the relationship between the layers of the cranial anatomy and the associated blood vessels? (Q847076)

A. The epidural space contains bridging veins.

B. The subdural space is located between the pia mater and the arachnoid mater.

C. The subarachnoid space contains arteries of the circle of Willis.

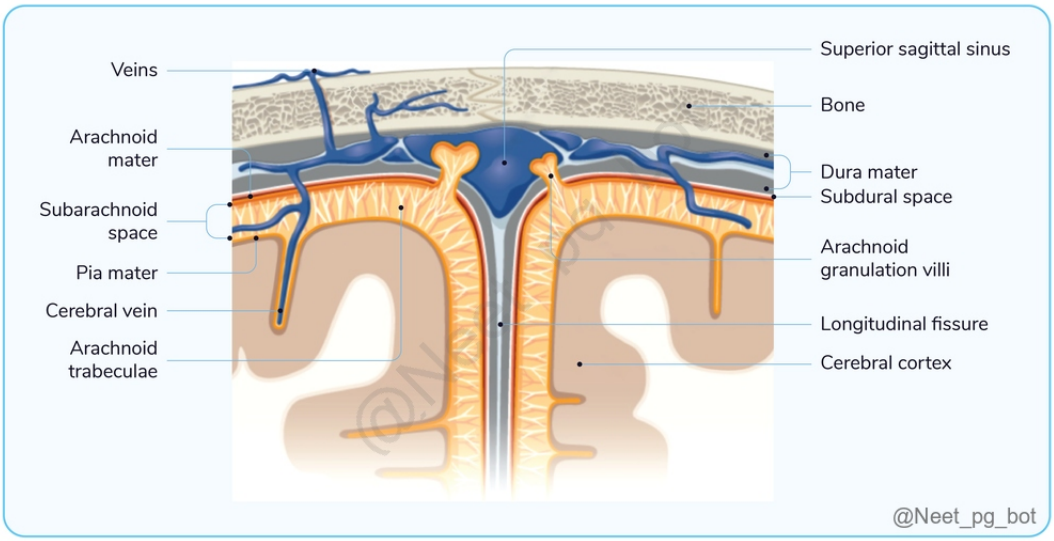
D. The middle meningeal artery is located between the dura mater and the arachnoid mater.

Correct Answer: C. The subarachnoid space contains arteries of the circle of Willis.

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The subarachnoid space is situated between the arachnoid mater and pia mater and contains major arteries, including those of the circle of Willis. This space is usually filled with clear, colourless cerebrospinal fluid. Head trauma or rupture of an intracranial aneurysm causes a subarachnoid haemorrhage (bleeding in the subarachnoid space). The most common specific locations of intracranial aneurysms are at the middle cerebral artery bifurcation and along the anterior communicating artery. Meningeal layers Intracranial haemorrhages The first layer is the skull vault (cranium), followed by the dura mater, arachnoid mater, pia mater, and brain tissue (cerebrum). The space between the skull and dura contains the middle meningeal artery. The middle meningeal artery is most prominent at the pterion, the point where the frontal, parietal, sphenoid, and temporal bones meet. Space Location Blood vessel involved Epidural Space Between the skull vault and dura mater. The collection of blood here leads to epidural hematoma. Middle meningeal artery (Option D ruled out) Subdural Space Between the arachnoid and dura mater. The collection of blood here leads to subdural hematoma. (Option B ruled out) Bridging veins (which drain into the dural venous sinus) (Option A ruled out) Subarachnoid Space Between the arachnoid and pia mater Arteries of the circle of Willis (Middle cerebral artery, Anterior communicating artery -most commonly) (Option C)



References:

Spaces

MMA-pterion

Vessels

Subarachnoid

The Essentials of Forensic Medicine, KS Narayan Reddy, 35th Edition, Page 196

↑ *Back to this question in Part A*

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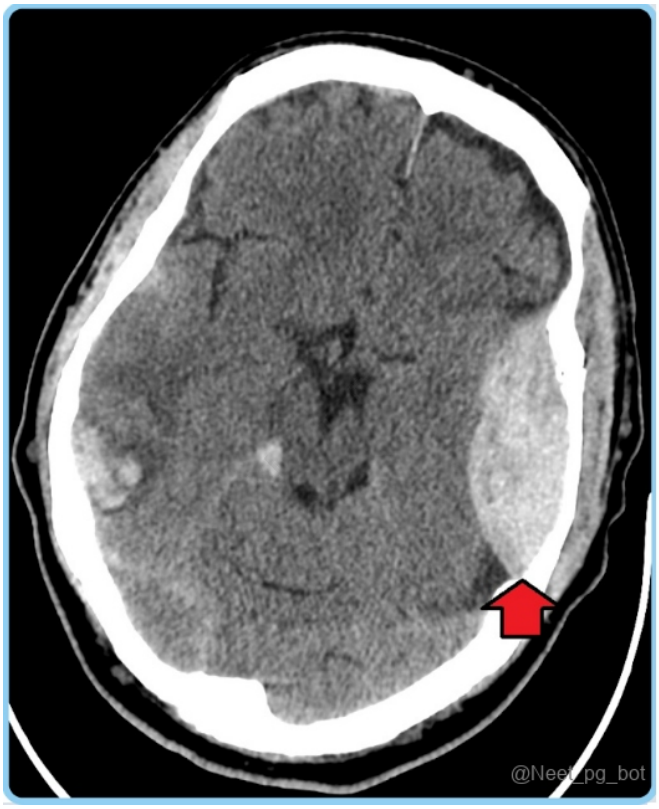
Q8: A 25 year old man is brought to the ED after a fall from a height. He was unconscious upon arrival, and a CT scan was done which revealed the following. What is the most likely underlying cause of this patient's condition? (Q847077)

A. Rupture of bridging veins

B. Rupture of the middle meningeal artery

C. Venous thrombosis

D. Subarachnoid hemorrhage



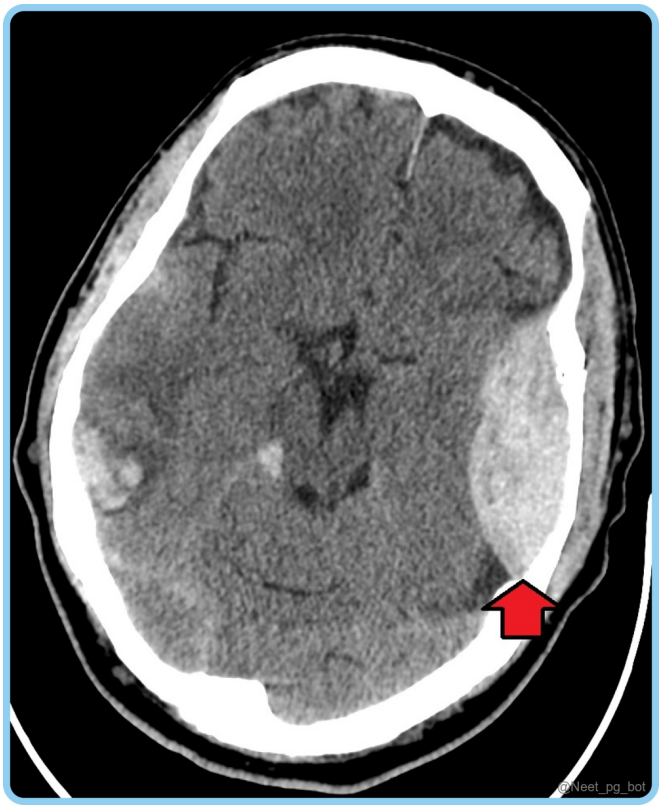
Correct Answer: B. Rupture of the middle meningeal artery

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The CT scan of the patient showing a biconvex accumulation of blood between the skull and dura mater after a fall confirms the diagnosis of EDH. EDH is primarily caused by trauma leading to the rupture of the middle meningeal artery. Extradural Hemorrhage (Epidural Hemorrhage) Anatomy : The dura mater is a strong, grey-bluish connective tissue membrane. Its outer layer adheres to the skull, and the inner layer merges with the arachnoid. Causes : Primarily caused by trauma, resulting in the skull moving relative to the dura and creating an

extradural space. Injury Sites : Commonly due to fractures of the squamous temporal bone, leading to injury of the middle meningeal artery (posterior branch). Clinical Features : Initial Symptoms : History of head injury; may include temporary unconsciousness. Lucid Interval : A period (30-40% of cases) after initial unconsciousness, where the patient regains awareness, lasting 2-4 hours to a week before neurological symptoms decline. Progression : Increased intracranial pressure can lead to confusion, lethargy, coma, and neurological signs such as contralateral weakness, dilated pupils (initially on the side of haemorrhage), and possible decerebrate rigidity. Fatality: Typically associated with a minimum haemorrhage volume of 100 ml, often due to respiratory failure from brainstem compression. Imaging : Brain CT scans show a biconvex or lens-shaped mass typical of extradural haemorrhage . Treatment : Craniotomy : Recommended for acute symptomatic extradural hematomas to facilitate complete hematoma evacuation Trephination (Burr Hole Evacuation) : Employed when advanced surgical expertise is unavailable, serving as a crucial intervention to reduce mortality Indications include: Hematoma volume > 30 mL on CT scan Hematoma thickness > 15 mm on CT scan Midline shift > 5 mm on CT imaging Glasgow Coma Scale (GCS) ≤ 8 with evidence of EDH on imaging Progressive neurological deterioration , such as worsening consciousness or focal neurological deficits Presence of pupillary abnormalities , especially ipsilateral dilated or non-reactive pupil suggesting uncal herniation Signs of raised intracranial pressure , e.g., persistent vomiting, severe headache, bradycardia, hypertension (Cushing reflex) Temporal or posterior fossa EDH , even if small, due to risk of rapid brainstem compression Associated focal neurological deficits (e.g., hemiparesis) Failure of conservative management or increase in hematoma size on repeat CT scan Rupture of bridging veins (Option A) : This type of injury is associated with subdural haemorrhage , not extradural haemorrhage, and would not produce a biconvex mass on CT. Venous thrombosis (Option C) : While it can lead to increased intracranial pressure, it does not typically result in a localized biconvex mass, as seen in extradural haemorrhage. Subarachnoid haemorrhage (Option D) : This condition presents with diffuse blood in the subarachnoid space rather than a well-defined mass





References:

The Essentials of Forensic Medicine, KS Narayan Reddy, 35th Edition, Pages 196, 197

www.ncbi.nlm.nih.gov/books/NBK518982/#

pubmed.ncbi.nlm.nih.gov/23896724/

www.ncbi.nlm.nih.gov/books/NBK518982/

↑ *Back to this question in Part A*

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Q9: A forensic pathologist examines a body that has suffered extensive thermal injury. Which of the following characteristics would most likely indicate the presence of a heat hematoma as a postmortem finding? (Q847078)

A. Absence of carboxyhemoglobin

B. Reddish brown discolouration of the hematoma

C. Rupture of the meningeal artery

D. Honeycomb appearance of a blood clot

Correct Answer: D. Honeycomb appearance of a blood clot

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The honeycomb appearance of a blood clot is indicative of a heat hematoma, which is a specific postmortem finding associated with thermal injuries. A heat hematoma resembles an extradural haemorrhage in appearance and therefore needs to be differentiated from it. Features Extradural Haematoma Heat Haematoma Cause Trauma to the skull. Exposure of the head to intense heat leads to charring. (Option C ruled out) Mechanism Most commonly due to rupture of the meningeal artery Shrinkage of meninges and brain, causing brain tissue to ooze out. Location Usually adjacent to Sylvian fissure and limited due to dural attachments at the suture line. Anywhere, usually bilateral. Distribution Localised Diffuse Trauma signs Signs of blunt force trauma are present. Signs of blunt force trauma are absent. Blood clot A rubbery, reddish-purple blood clot is seen. Discoid shape. A soft, friable clot of light chocolate colour is seen. (Option B ruled out) Honeycomb appearance, evenly distributed or sickle-shaped. (Option C) Carboxyhemoglobin Absent Present (Option A ruled out)

References:

The Essentials of Forensic Medicine, KS Narayan Reddy, 35th Edition, Pages 196, 197, 248-250

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 243

↑ *Back to this question in Part A*

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Q10: A 65 year old woman presents to the emergency department with confusion and headache that developed gradually over the past two weeks after a minor fall. A CT scan reveals an isodense lesion along the cerebral convexities. What is the most likely diagnosis? (Q847079)

A. Acute Subdural Hemorrhage

B. Subacute Subdural Hemorrhage

C. Chronic Subdural Hemorrhage

D. Epidural Hematoma



Correct Answer: B. Subacute Subdural Hemorrhage

- *Listen (English)*
- *Listen (Hindi)*

Explanation: The gradual onset of symptoms and isodense appearance on CT are characteristic of subacute subdural haemorrhage, typically occurring days to weeks after injury. Subdural Haemorrhage Anatomy : Subdural space is narrow, between the dura mater and arachnoid. Cerebral (bridging) veins cross this space to reach venous sinuses. Causes : Rupture of parasagittal bridging veins or inferior cerebral veins Acute SDH Subacute SDH Chronic SDH Rapid onset after trauma Rupture of large bridging veins or cortical arteries. The most common symptoms are mental confusion, drowsiness, dilation of the pupil (ipsilateral) and contralateral involvement of hemiparesis. Death may occur if the haemorrhage volume is about 100 to 150 ml. Hyperdense on CT. (Option A ruled out) Symptoms develop over days to weeks after injury. Usually from smaller bridging veins. Isodense on CT Develops weeks or months later Often in the elderly; Slow bleeding leads to gradual symptoms. Symptoms arise weeks/months later; May lead to Subdural Hygroma :-Tear in the arachnoid allows CSF to collect in the subdural space, causing cerebral compression. Hypodense on CT (Option C ruled out) CT Findings : Crescentic (crescent moon-shaped, concave, banana-shaped) appearance. More extensive than epidural haemorrhage (EDH), covering a larger area. Treatment: Decompression surgery


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References:

The Essentials of Forensic Medicine, KS Narayan Reddy, 35th Edition, Pages 197-199

radiopaedia.org/articles/extradural-haematoma-vs-subdural-haematoma

emedicine.medscape.com/article/1137207-workup#c9

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emedicine.medscape.com/article/1137207-treatment#d10

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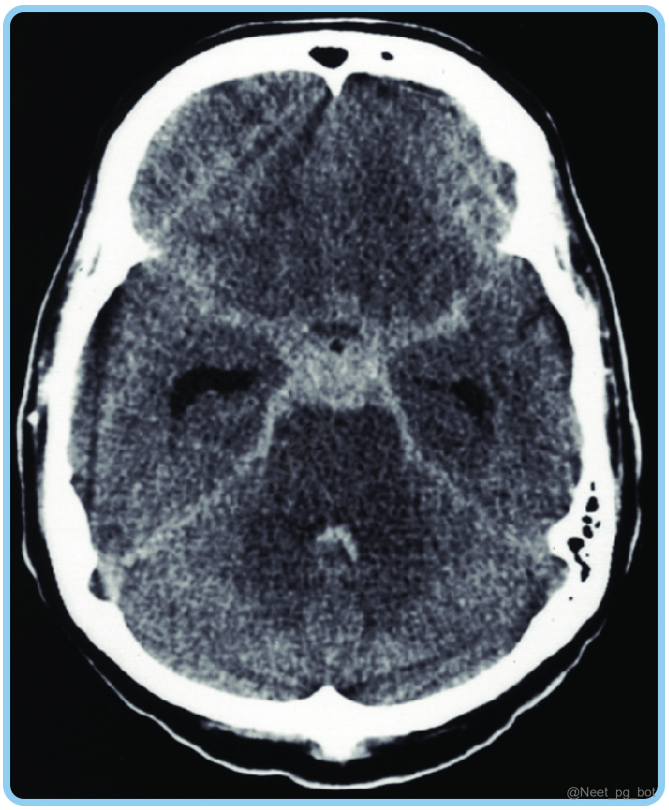
Q11: A 50 y/o man is found unconscious in his home after complaining of severe headache. A CT of the patient is given below. His medical history is significant for hypertension and smoking. Which of the following is the most likely underlying cause in this patient? (Q847095)

A. Ruptured berry aneurysm

B. Trauma from a fall

C. Hypertensive encephalopathy

D. Acute subdural haematoma

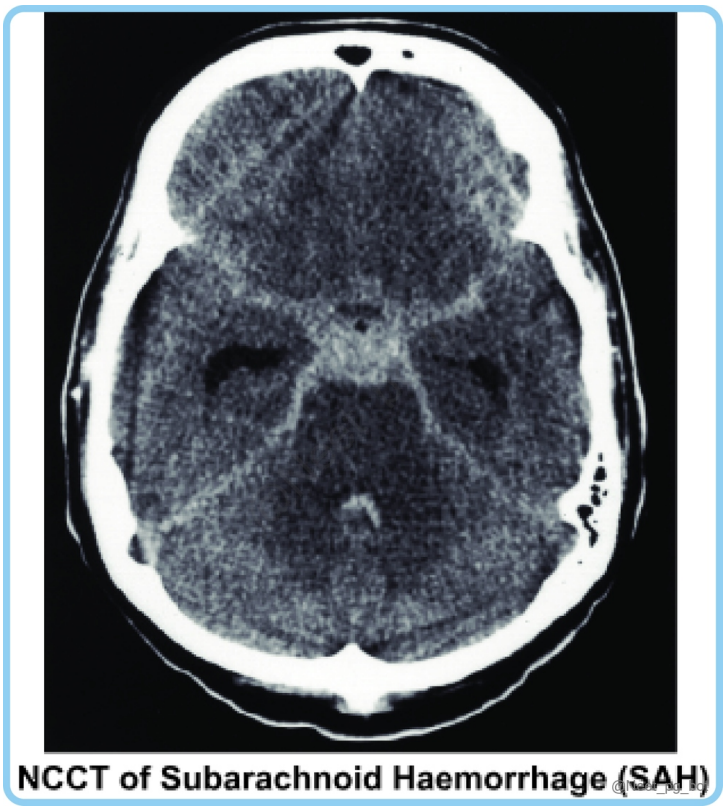


Correct Answer: A. Ruptured berry aneurysm

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The CT scan shows evidence of subarachnoid haemorrhage, which is characterised by bleeding into the space between the brain and the meninges. It shows a classical star sign . The most common cause of subarachnoid haemorrhage is a ruptured aneurysm , particularly a berry aneurysm. The patient's age, history of hypertension, and smoking are all risk factors for developing aneurysms. Subarachnoid Haemorrhage (SAH): Bleeding into the subarachnoid space (between the arachnoid and pia mater) which is normally filled with cerebrospinal fluid (CSF). Causes of SAH: Traumatic Causes Non-traumatic Causes Head trauma (m/c) Cerebral contusions or lacerations Explosive blasts Asphyxia by strangulation Traumatic asphyxia Blows to the neck Accidents and falls Cervical manipulations (e.g., vertebral or basilar arteries) Rupture of traumatic intracerebral haemorrhage (ICH) Prolonged hyperextension of the head during bronchoscopy Ruptured berry aneurysm (saccular aneurysm) (m/c) Arteriovenous malformations Atherosclerosis Leaking intracerebral haemorrhage Purpuric states Leukaemia Signs & Symptoms: Sudden, severe "thunderclap headache" (reaches peak intensity within a minute). Nausea and vomiting. Neck stiffness, photophobia, drowsiness, or agitation. Depressed consciousness. Key findings on examination : Meningism and positive Kernig's sign.



References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Pages 246-250

www.researchgate.net/figure/CT-image-of-subarachnoid-haemorrhage-Non-contrast-CT-scan-of-brain-showing-subarachnoid_fig1_283482604

↑ *Back to this question in Part A*

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Q12: A retired boxer presents with a gradual decline in his coordination, memory, and speech over the past few years. His wife reports personality changes, including paranoia and social withdrawal. O/E, he displays dysarthria and broad-based gait. Which of the following is the most likely diagnosis? (Q847096)

A. Parkinson's disease

B. Alzheimer's disease

C. Dementia pugilistica

D. Multiple sclerosis

Correct Answer: C. Dementia pugilistica

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The patient’s history of repeated head trauma (boxing), along with symptoms like incoordination, memory loss, personality changes, dysarthria and broad-based gait, is characteristic of punch-drunk syndrome (dementia pugilistica) . Punch-Drunk Syndrome: Also known as dementia pugilistica or boxer's encephalopathy , it results from repeated cerebral concussions, typically in boxers. Signs and Symptoms: Deterioration of speed and reflexes Incoordination Personality changes (social instability, paranoia, delusions) Memory loss (progressing to dementia) Parkinsonian signs : Ataxia or intention tremors Shuffling, broad-based gait Dysarthria (difficulty speaking) Parkinson's disease (Option A) : Although Parkinson's disease shares some features like tremors and gait disturbances, this patient has a history of boxing and repeated head trauma, which makes punch-drunk syndrome more likely. Alzheimer's disease (Option B) is primarily associated with memory loss and cognitive decline but the history of boxing and gait disturbances differentiate punch drunk syndrome from it. Multiple sclerosis (Option D) can cause motor and cognitive symptoms but is less likely given the patient's history and specific symptoms linked to repeated head trauma.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 239

↑ *Back to this question in Part A*

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Q13: A 65 year old man with a history of hypertension presents to the ED with a sudden onset of weakness in his right arm and leg. He also complains of a severe headache and nausea. On examination, he has a decreased level of consciousness and right-sided hemiparesis. A CT scan shows a hyperdense lesion in the left basal ganglia. Which of the following is the most likely cause of his condition? (Q847097)

A. Epidural haematoma

B. Subarachnoid haemorrhage

C. Hypertensive intracerebral haemorrhage

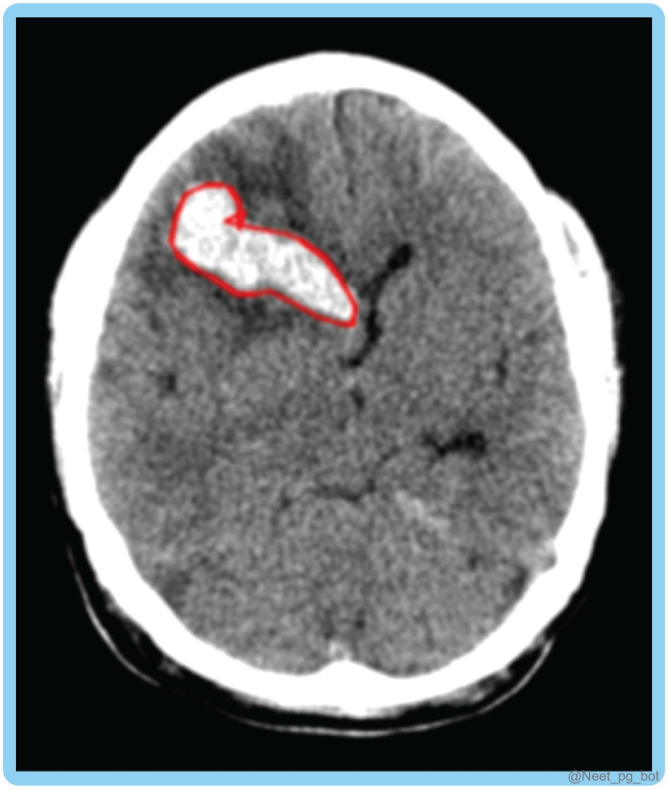
D. Subdural haematoma

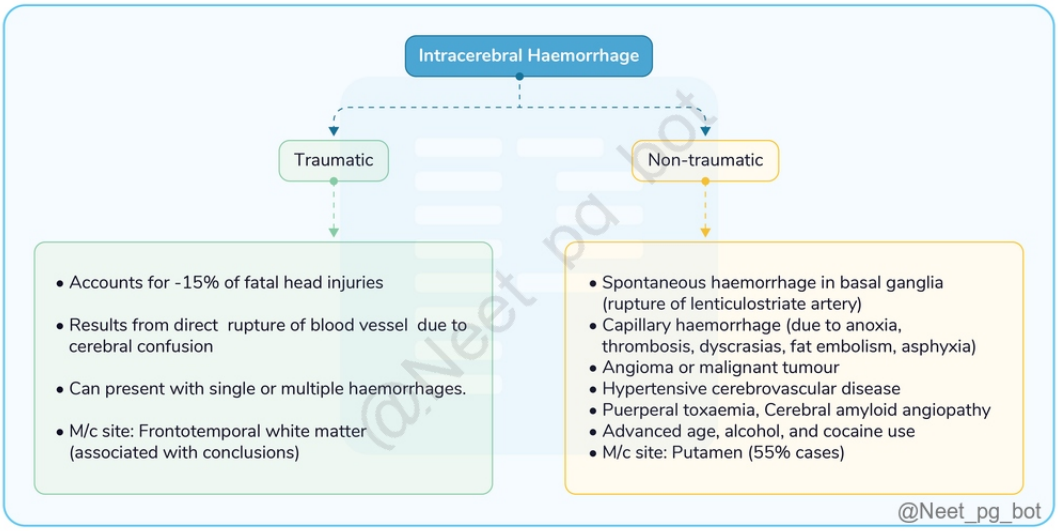
Correct Answer: C. Hypertensive intracerebral haemorrhage

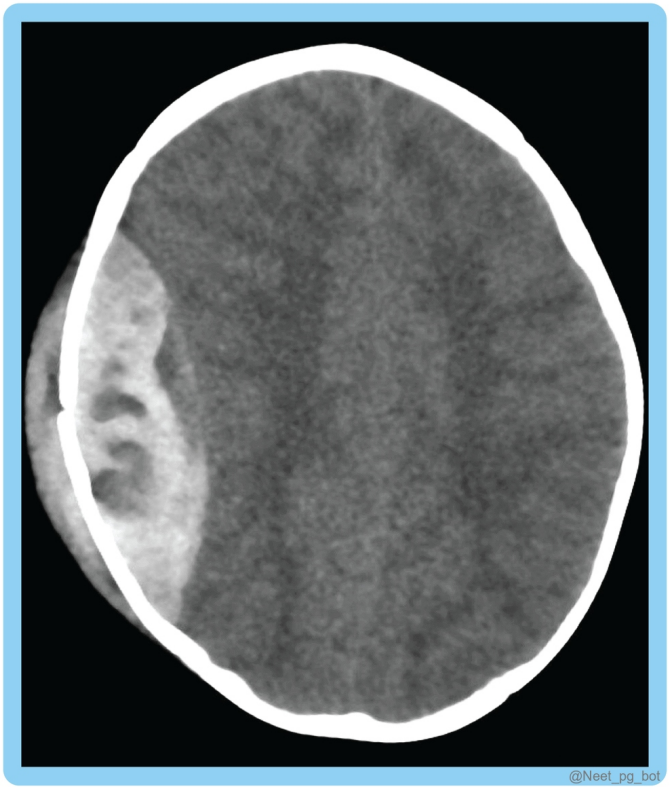
■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The patient has a history of hypertension and the CT findings (hyperdense lesion in the basal ganglia) are typical of hypertensive ICH, which commonly affects the basal ganglia. Putamen is the most common site of hypertensive bleeding. Intracerebral Haemorrhage (ICH): ICH refers to bleeding within the brain parenchyma, distinct from surface bleeding. Causes of ICH: The most common cause is hypertension. Clinical Features: Sudden onset of focal neurological deficit Decreased consciousness Signs of raised intracranial pressure (vomiting, headache) Contralateral hemiparesis Seizures are rare Diagnosis: CT scan : ICH appears as a hyperdense lesion Comparison with other haemorrhages: EDH: Biconvex, lenticular (Option A ruled out) SDH: Crescentic (Option D ruled out) SAH: Hyperdense along the falx and basilar cisterns (Option B ruled out) EDH SDH SAH






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References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Pages 248-250

↑ *Back to this question in Part A*

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Q14: In cases of traumatic head injury, which of the following is considered the most common traumatic intracranial haemorrhage? (Q885997)

A. Extradural haemorrhage

B. Subarachnoid hemorrhage

C. Subdural haemorrhage

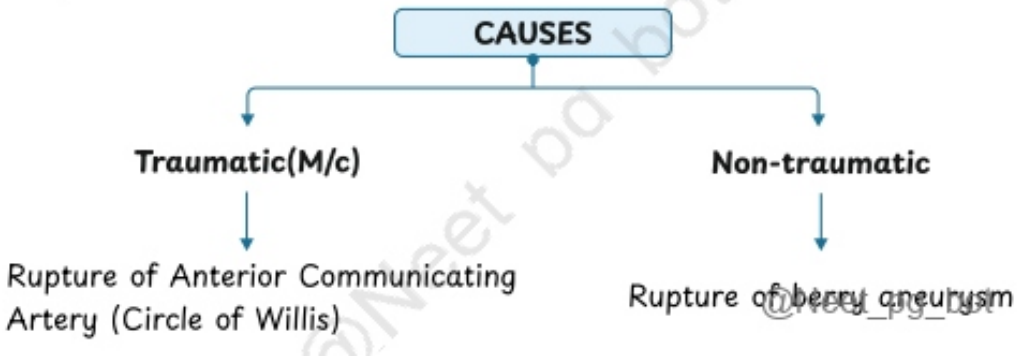
D. Cerebral contusion

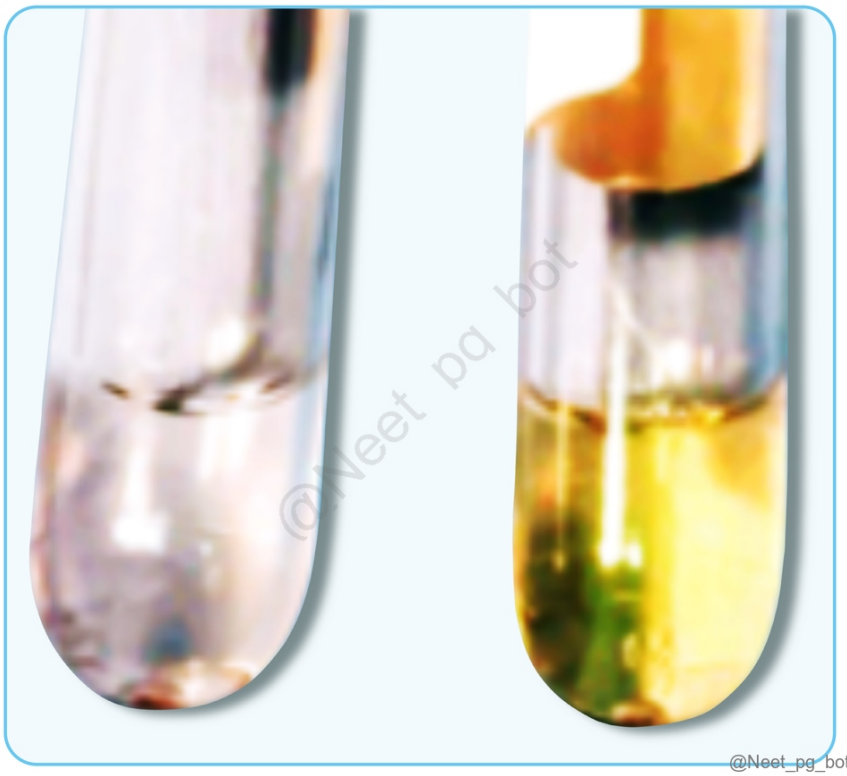
Correct Answer: B. Subarachnoid hemorrhage

Explanation: Subarachnoid haemorrhage is considered the most common type of traumatic intracranial haemorrhage Subarachnoid haemorrhage Below arachnoid M/C traumatic ICH Symptoms: Thunderclap headache

(excruciating) Nausea, vomiting Loss of consciousness Seizures/Photophobia Diagnosis NCCT : Blood in the subarachnoid space Lumbar puncture → Blood in CSF → Xanthochromia (4-6 hrs, yellow due to bilirubin) Treatment Endovascular coiling/clipping Extradural haemorrhage (Option A): Less common; usually due to middle meningeal artery injury with skull fracture. Subdural haemorrhage (Option C): Common in trauma but less frequent than traumatic subarachnoid haemorrhage. Cerebral contusion (Option D): A parenchymal injury, not classified as an intracranial haemorrhage in isolation.







References:

Reddy K. S. Narayan, Essentials of Forensic Medicine and Toxicology, 36th Edition, Page 222

↑ *Back to this question in Part A*

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Q15: During the medicolegal examination of a victim struck on the head with a heavy wooden log. However, on closer inspection with a magnifying glass, the doctor finds tissue bridges, crushed hair bulbs, and irregular margins. This injury is best classified as: (Q886000)

A. Incised wound

B. Split laceration

C. Chop wound

D. Contusion



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Correct Answer: B. Split laceration

Explanation: A split laceration occurs when the scalp is crushed between a blunt object and the underlying hard skull bone, resulting in a wound that mimics an incised wound but is actually a laceration characterised by tissue bridges and crushed margins. Incised wound (Option A) is caused by a sharp-edged weapon and is characterised by clean-cut edges, absence of tissue bridges, and the presence of cleanly cut hair bulbs. Chop wound (Option C) is produced by a heavy weapon with a sharp edge, such as an axe, and typically involves deeper injuries to the underlying bone. Contusion (Option D) refers to a bruise where the skin remains intact.

References:

Reddy K. S. Narayan, Essentials of Forensic Medicine and Toxicology, 36th Edition, Page 193

↑ *Back to this question in Part A*

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Q16: During a postmortem examination of a victim found on a railway track, the image of the skull is given below. What is this type of fracture known as? (Q886003)

A. Depressed fracture

B. Mosaic fracture

C. Diastatic fracture

D. Pond fracture



Correct Answer: B. Mosaic fracture

Explanation: A Mosaic fracture (or spider-web fracture) occurs when the head is struck by a heavy object with a broad surface or when the head hits a broad, flat surface (like a railway track) with high velocity. The multiple radiating and circular lines interconnect. Depressed fracture (Option A) involves a segment of bone being driven inwards, usually by a localised blow from a small-surfaced object. Diastatic fracture (Option C) involves the separation of the cranial sutures, common in children. Pond fracture (Option D) is a shallow, "dented" fracture seen in the pliable skulls of infants.

References:

Reddy K. S. Narayan, Essentials of Forensic Medicine and Toxicology, 36th Edition, Page 214

↑ *Back to this question in Part A*

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• [04_Forensic Traumatology] 010 Thermal Injuries - I Incl Rta

« Back to Folder Directory

[04_Forensic Traumatology] 010 Thermal Injuries - I Incl Rta — Quick Jump

Q1 (p. 672)	*Q2 (p. 673)*	*Q3 (p. 675)*	*Q4 (p. 675)*	*Q5 (p. 677)*	*Q6 (p. 677)*
Q7 (p. 680)	*Q8 (p. 681)*	*Q9 (p. 682)*	*Q10 (p. 683)*	*Q11 (p. 685)*	*Q12 (p. 686)*
Q13 (p. 687)	*Q14 (p. 688)*	*Q15 (p. 689)*	*Q16 (p. 693)*	*Q17 (p. 693)*	*Q18 (p. 694)*
Q19 (p. 695)	*Q20 (p. 696)*	*Q21 (p. 697)*	*Q22 (p. 698)*	*Q23 (p. 699)*	

Q1: Which among the following is not seen in heat exhaustion? (Q853112)

A. Loss of thermoregulatory mechanism

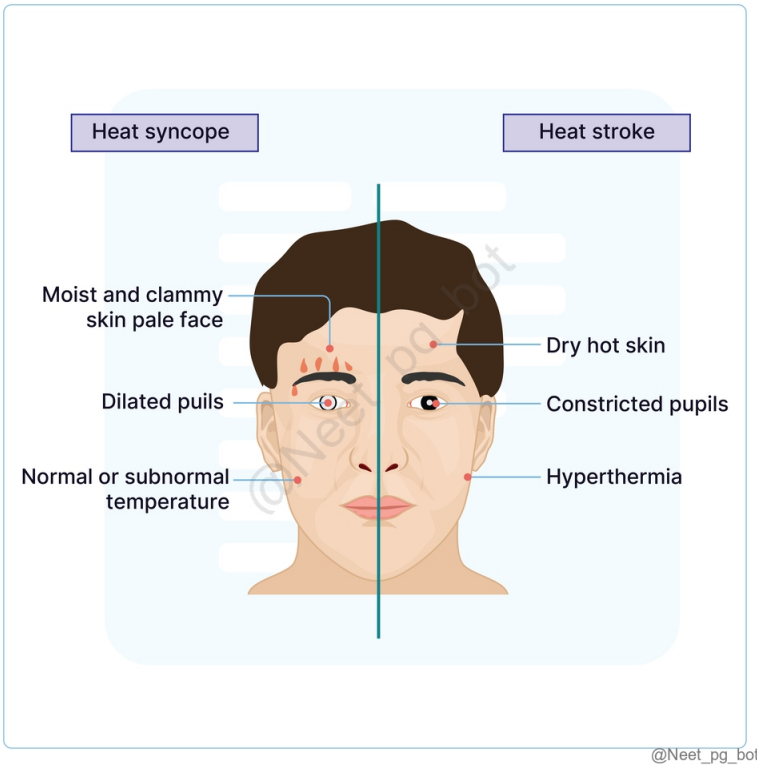
B. Altered sensorium

C. Orthostatic hypotension

D. Core body temperature below 105 °F

Correct Answer: A. Loss of thermoregulatory mechanism

Explanation: Loss of thermoregulatory control is a hallmark of heat stroke , not heat exhaustion. In heat exhaustion, the thermoregulatory mechanisms are intact but overwhelmed. Condition Cause Clinical Features Postmortem Findings Heat Exhaustion Prolonged strenuous activity with inadequate water/salt intake in a hot environment. Nausea, vomiting, malaise, myalgia CNS symptoms: (Option B ruled out) dizziness, fatigue, impaired judgment, psychosis (severe water depletion) Moist skin, increased pulse, rectal temperature > 37.8°C Non-specific Heat Cramps (Miner's/Stoker's/Fireman's Cramps) Fluid and electrolyte depletion (dilutional hyponatremia), following vigorous activity and profuse sweating. Sudden severe muscle cramps (arms, legs, abdomen) Tender, hard, lumpy muscles Flushed face, dilated pupils, dizziness, vomiting Moist, cool skin, body temperature normal/slightly elevated Non-specific Heat Stroke Failure of thermoregulation in extreme heat exposure (Option A) Sudden collapse-loss of consciousness Skin hot, initially wet, then dry Hyperventilation-tachycardia Core temp > 40.5°C Pupils contracted Convulsions Unconsciousness Cerebral dysfunction High fever Absence of sweating Congested lungs, intrathoracic petechiae (children) Subendocardial hemorrhages Brain congestion, flattened convolutions, petechiae in the 3rd/4th ventricle walls Orthostatic hypotension (Option C): Due to dehydration and reduced plasma volume, orthostatic hypotension is a common feature of heat exhaustion. Core body temperature below 105 °F (Option D) : In heat exhaustion, the core body temperature typically remains below 105 °F (40.5 °C), distinguishing it from heat stroke where temperatures exceed this threshold.



References:

Goutam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Pages 265-266

https://pmc.ncbi.nlm.nih.gov/articles/PMC6969637/#

↑ *Back to this question in Part A*

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Q2: Which of the following is a pathognomonic feature of a lightning strike injury? (Q847128)

A. Lichtenberg flowers

B. Joule burns

C. Crocodile skin lesions

D. Sparrow foot marks

Correct Answer: A. Lichtenberg flowers

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Lichtenberg flowers: These are characteristic fern-like patterns that appear on the skin following a lightning strike. Lightning stroke Lightning bolt(DC>1000 million V) is produced when the charged undersurface of a thundercloud sends its electrical charge to the ground. Death is caused by high voltage current due to cardiopulmonary arrest or electrothermal injuries. Lichtenberg flowers/Arborescent markings: Pathognomic feature of lightning strike. Superficial, several inches long, thin, irregular, tortuous, dendritic red marks on the skin having resemblance to the branches of a tree. This Fern-like pattern of erythema in the skin is usually found over the shoulders or flanks. Appears within 1hr and disappears in 24-48 hrs if person survives. Other features of lightning strike: Development of edema of skin at the point of entry wound. Linear burns and surface burns Fusing and magnetisation of metallic articles. Contusions, lacerations, rupture of tympanic membrane. Singed hair and patterned skin burns marks underneath metal articles of jewellery. Joule burns (Option B): These are burns caused by the conversion of electrical energy into heat within the body and are not specific to lightning strikes. They can occur in any electrical injury. Crocodile skin lesions (Option C): These are indicative of other types of electrical injuries, characterized by a specific pattern of skin damage but are not unique to lightning strikes. Sparrow foot marks (Option D): Peculiar facial lacerations due to contact with the shattered windscreen seen in transportation injuries.



References:

Goutam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Pages 277-278

↑ *Back to this question in Part A*

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Q3: What is the probable etiology of the patient's burn injury who presents to the outpatient department (OPD) with a dampened, erythematous, blistered lesion on the right thigh, along with a demarcation line that extends distally? (Q876266)

A. Electric burn

B. Chemical burn

C. Dry heat

D. Moist heat

Correct Answer: D. Moist heat

Explanation: Correct Option D - Moist heat: The most likely cause of the described burn injury, characterized by soddened injury, erythema, blisters, and a line of demarcation that extends down the limb, is "Moist heat." Moist heat burns typically occur when there is prolonged contact with hot liquids, steam, or moist objects. The moisture can lead to deep tissue damage and delayed healing, which matches the description provided. Incorrect Options: Option A - Electric burn : Electric burns are caused by contact with an electrical source, such as exposed wires or lightning. These burns often have characteristic entry and exit wounds and may not necessarily show soddened injury or a line of demarcation. While electric burns can cause erythema and blisters, they are not the most likely cause based on the information given. Option B - Chemical burn : Chemical burns occur when the skin comes into contact with corrosive substances, such as acids or alkalis. They typically present with localized tissue damage and may show signs of erythema, blisters, and a line of demarcation. However, the description of a soddened injury is not consistent with a chemical burn, making it less likely to be the cause in this scenario. Option C - Dry heat : Dry heat burns result from direct contact with hot objects, flames, or hot surfaces. While they can cause erythema, blisters, and a line of demarcation, they do not typically result in a soddened injury. Given the specific description dry heat is not the most likely cause.

References:

Prepladder Notes

↑ *Back to this question in Part A*

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Q4: Which type of fracture is most commonly associated with seat belt injuries in motor vehicle accidents? (Q847149)

A. Smith fracture

B. Chance fracture

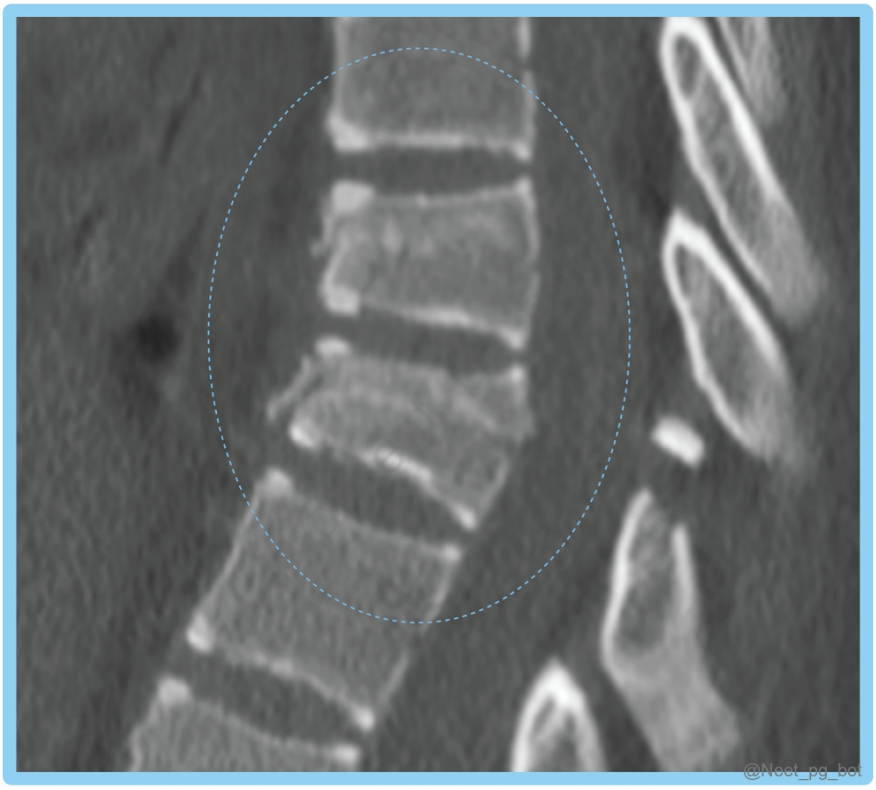
C. Barton fracture

D. Colles fracture

Correct Answer: B. Chance fracture

- *Listen (English)*
- *Listen (Hindi)*

Explanation: The Chance fracture/Seat belt fracture, a horizontal fracture through the vertebral body, pedicles and spinous process of the lumbar spine, is commonly associated with seat belt injuries. Chance fracture: Horizontal or transverse fracture through the vertebral body, pedicles, and spinous process, commonly affecting the lumbar spine. Mechanism of Injury: Results from a flexion-distraction force (bending and pulling apart) on the spine, typically during sudden deceleration, such as in motor vehicle accidents with improper or no shoulder restraint. Flexion-distraction spinal injury with no rotation of the fracture fragments or lateral displacement. Often associated with seat belt injuries when only the lap belt is used, leading to significant force across the lumbar spine. Most commonly occurs in the thoracolumbar region (T10-L2). Clinical Presentation: Patients may report lower back pain and possibly abdominal pain due to associated organ injuries. Diagnosis : Diagnosed through X-ray or CT scan, showing a horizontal fracture line through the posterior elements of the spine. Treatment : immobilization and surgical stabilization. Usually reduced on the Risser table by applying hyperextension to the injured thoracolumbar area. Smith fracture (Option A): Distal radius fracture with palmar (volar) displacement, typically from a fall on a flexed wrist. Barton fracture (Option C): Intra-articular distal radius fracture with dislocation of the carpal bones, usually from a fall on an outstretched hand. Colles fracture (Option D): Distal radius fracture with dorsal displacement, commonly resulting from a fall on an extended wrist.



References:

www.ncbi.nlm.nih.gov/books/NBK536926/

↑ *Back to this question in Part A*

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Q5: Which among the following are usually associated with collisions over the dashboard during an RTA? 1) Posterior cruciate ligament injury 2) Posterior dislocation of hip 3) Patella fracture (Q847147)

A. 1, 2

B. 2, 3

C. 1, 3

D. 1, 2, 3

Correct Answer: D. 1, 2, 3

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: All of the following - posterior cruciate ligament injury , posterior dislocation of hip and fracture-patella are usually seen in dashboard injuries. Dashboard injury: Affected Front seat passenger (hip and knees flexed position) 3 Ps Patella fracture Posterior cruciate ligament injury Posterior hip dislocation Other injuries Fracture - pelvis/femur Most common nerve injured: Sciatic nerve

References:

Knight’s Forensic Pathology, 4th Edition, Pages 226,279

Gautam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Pages 284,285

↑ *Back to this question in Part A*

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Q6: What is the most likely structure to be affected in this illustration shown? (Q847142)

A. DJ flexure of small intestine

B. Mesentery

C. Spleen

D. Liver



Correct Answer: B. Mesentery

■ *Listen (English)*

■ *Listen (Hindi)*

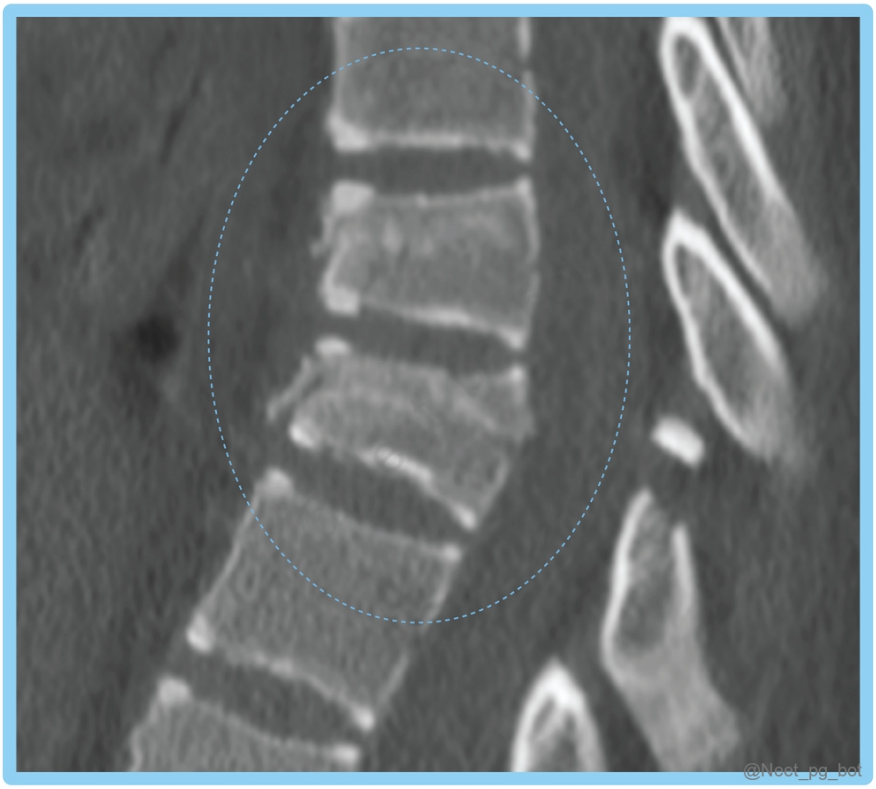
Explanation: Illustration shown is seat belt injury - Mesentery is most commonly affected due to seatbelt injuries. Seat belts: Restraints the body against severe deceleration and hence preventing impact from windscreen, steering wheel and other obstruction. Though it slows down deceleration, it can jam at a certain point leading to injuries. Follows Inertia-reel mechanism. Primarily of two types: Shoulder diagonal (most commonly used in vehicles) Lap strap (aircrafts) Seat Belt injuries: Patterned contusion (known as Seat belt sign) Drivers: starts from the right shoulder Passengers: starts from the left shoulder Intra-abdominal (deceleration- compression) Mesentery - most commonly affected (Option B) Small intestine: DJ flexure (primary),Ileocaecal junction (secondary) Liver, Spleen Vertebral injuries (distraction- compression) Distraction(separation of joint): seen on posterior side Compression: seen on anterior side Chance fracture: fracture involving all 3 columns of spine Seat belt syndrome Seat belt sign + intra-abdominal injuries + vertebral injuries



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References:

Essentials of Forensic Medicine & Toxicology by KS Narayan Reddy 35th Edition, Page 216.

Knight's Forensic pathology 4th Edition, Pages 284-286.

↑ *Back to this question in Part A*

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Q7: Person sustained a blow to the front of the chest by the steering wheel in an RTA. Which site of the aorta is most likely to be affected? (Q847141)

A. Ascending aorta - 1.5cms proximal to ligamentum arteriosum

B. Ascending aorta - 1.5cms distal to ligamentum arteriosum

C. Descending aorta - 1.5cms proximal to ligamentum arteriosum

D. Descending aorta - 1.5cms distal to ligamentum arteriosum

Correct Answer: D. Descending aorta - 1.5cms distal to ligamentum arteriosum

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Junction of Aortic arch with the descending aorta distal to origin of subclavian artery i.e 1.5cms distal to ligamentum arteriosum is the most likely site of tear in steering wheel injuries as the lower thoracic aorta at that point is bound to the anterior longitudinal ligament on the front of dorsal spine. Steering wheel injury: Sites affected Sternum/Ribs (Flail chest) Chest (patterned bruises seen) Elbow/forearm (pressure transmission effect) Aorta Intimal tears in aorta (either partial or complete). Site: 1.5cms distal to ligamentum arteriosum (junction of aortic arch with descending aorta) (Option D) Multiple parallel intimal tears near the main transection is known as Ladder rung tears. Osseous punch: compression of aorta between sternum and thoracic vertebra. Other organs involved Heart: Hemopericardium -> Cardiac tamponade Lungs: Pincer contusions seen Liver > Spleen

References:

Knight’s Forensic Pathology, 4th Edition, Pages 216-225

↑ *Back to this question in Part A*

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Q8: What is the mechanism of injury and common level affected in fracture-dislocation seen with whiplash injury? (Q847138)

A. Flexion-hyperextension; C3-C4

B. Sideways movement of head; C3-C4

C. Flexion-hyperextension; C5-C6

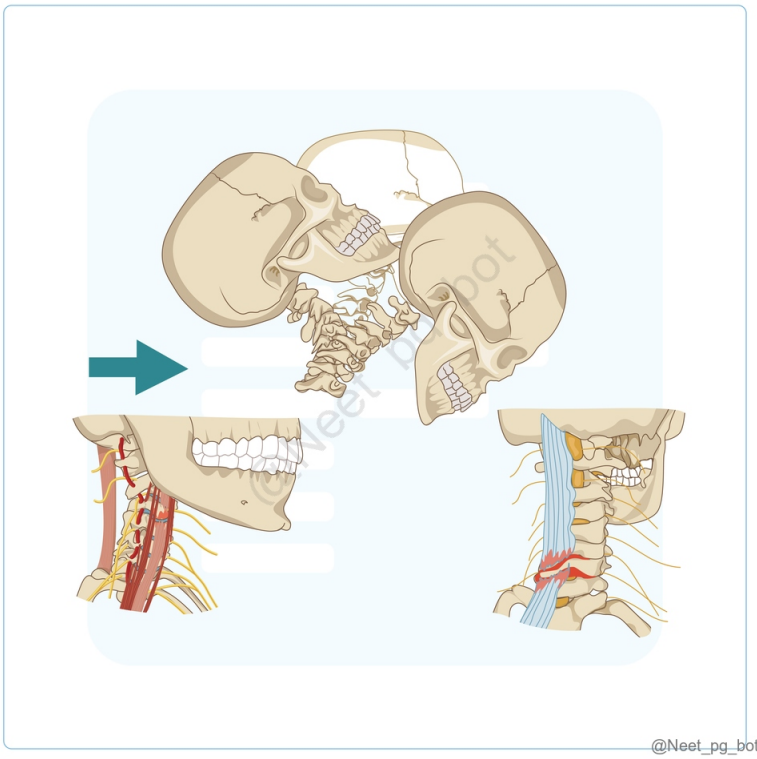
D. Sideways movement of head; C5-C6

Correct Answer: C. Flexion-hyperextension; C5-C6

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Whiplash injury is caused due to violent acceleration-deceleration force leading to sudden flexion-hyperextension of head and can be associated with Fracture-dislocation of C5-C6 vertebra. Whiplash injury: (soft tissue injury) : Mechanism Acceleration: hyperextension followed by hyperflexion Deceleration: hyperflexion followed by hyperextension Associated injuries Atlanto-axial dislocation > C5-C6 fracture-dislocation Anterior longitudinal ligament and cervical ligaments are torn Passenger Most commonly front seat passenger is affected Prevention Use of head restraints (head rest) prevents hyperextension of neck



References:

Essentials of Forensic Medicine & Toxicology by KS Narayan Reddy, 35th Edition, Page 215

↑ *Back to this question in Part A*

@Neet_pg_bot

Q9: Windshield impact to the front seat passenger may impact which among the following injuries? (Q847137)

A. Avulsion of forehead skin

B. Dicing injury

C. Sparrow foot marks

D. All of the above

Correct Answer: D. All of the above

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Windshield impact to either driver/front seat passenger can cause sparrow foot marks , Dicing injury , avulsion of forehead skin , basilar skull fractures. Windshield injury: Sparrow foot marks Multiple, small, punctate facial lacerations due to shattered glass pieces. Mechanism: Driver/passenger ramming onto the glass . Site: Predominantly over the face More specific for windshield injuries. Dicing injury More common than sparrow foot marks Multiple superficial cuts over the skin. Mechanism: Glass pieces falling towards the person . Site: All over the face and body Can also occur in rear seat passengers Other injuries Avulsion of forehead skin Basilar skull fractures Fracture-dislocation

References:

Gautam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Pages 284, 285

↑ *Back to this question in Part A*

@Neet_pg_bot

Q10: Which of the following is a frequent type of injury seen in tertiary impact injuries? (Q847135)

A. Contrecoup injury

B. Tailgating injury

C. Terrible triad injury

D. Sparrow footmark injury

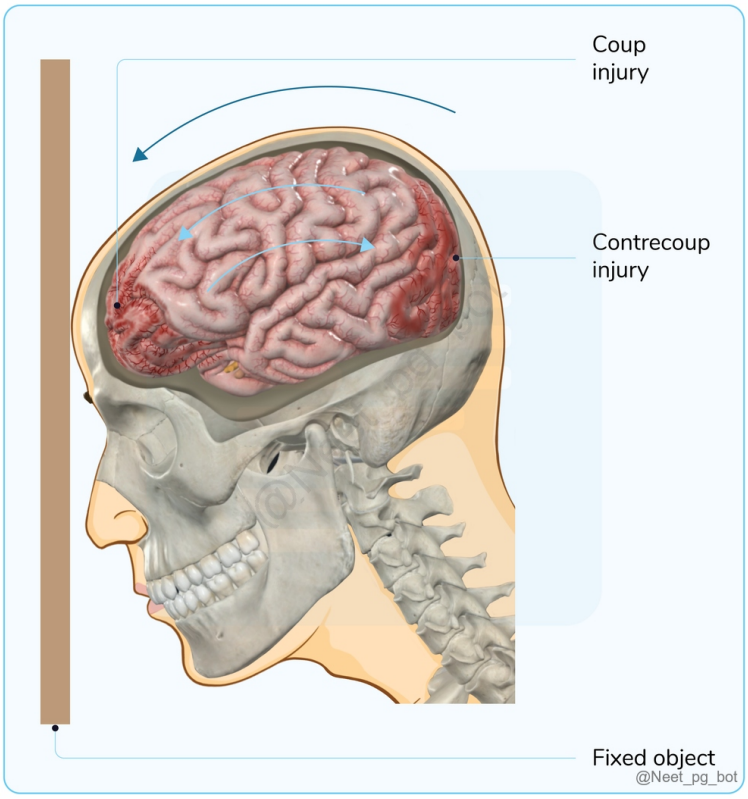
Correct Answer: A. Contrecoup injury

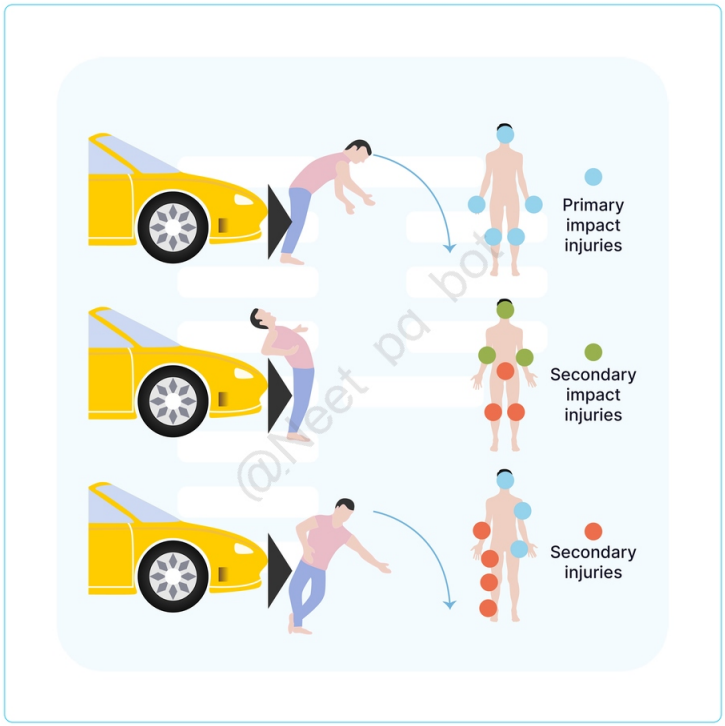
■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Contrecoup injury occurs when the brain strikes the opposite side of the skull from where the impact occurred, often seen in tertiary impact injuries. Secondary injuries/Tertiary impact injuries Results from body parts, striking the ground, following primary and secondary impact and are more lethal. When the pedestrian is thrown to the ground, he/she sustains abrasions, bruises or lacerations over the bony prominences. Contrecoup injury: Brain damage is frequent without any associated skull fracture due to moving head of the victim, being suddenly stopped on impact, resulting in diffuse damage to the axons. Fracture of the skull and ribs due to direct contact and fracture of spine due to hyper flexion or extension. Sometimes, pedestrians are run over if knocked down by the vehicle. This will tend to occur if the pedestrian centre of gravity is lower than the impact site. Tyre tread marks on one surface of the body with graze like abrasions on the opposite side. Compression of the chest resulting in flail chest. Flaying injury: Avulsion injury when the wheel moves over a fleshy part causing degloving of skin and subcutaneous tissue by tearing it away from underlying tissue . Burning and singing of skin and hair, resulting from discharge of hot exhaust. Tailgating injury (Option B): Unique injury wherein the motorcyclist drives under the rear of the truck, causing head injuries and decapitation. Terrible triad injury (Option C): This refers to a specific set of injuries to the elbow (dislocation, radial head fracture, coronoid fracture), not related to tertiary impact. Sparrow foot marks (Option D): Peculiar facial lacerations due to contact with the shattered

windscreen seen in transportation injuries.





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References:

https://www.ncbi.nlm.nih.gov/books/NBK536965/

↑ *Back to this question in Part A*

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Q11: Which of the following is a classic pattern of injury seen in pedestrian children involved in road traffic accidents? (Q847132)

A. Tailgating

B. Whiplash

C. Waddell's Triad

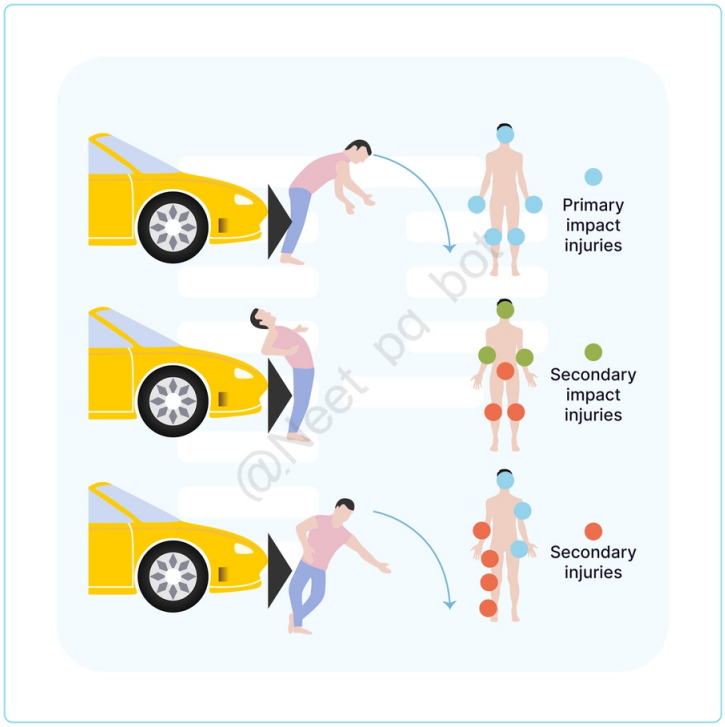
D. Terrible Triad

Correct Answer: C. Waddell's Triad

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Waddell's Triad is a classic pattern of injury seen in pediatric pedestrians struck by vehicles. Femoral fracture Intra-thoracic or abdominal injury Contralateral head injury. Pedestrian Injuries Most common type of transportation injuries which are blunt for injuries, the Tucker from travel on the ground, in the air and on water. Tailgating (Option A): Unique injury wherein the motorcyclist drives under the rear of the truck, causing head injuries and decapitation. Whiplash (Option B): This injury typically occurs in motor vehicle accidents, where the neck is rapidly flexed and extended, usually due to rear-end collisions, but it does not relate to pedestrian injuries. Terrible Triad (Option D): This refers to a specific injury pattern in the elbow involving dislocation, radial head fracture, and coronoid process fracture, not related to pedestrian injuries.



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References:

Goutam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Pages 281-283

↑ *Back to this question in Part A*

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Q12: What is a unique type of injury often associated with motorcyclists? (Q847130)

A. Bone pearls

B. Lichtenberg flowers

C. Whiplash

D. Tailgating

Correct Answer: D. Tailgating

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Tailgating/Under-running is a unique injury wherein the motorcyclist drives under the rear of the truck/vehicle, causing head injuries and decapitation. Bone pearls (Option A): Small, rounded calcifications seen in electrocution. Lichtenberg flowers (Option B): Skin patterns seen after a lightning strike. Whiplash (Option C): Neck injury caused by rapid back-and-forth movement, commonly seen in car accidents but not specific to motorcyclists.

References:

Goutam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Pages 286, 287

↑ *Back to this question in Part A*

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Q13: Which of the following statements accurately describes 'Hide and die' syndrome? (Q847072)

A. It occurs when hypothermic victims discard their clothing due to overheating sensations

B. It is characterized by the victim pulling household items over themselves or hiding in unusual places, due to mental confusion from hypothermia

C. It refers to a skin condition caused by prolonged exposure to cold, resulting in ulcerative lesions

D. It is the result of an intentional attempt by victims to escape from a dangerous situation

Correct Answer: B. It is characterized by the victim pulling household items over themselves or hiding in unusual places, due to mental confusion from hypothermia

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: In the ‘hide and die' syndrome, the body of a hypothermia victim is found in unusual locations resembling an attempt to "hide" or create a protective environment due to mental confusion and a possible hibernation reflex (confused with signs of homicide or robbery) Hypothermia: Definition Core temperature below 36°C (96.8°F) Signs Disorientation Dulling of consciousness Loss of reflex Fall in respiration, heart rate, and blood pressure Red patches and pallor of the skin Edema of the face Stiffness of neck muscles Autopsy findings Patches of pink to brownish-pink discoloration Postmortem staining: Pink/bright red Cyanosis or pallor in extremities ("white deaths") Edema of feet and blistering of skin Stomach: Wischnewsky spots- brownish black colored gastric mucosal ulcers Viscera-congested, hemorrhagic Phenomena seen in hypothermia victims Paradoxical undressing - found undressed due to disorientation, which increases heat loss (mistaken for evidence of sexual assault or homicide) (Option A ruled out) ‘Hide and die' syndrome- found in unusual locations resembling an attempt to "hide" or create a protective environment due to mental confusion and a possible hibernation reflex (confused with signs of homicide or robbery) (Option B) ■■■■■■■ Hiding: Seeking out enclosed, small spaces (e.g., closets, under beds, in chests) as if trying to hide or feel protected. Covering: Pulling household items, blankets, or clothes over their head or body in an effort to "hide" or "build a nest," but this action is disorganized and fails to provide warmth. Chilblain (Erythema Pernio)- Localized inflammatory lesion caused

by repeated exposure to cold and damp conditions above freezing point, usually above freezing (0–16°C). It occurs due to vasoconstriction followed by vascular inflammation, resulting in itching, burning, pain, redness, blisters, and ulceration (rare) that appear hours after cold exposure and are usually completely reversible. Frostbite - Freezing injury of tissues due to exposure to extreme cold below 0°C, leading Freezing injury of tissues due to exposure to extreme cold below 0°C. It causes numbness, pain, tingling, followed by loss of sensation. The skin appears pale and waxy and later turns bluish or black. It may cause permanent tissue damage.

References:

Goutam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Pages 263-264

↑ *Back to this question in Part A*

@Neet_pg_bot

Q14: Which factor is considered more dangerous in causing electrocution? (Q847123)

A. AC current

B. DC current

C. Voltage = 50V

D. Dry skin

Correct Answer: A. AC current

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Ac current is more dangerous because it causes continuous muscle contractions, making it harder to release the source of shock. It can also disrupt the heart rhythm, leading to fatal arrhythmias. Electrocution(Electrical injuries) Refers to injury or death caused by electric shock. It occurs when an electric current passes through the body, disrupting normal bodily functions, particularly the heart, muscles, and nerves. Factors influencing electrocution: Current Type: AC (alternating current) is more dangerous than DC (direct current) at similar voltage levels because AC causes continuous muscle contractions and is more likely to induce ventricular fibrillation. Voltage Level: Electrocution is rare at <100V and most deaths occur at >200V. Resistance of the Body: The human body's resistance varies by tissue type (blood, muscle, fat, and skin). Duration of Contact: Longer exposure leads to more severe injuries. Pathway of Current: Death is more likely to occur if the brain stem or heart is in the direct path of the current.

References:

Goutam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Pages 275-277

↑ *Back to this question in Part A*

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Q15: A forensic pathologist is tasked with determining whether the burns on a severely charred body occurred before or after death. During the examination, the pathologist observes a combination of findings, some of which are more suggestive of antemortem burns. Which of the following combinations of findings is least indicative of antemortem burns? (Q847112)

A. Elevated carbon monoxide levels and soot in the trachea

B. Pugilistic attitude and blisters filled with clear fluid

C. Presence of an inflammatory reaction at the burn edges and cherry-red discoloration of the skin

D. Blisters filled with protein-rich fluid and soot in the upper respiratory tract

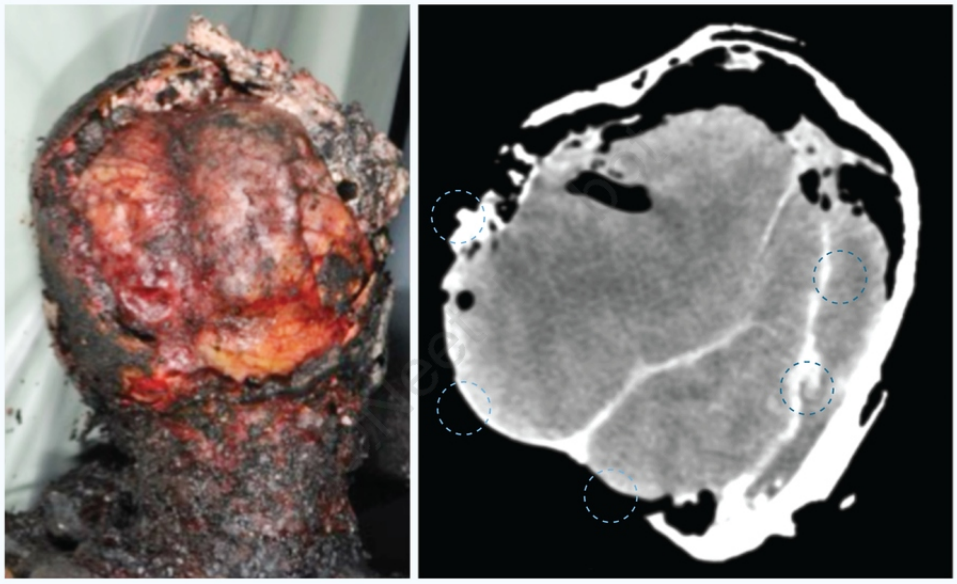
Correct Answer: B. Pugilistic attitude and blisters filled with clear fluid

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: While common in burn victims , pugilistic posture is a non-specific finding and can occur whether the individual was alive or dead at the time of the burn. Non-specific findings in burns cases: Puppet Organs Heat Hematoma Heat Ruptures Pugilistic Attitude Heat Fractures Heat Hematoma Heat Ruptures Pugilistic Attitude Heat Fractures

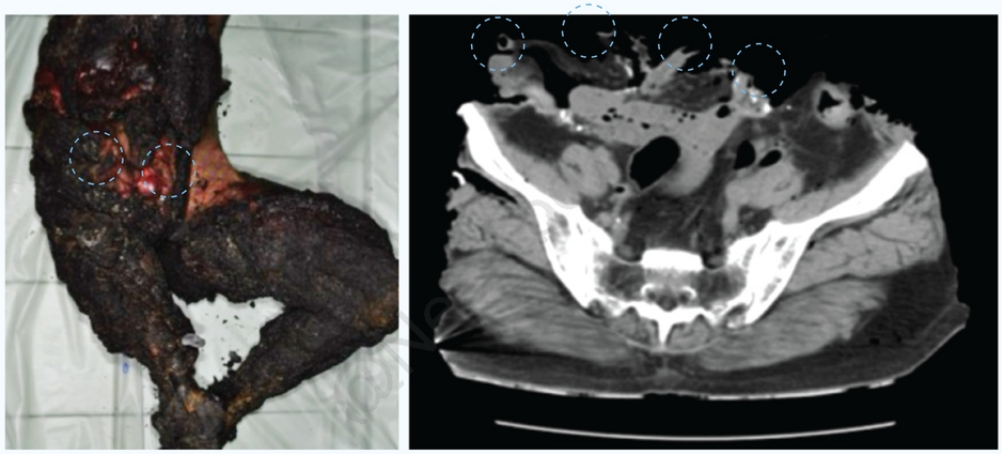
Thermal epidural hematoma (2)



PMCT shows epidural hematoma (red arrows) and
thermal loss of the posterior part of the skull (yellow arrows)

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Heat rupture of abdomen



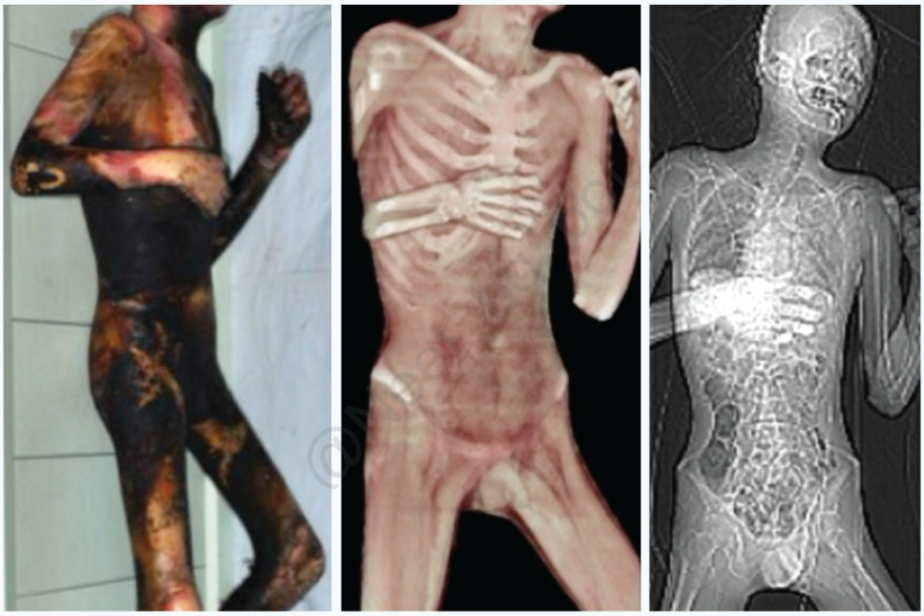
PMCT shows rupture of abdominal wall and protrusion
of intestines in a case of severe charred body.

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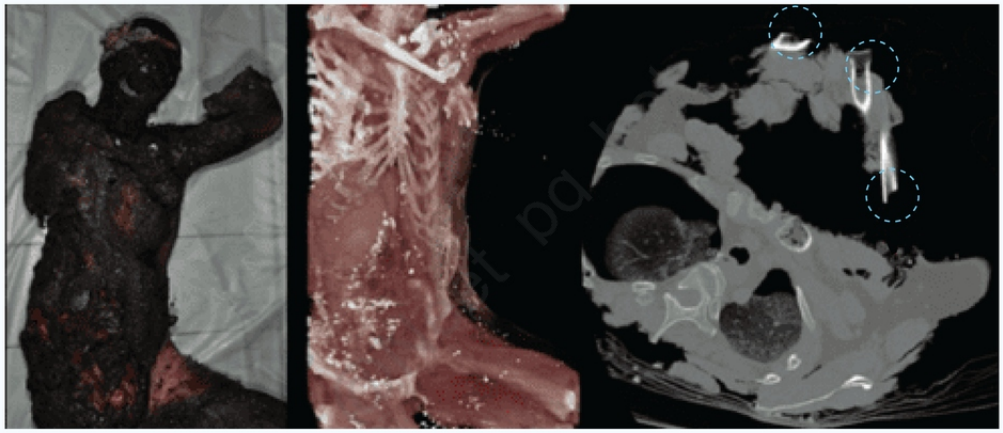
Pugilistic attitude



PMCT shows flexion of the extremities from thermal muscle contraction, which strongly holds the hands and wrists clenched.

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Thermal amputation and fracture



Charring with distal thermal amputation of upper extremities. PMCT shows defect of the bones with smooth margin and mottled lucency (arrows). Soft tissues are severely damaged.

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References:

Goutam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Pages 270-272

N S Narayana Reddy and OP Murty, The Essentials of Forensic Medicine & Toxicology, 35th Edition Page 249

↑ *Back to this question in Part A*

@Neet_pg_bot

Q16: A police surgeon is tasked with determining whether the burns on a deceased individual occurred before or after death. The body was discovered in a residential fire, and toxicology revealed elevated carbon monoxide levels. Which among the following findings is more relatable to the elevated carbon monoxide levels? (Q847109)

A. Absence of soot in the upper respiratory tract

B. Blisters filled with clear fluid and air

C. Presence of an inflammatory reaction at the burn edges

D. Both B and C

Correct Answer: C. Presence of an inflammatory reaction at the burn edges

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Presence of an inflammatory reaction at the burn edges is more relatable to elevated carbon monoxide levels because both indicate that the individual was alive during the fire. Inflammatory reactions at burn edges occur only if the body is still capable of mounting a physiological response to the burn, which requires the individual to be alive. S.No Feature Antemortem burns Postmortem burns 1 Line of redness Present Absent 2 Vesicles (Option B and D ruled out) Contain serous fluid, rich in albumin, chloride, and some polymorphs Contain air; if fluid is present, it contains little albumin and no chloride 3 Base of vesicles Red and inflamed Dull, dry, hard and yellow 4 Soot in upper respiratory tract (Option A ruled out) May be present Absent 5 Inflammation and repair Present along with pus and slough Absent 6 Healing Granulation tissue seen in old cases Absent 7 Carboxyhemoglobin Present Absent 8 Enzyme reaction Increase in enzymes in the periphery of burns No such increase

References:

Goutam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Page 273

↑ *Back to this question in Part A*

@Neet_pg_bot

Q17: A 25-year-old male weighing 75 kg sustains second-degree burns covering 40% of his total body surface area (TBSA) in an industrial accident. Using the Parkland

formula, how much fluid should be administered in the first 24 hours? (Q847104)

A. 4,000 mL

B. 5,000 mL

C. 6,000 mL

D. 12,000 mL

Correct Answer: C. 6,000 mL

Explanation: For a 25-year-old male weighing 75 kg with second-degree burns covering 40% of his total body surface area (TBSA), the Parkland formula to calculate fluid requirements in the first 24 hours is: Fluid (mL)= 2 × weight (kg) × %TBSA burned Fluid (mL)= 2 × weight (kg) × %TBSA burned = 2×75×40= 6,000 mL in 24 hours So, the patient should receive 6,000 mL (or 12 liters) of fluid in the first 24 hours. According to the formula, half of this volume (3,000 mL) should be given within the first 8 hours post-burn, and the remaining half (3,000 mL) should be administered over the next 16 hours.

References:

Goutam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Pages 269, 270

↑ *Back to this question in Part A*

@Neet_pg_bot

Q18: A 7 year old child is admitted in ER with burns to the entire posterior trunk and the left lower limb. Using the Lund and Browder chart, calculate the percentage of total body surface area (TBSA) affected? (Q847102)

A. 25%

B. 35%

C. 36%

D. 40%

Correct Answer: B. 35%

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Lund and Browder Chart adjusts the percentage of body surface area burned according to the patient’s age, accounting for developmental changes in body proportions. For a 7-year-old: Posterior trunk: 18% of

TBSA. Left lower limb: (14 + 6 x 0.5)% of TBSA = 17% of TBSA. Total affected TBSA = 18% + 17% = 35%. The use of the Lund and Browder chart is vital in forensic cases to accurately assess injury severity in cases of burns in children. The estimation of Total Body Surface Area (TBSA) using Wallace's Rule of Nines is not precise for children due to their proportionately larger head surface area. Body Surface Area Assessment in Children (Lund and Browder Chart) Baseline Percentages (Under 1 Year) Head: 18% of Total Body Surface Area (TBSA) Each Leg: 14% of TBSA Trunk and Arms: Same as adult percentages Age Adjustment Formula For each year over age 1: Add 0.5% to each leg Subtract 1.0% from head Continue adjustments until adult values are reached. Example Calculation For a 3-year-old child: Start with baseline values Adjust for 2 years (age 1 to 3): Legs: 14% + (2 × 0.5%) = 15% each Head: 18% - (2 × 1.0%) = 16%

References:

Goutam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Page 269

↑ *Back to this question in Part A*

@Neet_pg_bot

Q19: A 30-year-old male is brought to the emergency department with burns involving the anterior trunk and the anterior aspect of the right upper limb. Using the Wallace Rule of Nines, what is the approximate total body surface area (TBSA) affected? (Q847093)

A. 15–20%

B. 22–27%

C. 30–35%

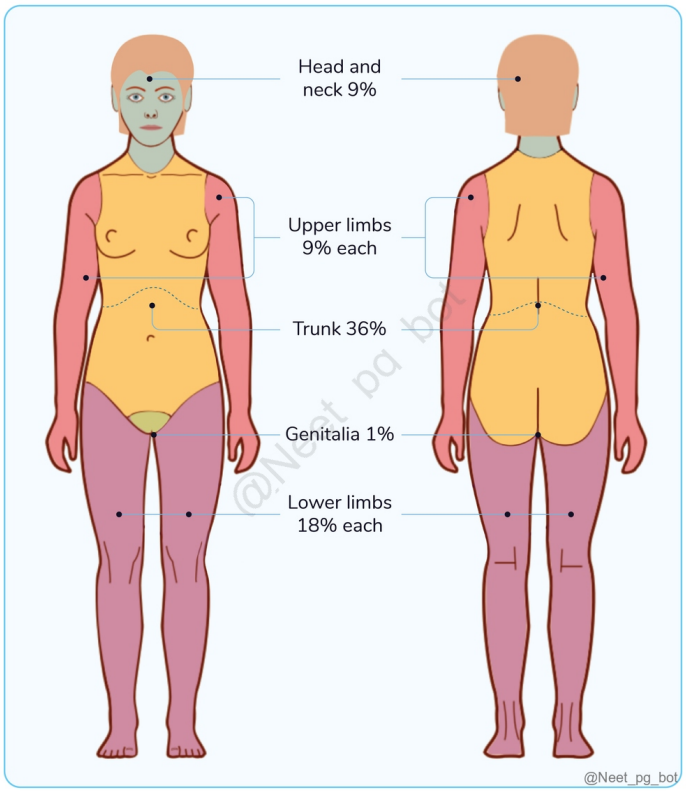
D. 40–45%

Correct Answer: B. 22–27%

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The Wallace Rule of Nine s estimates that the affected areas in this case are: Anterior trunk: 18% Anterior aspect of the right upper limb: 4.5% (half of 9% for the entire limb) Total affected TBSA = 18% + 4.5% = 22.5% ≈ 22–27% . Body Part Estimated TBSA Adults Entire left arm 9% Entire right arm 9% Head & neck 9% Chest 9% Back of chest 9% Abdomen 9% Back of Abdomen 9% Perineum 1% Entire left leg 18% Entire right leg 18%



References:

Goutam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Pages 268, 269

↑ *Back to this question in Part A*

@Neet_pg_bot

Q20: Destruction of superficial skin is classified under which category in Wilson's classification of burns? (Q847089)

A. Epidermal

B. Dermal

C. Dermo-epidermal

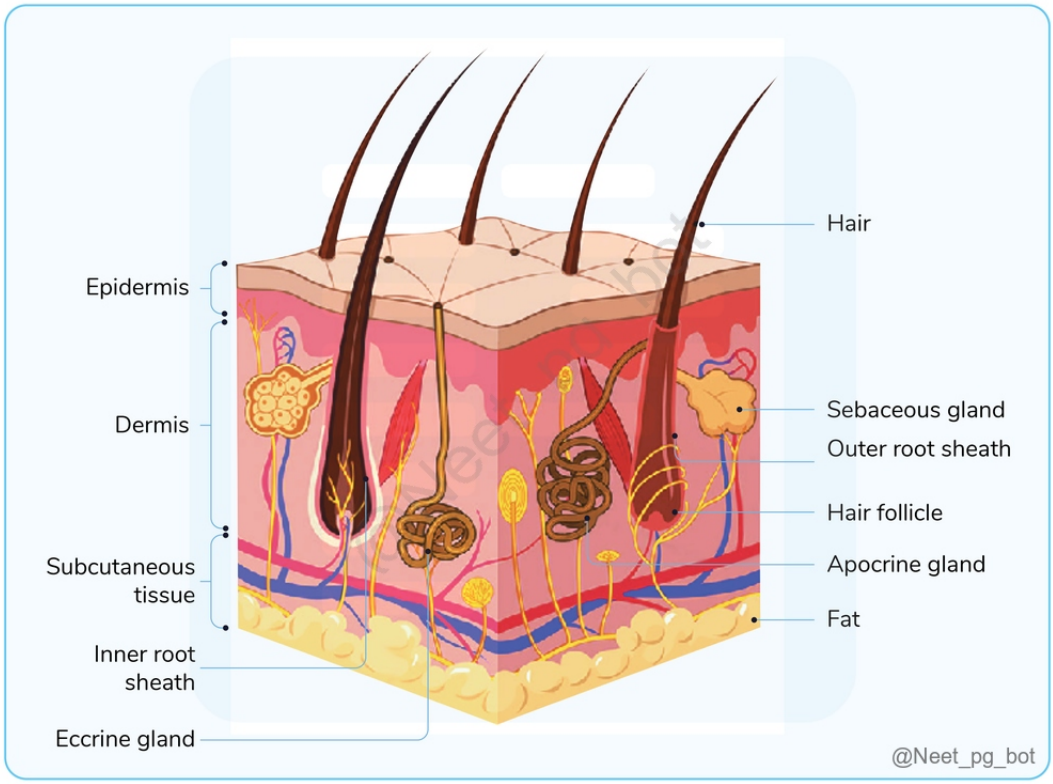
D. Deep

Correct Answer: C. Dermo-epidermal

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: In Wilson’s classification of burns : Epidermal burns → involve only the superficial layer of skin (epidermis). Example: Superficial/first-degree burns Features: Redness, pain, no blisters, heals without scarring. Dermal burns → involve deeper layers of dermis (superficial or deep dermal). Dermo-epidermal burns → full-thickness burns involving the entire epidermis and dermis. Deep burns → extend into subcutaneous tissue, muscle, or bone.



References:

Goutam Biswas Review of Forensic Medicine and Toxicology, 3rd edition, page 268

↑ *Back to this question in Part A*

@Neet_pg_bot

Q21: Match the following types of burns with its characteristics Type of heat Characteristic 1. Dry heat burn a. Vesicles over the burned area 2. Moist heat burn b. No vesicles present 3. Chemical burn c. Vesicles at the circumference of the burnt area (Q847085)

A. 1-a, 2-b, 3-c

B. 1-c, 2-b, 3-a

C. 1-c, 2-a, 3-b

D. 1-b, 2-c, 3-a

Correct Answer: C. 1-c, 2-a, 3-b

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Feature Dry Heat Burn Moist Heat Burn Chemical Burn Cause Flame, heated body, or X-rays Solid steam or liquid > 60ºC Corrosives Site At and above the site of contact At and below the site of contact At and below the site of contact Splashing Absent Present Present Skin Dry, wrinkled, and may be charred Sodden, bleached May be destroyed Vesicles At the circumference of the burnt area Over the burnt area Usually not present Redline Present Present Absent Color Black Bleached Distinctive coloration Charring Present Absent May be present Singeing Present Absent Absent Ulceration Absent Absent Present Scar Thick, contracted Thin, less contracted Thick, contracted Clothes Burnt Wet, not burnt It may be burnt, with characteristic stains

References:

Goutam Biswas Review of Forensic Medicine and Toxicology, 3rd edition, page 274

↑ *Back to this question in Part A*

@Neet_pg_bot

Q22: Which of the following statements regarding heat stroke is wrong? (Q847081)

A. Sweating is present

B. Core body temperature of more than 40.5°C

C. Failure of thermoregulation

D. Sudden collapse

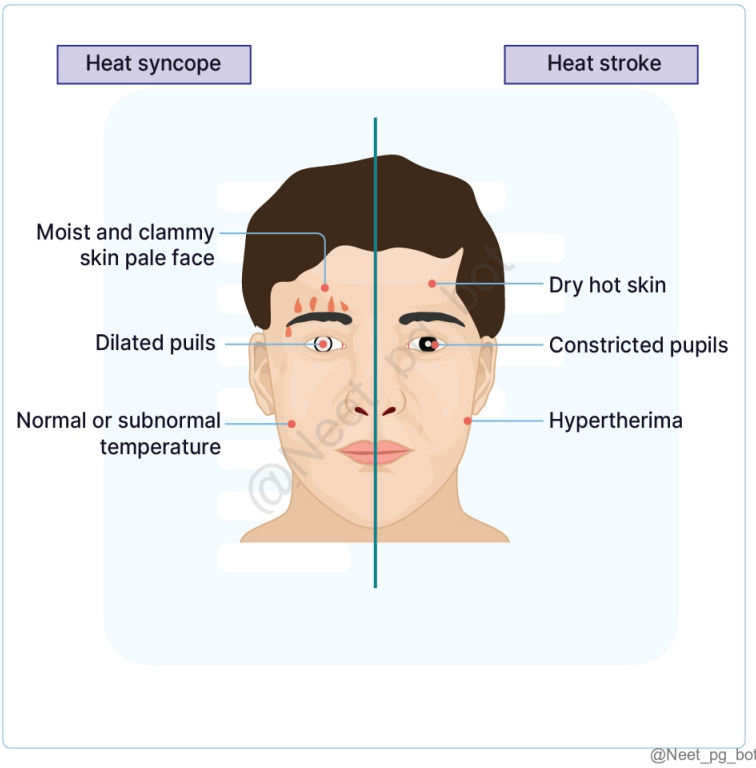
Correct Answer: A. Sweating is present

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Sweating is absent in heat stroke but present in exertional heat stroke Condition Cause Clinical Features Postmortem Findings Heat Cramps (Miner’s/Stoker’s/Fireman’s Cramps) Fluid and electrolyte depletion (dilutional hyponatremia), following vigorous activity and profuse sweating. Sudden severe muscle cramps (arms, legs, abdomen) Tender, hard, lumpy muscles Flushed face, dilated pupils, dizziness, vomiting Moist, cool skin, body temperature normal/slightly elevated Non-specific Heat Exhaustion Prolonged strenuous activity with inadequate water/salt intake in a hot environment. Nausea, vomiting, malaise, myalgia CNS symptoms: dizziness, fatigue, impaired judgment, psychosis (severe water depletion) Moist skin, increased pulse, rectal temperature > 37.8°C Non-specific Heat Stroke Failure of thermoregulation in extreme heat exposure (Option C ruled out)

Sudden collapse-loss of consciousness (Option D ruled out) Skin hot, initially wet, then dry Hyperventilation-tachycardia Core temp > 40.5°C (Option B ruled out) Pupils contracted Convulsions Unconsciousness Cerebral dysfunction High fever Absence of sweating (Option A) Congested lungs, intrathoracic petechiae (children) Subendocardial hemorrhages Brain congestion, flattened convolutions, petechiae in the 3rd/4th ventricle walls



References:

Goutam Biswas Review of Forensic Medicine and Toxicology, 3rd edition, pages 265-266

↑ *Back to this question in Part A*

@Neet_pg_bot

Q23: Which of the following statements regarding immersion syndrome and frostbite is false? (Q847074)

A. Immersion syndrome affects the extremities

B. Pressure is applied in frostbite treatment

C. Dampness is required for immersion syndrome

D. Tetanus prophylaxis is given in frostbite cases with deep infection

Correct Answer: B. Pressure is applied in frostbite treatment

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Pressure or friction is avoided in frostbite Condition Cause Symptoms Treatment Immersion Syndrome (Trench/Immersion Foot/Hand) Prolonged exposure to severe cold (<10ºC) and dampness (common in warfare, trenches, or sea immersion) (Option C ruled out) Affects extremities (feet, hands) (Option A ruled out) Cold, numbness, burning, cyanosis Air drying, protecting extremities from trauma and infection, gradual rewarming by air exposure at room temperature (avoid heat, massaging, or moistening the skin) Frostbite Exposure to extreme cold (-2.5ºC), causing tissue freezing and blood supply obstruction Blue-black discoloration of fingers, toes, nose, ears, and face Mild cases: numbness, prickling. Severe cases: paresthesia, stiffness, necrosis, gangrene, edema, blisters. Rewarming: For superficial frostbite (frostnip): Firm steady pressure is applied with a warm hand (without rubbing), by placing fingers in the armpits and for the feet, by covering with dry socks For deep frostbite: Frozen extremity is immersed for several minutes in a moving water bath, heated to 40–42°C, until the distal tip of the part being thawed flushes Pressure or friction is avoided (Option B) Anti-infective measures: Tetanus prophylaxis and antibiotics for deep infection (Option D ruled out) Chilblain (Perniosis) Localized inflammatory lesion caused by repeated exposure to cold and damp conditions above freezing point, u sually above freezing (0–16°C) Red or bluish swollen patches, itching, burning, pain, and redness Usually completely reversible





References:

Goutam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Pages 264-265

↑ *Back to this question in Part A*

@Neet_pg_bot

• [04_Forensic Traumatology] 011 Previous Year Questions

« Back to Folder Directory

[04_Forensic Traumatology] 011 Previous Year Questions — Quick Jump

Q1 (p. 702)	*Q2 (p. 703)*	*Q3 (p. 704)*	*Q4 (p. 705)*	*Q5 (p. 707)*	*Q6 (p. 709)*
Q7 (p. 710)	*Q8 (p. 715)*	*Q9 (p. 718)*	*Q10 (p. 720)*	*Q11 (p. 721)*	*Q12 (p. 724)*
Q13 (p. 725)	*Q14 (p. 726)*	*Q15 (p. 728)*	*Q16 (p. 729)*	*Q17 (p. 730)*	*Q18 (p. 731)*
Q19 (p. 732)	*Q20 (p. 734)*	*Q21 (p. 735)*	*Q22 (p. 737)*	*Q23 (p. 741)*	*Q24 (p. 742)*
Q25 (p. 743)	*Q26 (p. 743)*	*Q27 (p. 744)*	*Q28 (p. 745)*	*Q29 (p. 748)*	*Q30 (p. 750)*
Q31 (p. 752)	*Q32 (p. 752)*	*Q33 (p. 753)*	*Q34 (p. 754)*	*Q35 (p. 755)*	

Q1: A man was working in a field and he suddenly collapsed on a hot summer afternoon. On examination, there were no physical signs of dehydration. His serum electrolyte level was normal. The doctor found that the body temperature was 106 degrees Fahrenheit. Which of the following symptoms is least likely to be seen in this patient? (Q856273)

A. Hot skin

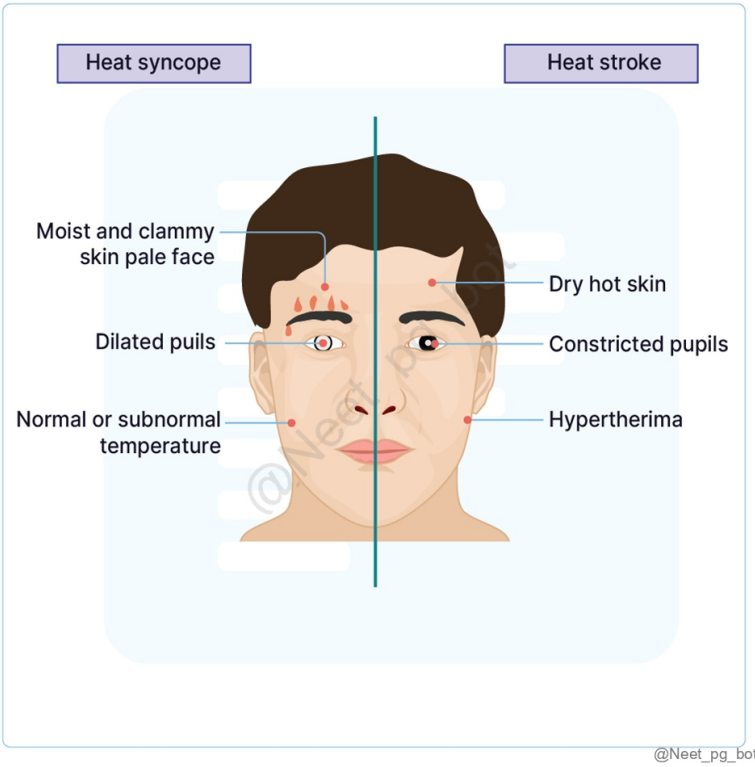
B. Hypotension

C. Sweating

D. Disorientation

Correct Answer: C. Sweating

Explanation: Correct Option C - Sweating In the given scenario, with a body temperature of 106 degrees Fahrenheit, the symptom that is least likely to be seen in this patient is sweating. Heatstroke is a severe form of heat-related illness characterized by elevated body temperature. Sweating is absent in heat stroke but present in exertional heat stroke Condition Cause Clinical Features Postmortem Findings Heat Stroke Failure of thermoregulation in extreme heat exposure Sudden collapse-loss of consciousness, due to hypotension (Option B) Skin hot, initially wet, then dry (Option A) Hyperventilation- tachycardia Core temp > 40.5°C/104 F Pupils contracted Convulsions Unconsciousness Cerebral dysfunction (Option D) High fever Absence of sweating (Option C) Congested lungs, intrathoracic petechiae (children) Subendocardial hemorrhages Brain congestion, flattened convolutions, petechiae in the 3rd/4th ventricle walls



References:

Goutam Biswas Review of Forensic Medicine and Toxicology, 3rd edition, pages 265-266

↑ *Back to this question in Part A*

@Neet_pg_bot

Q2: During an explosion, a patient sustains a crushed lower limb injury by collapse of a building. What type of blast injury does this represent? (Q866629)

A. Primary

B. Secondary

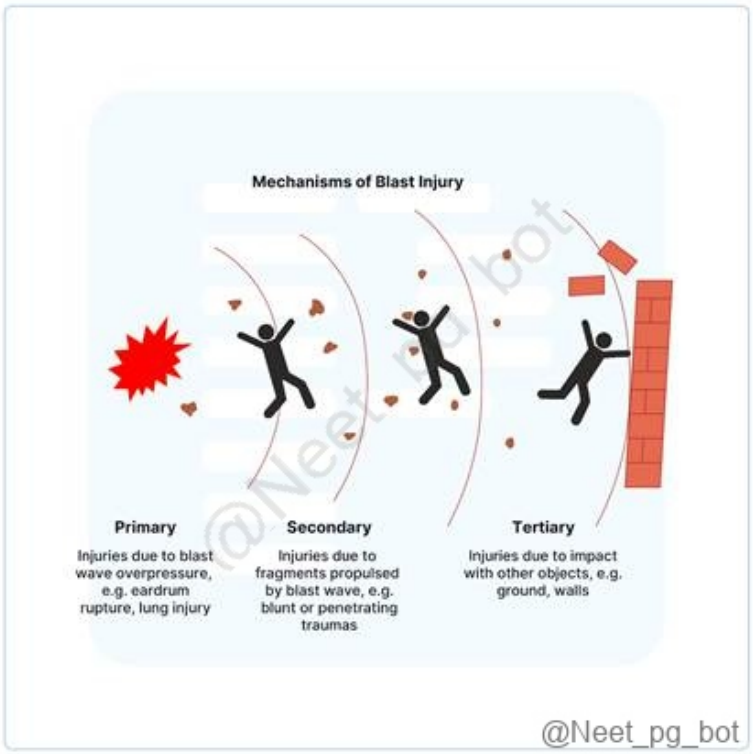
C. Tertiary

D. Quaternary

Correct Answer: D. Quaternary

Explanation: Quaternary blast injuries include building collapse causing crush injuries. Primary blast injury (Option A) Air-wave/ blast wave/ shock wave - Air compression Barotrauma damages hollow organs Ear

Tympanic membrane- M/c, Ossicles, Bleeding, perforation Lungs Most fatal injury Alveoli, capillaries injured (blast lung) GIT Vomiting, Perforation, Hematemesis, Melena Secondary blast injury (Option B) Flying missiles/ projectiles/ objects - Hitting body Bruises Abrasions Punctate laceration Tertiary blast injury (Option C) Lifted and thrown around Hits ground Skeletal fractures/ displacements Quaternary blast injury Miscellaneous Building collapse: Traumatic Asphyxia Burn, Flame injuries Quinary Blast Injuries Environmental contaminants Chemicals (Chloride, Savin) Radiations (nuclear bomb) Virus and bacteria.



↑ *Back to this question in Part A*

@Neet_pg_bot

Q3: Identify the pattern of abrasion shown in the image below. (Q855774)

A. Pressure abrasion

B. Graze abrasion

C. Ligature mark

D. Imprint abrasion



Correct Answer: C. Ligature mark

Explanation: A ligature mark is pressure abrasion caused by the application of a constricting force using a cord-like object (e.g., rope, wire) around the neck. It is commonly observed in cases of hanging or strangulation. Characteristics include a continuous or interrupted band-like mark, which may show the texture or pattern of the ligature material. The location and orientation of the mark can help distinguish hanging from manual strangulation. Pressure abrasion (Option A): Caused by sustained pressure of a blunt object against the skin. Graze abrasion (Option B): Occurs when the skin is scraped against a rough surface. Imprint abrasion (Option D): A patterned abrasion caused when a textured object presses into the skin, leaving a distinct impression.

References:

The Essentials of Forensic Medicine & Toxicology, K. S. Narayan Reddy, 35th Edition, Page 134-137

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 189,190.

↑ *Back to this question in Part A*

@Neet_pg_bot

Q4: The image provided shows a wound. What type of wound is it? (Q855811)

A. Contusion

B. Abrasion

C. Laceration

D. Stab wound



Correct Answer: A. Contusion

Explanation: A contusion, commonly known as a bruise, results from blunt force trauma causing blood vessels under the skin to rupture. It appears as discoloration of the skin due to subcutaneous bleeding without an open wound. The image likely shows this characteristic discoloration. Mechanism of injury of contusions A contusion or bruise is a leak of blood into the tissues due to the rupture of blood vessels (veins, venules, arterioles) caused due to injury by a blunt object. Some blunt objects that can cause contusions are fist, stones, sticks, bar, whip, hammer, axe, wooden handle, poker, foot with shoe or boot, etc. Factors influencing the formation of bruises Condition and type of tissues Vascular and loose tissues may form large bruises even with a small degree of violence. Examples: face, vulva, and scrotum. Firm fibrous tissues, strongly supported tissues, and those covered by a thick dermis produce a comparatively small bruise for moderate trauma. Examples: abdomen, back, scalp, palms, and soles. Injury of tissues over bony surfaces shows prominent bruising. Age Children bruise easily. Older people bruise easily. Gender Women bruise more easily than men. Obese people bruise easily due to the high volume of subcutaneous tissue. Colour of the skin Bruising is more easily visible in fair-skinned people than in dark-skinned people. Contusions are better felt in dark-skinned people than seen. Natural diseases Prominent bruising is seen with minor trauma in patients with: Arteriosclerosis Whooping cough in children due to violent coughing can cause bruising Purpura hemorrhagica Leukemia Hemophilia Scurvy Vitamin K Prothrombin deficiency Phosphorus poisoning Older persons on systemic steroids Gravity shifting of the blood In deep bruises, blood tracks along the fascial planes and may cause the bruise at a different site. This is called ectopic bruising or percolated or migratory contusion . Examples: Spectacle hematoma or black eye in blunt trauma to the forehead. Bruise behind ear due to basal skull fracture (Battle’s sign). Bruise in the neck from fracture of the jaw. Bruise around the ankle from a kick on the calf. {{caption_text}} {{caption_text}} Abrasion (Option B): An abrasion involves superficial damage to the skin, such as scraping, which removes the epidermis. It does not typically involve subcutaneous bleeding as seen in the image. Laceration (Option C): Lacerations are irregular tears in the skin caused by blunt or sharp trauma. They are characterized by jagged wound edges, which are not visible in the provided image. Stab wound (Option D): A stab wound is caused by a pointed object penetrating the skin. It is characterized by a deep, narrow wound, which is inconsistent with the image.





References:

The Essentials of Forensic Medicine & Toxicology, K. S. Narayan Reddy, 35th Edition, Page 137, 138, 139.

↑ *Back to this question in Part A*

@Neet_pg_bot

Q5: Post-mortem examination reveals specific findings. What is this finding known as? (Q855168)

A. Hesitation cuts

B. Grazed abrasion

C. Laceration

D. Patterned bruise



Correct Answer: A. Hesitation cuts

Explanation: The presence of small, superficial cuts suggests a possible moment of doubt or fear before inflicting the fatal injury. These small cuts can be indicative of hesitation , often observed in scenarios of self-infliction or in cases where the victim may have struggled before the lethal wound. Hesitation cuts: {{caption_text}} Hesitation cuts (also known as tentative cuts or trial wounds) are multiple, small, superficial cuts that typically involve only the skin. These cuts are often found at the beginning of a deeper incised wound. Psychological Aspect : They suggest that the individual may have hesitated while gathering the courage to make a decisive cut. Forensic Observation : In cases of homicidal sharp force injuries, multiple superficial, roughly parallel incised wounds may appear on the neck, often adjacent to a single deep, lethal incised wound, particularly in instances where torture is involved. Grazed abrasion (Option B): Superficial injury caused by a tangential force, resulting in skin being scraped off. Commonly occurs during falls or friction injuries. Laceration (Option C): Irregular tear in the skin caused by blunt force trauma, often accompanied by tissue bridging. Patterned bruise (Option D): Bruises that replicate the shape of the causative object (e.g., belt marks or shoe prints). Seen in cases of physical assault or trauma.



References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 199.

↑ *Back to this question in Part A*

@Neet_pg_bot

Q6: Paradoxical undressing is seen in : (Q855274)

A. Heart stress

B. Voyeurism

C. Hypothermia

D. LSD overdose

Correct Answer: C. Hypothermia

Explanation: Hypothermia occurs when the body's core temperature falls below 35°C (95°F), leading to paradoxical undressing . This occurs due to disorientation and mental confusion as the body struggles to regulate temperature, causing the victim to undress, which paradoxically increases heat loss. This behavior can be mistaken for evidence of sexual assault or homicide . Hypothermia Definition Core temperature below 35°C (95°F) Signs

Disorientation Dulling of consciousness Loss of reflex Fall in respiration, heart rate, and blood pressure Red patches and pallor of the skin Edema of the face Stiffness of neck muscles Autopsy findings Patches of pink to brownish-pink discoloration Postmortem staining: Pink/bright red Cyanosis or pallor in extremities ("white deaths") Edema of feet and blistering of skin Stomach: Wischnewsky spots- brownish black colored gastric mucosal ulcers Viscera-congested, hemorrhagic Phenomena seen in hypothermia victims Paradoxical undressing - found undressed due to disorientation which increases heat loss (mistaken for evidence of sexual assault or homicide) ‘Hide and die' syndrome - found in unusual locations resembling an attempt to "hide" or create a protective environment due to mental confusion and a possible hibernation reflex (confused with signs of homicide or robbery) Chilblain (Erythema Pernio) - red, itching skin lesions typically found on extremities due to cold exposure, often accompanied by edema and blistering. Heart stress (Option A) typically refers to conditions that put pressure on the heart, such as heart attacks or heart failure. Paradoxical undressing is not associated with heart stress. It occurs due to hypothermia, where the body loses its ability to regulate temperature properly. Voyeurism (Option B) is a psychological condition where individuals gain sexual pleasure from watching others without their knowledge. It is unrelated to paradoxical undressing, which is a phenomenon occurring due to hypothermia and confusion. LSD overdose (Option D) can cause severe confusion, hallucinations, and altered perceptions, but it does not typically lead to paradoxical undressing. Hypothermia, not LSD overdose, is the primary cause of this phenomenon.

References:

Gautam Biswas Review of Forensic Medicine and Toxicology, 3rd edition, pages 263-264

↑ *Back to this question in Part A*

@Neet_pg_bot

Q7: Identify the injury the image below : (Q855280)

A. Abrasion

B. Laceration

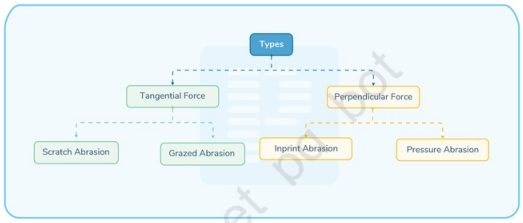
C. Bruise

D. Imprint



Correct Answer: A. Abrasion

Explanation: Abrasion: Abrasion is a superficial injury caused by the removal or damage of the skin's outer layer (epidermis) due to friction or pressure. It is classified into four main types: {{caption_text}} Scratch Abrasion (Linear Abrasion) Grazed Abrasion (Sliding Abrasion) Mechanism: Caused by tangential (side-to-side) force, producing a long and narrow abrasion. Features: Linear in nature, with length being more significant than width. Examples: Fingernail abrasion, thorn abrasion, and pin abrasion. {{caption_text}} Mechanism: Occurs when skin slides over a rough surface, resulting in superficial scrapes. Also Known As: Grinding abrasion, gravel rash, brush-burn. Features: Seen in road traffic accidents or falls, especially on exposed areas like knees or elbows. {{caption_text}} Imprint Abrasion (Patterned Abrasion) Pressure Abrasion (Crushing Abrasion) Mechanism: Results from compressive force applied perpendicular to the skin, leaving a distinct pattern of the object. Also Known As Impact abrasion, contact abrasion, patterned abrasion. Examples: Tyre marks, bite marks {{caption_text}} Mechanism: Caused by a continuous vertical force applied to the skin, crushing the epidermis. Features: Deeper skin injuries are often seen with prolonged pressure, potentially leading to necrosis. Examples: Ligature marks in hanging or strangulation {{caption_text}} Direction of Force in Abrasion The direction of force applied in an abrasion can be identified based on specific characteristics of the skin damage. At the end of an abrasion, the skin shows distinct features that help determine the direction of the force, particularly through epithelial tags or aggregated lines. Characteristics of the end of an abrasion: Multiple Lines Indicate the endpoint of the abrasion. Reflect the direction of the applied force. Uneven and Longitudinal Lines Show irregularity at the end of the abrasion. Suggest pulling or scraping of the skin. Heaped-up or Aggregated Lines Also known as Epithelial tags (Terminal tags) {{caption_text}} Skin tissues dragged opposite to the force direction. Point toward the end of the abrasion, indicating the force direction (e.g., tags heaped at the right end, if the force was left to right).


Types
Tangential Force
Perpendicular Force
Scratch Abrasion
Grazed Abrasion
Inprint Abrasion
Pressure Abrasion

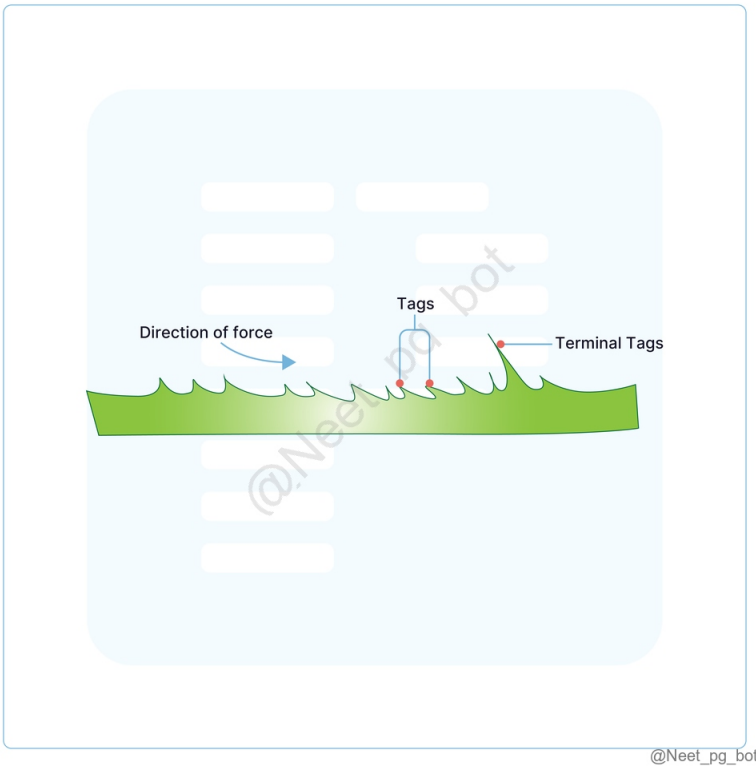
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References:

The Essentials of Forensic Medicine & Toxicology, K. S. Narayan Reddy, 35th Edition, Page 134-136.

↑ *Back to this question in Part A*

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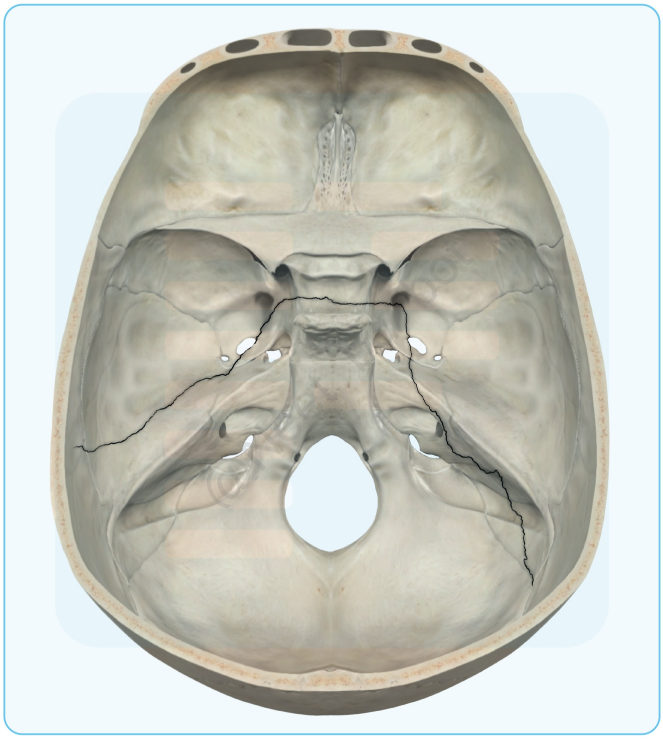
Q8: Name the type of skull fracture. (Q855300)

A. Depressed fracture

B. Hinge fracture

C. Pond fracture

D. Ring fracture

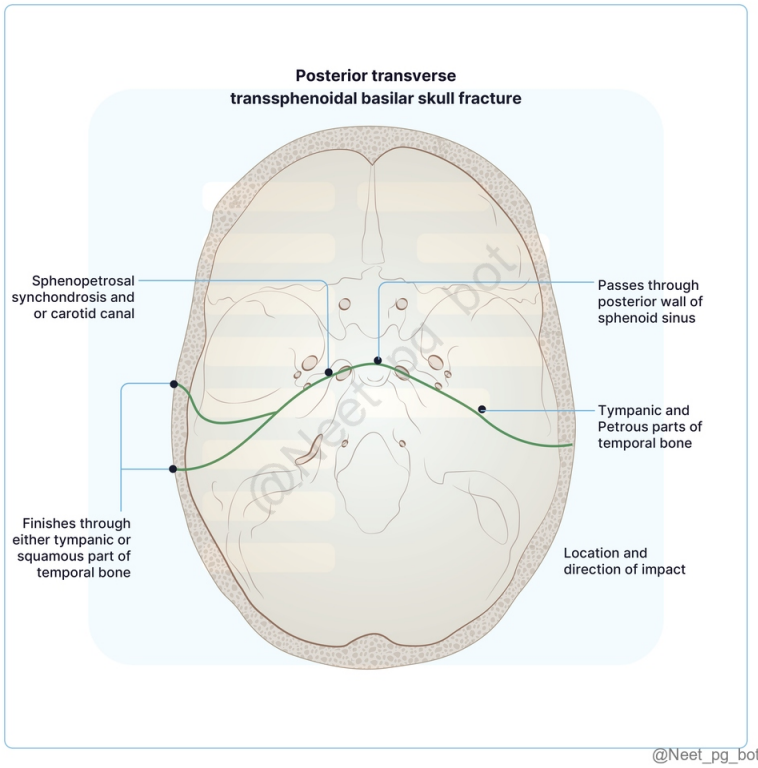


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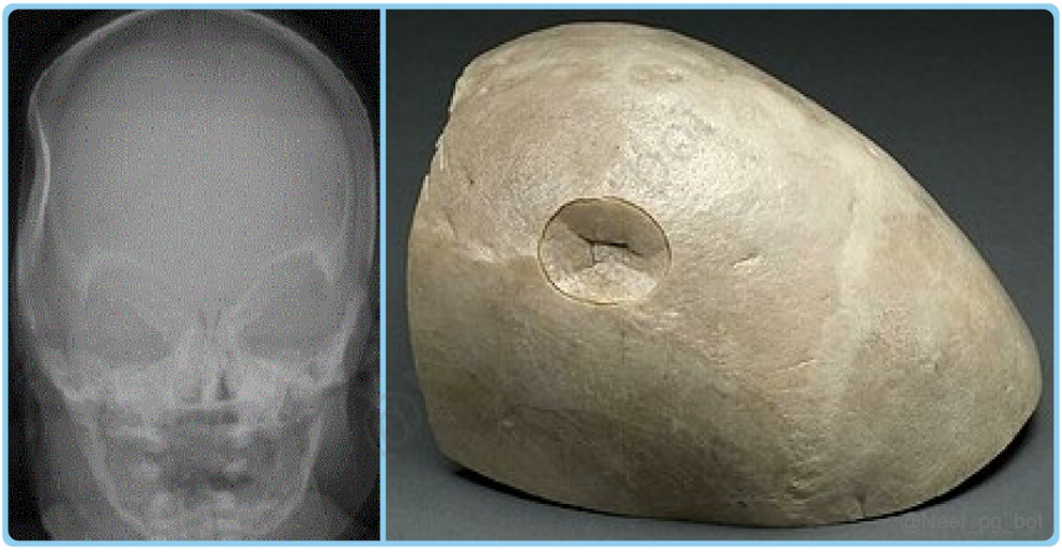
Correct Answer: B. Hinge fracture

Explanation: The type of skull fracture shown in the image is Hinge fracture. A Hinge fracture involves a break in the skull that allows part of the skull to rotate or pivot around a point, resembling a hinge. This type of fracture typically occurs due to a localized impact or force, often affecting the base or side of the skull. Motorcyclist Fracture (Hinge Fracture) (Option B) Ring Fracture (Option D ruled out) Transverse fracture at the skull base, splitting it and creating a "hinge" - nodding face sign . It extends from one petrous ridge across the sella turcica to the other petrous ridge. Encircles the foramen magnum at the skull base. Runs from the sella turcica to the petrous ridges and posterior fossa. It can extend to the middle ear and roof of the nose. Often caused by side impacts . Caused by: Falls landing on feet/buttocks (force transmitted through the spine). Heavy blows to the top of the

skull/ vertex. Twisting of the head on the spine. Blows to the occiput or chin. {{caption_text}} Hinge fracture {{caption_text}} Ring fracture Depressed Fracture (Option A ruled out) Occurs when a fragment of the skull is pushed inward towards the brain. Caused by blows from heavy objects with a small surface (e.g., hammers, bricks). The shape of the depressed area may resemble the object that caused the injury. Variants: Elevated Fracture : One end of the fractured fragment is raised above the skull, while the other is pushed inward. Caused by sharp objects like an axe. Pond Fracture : Seen in infants, this smooth depression occurs without a fracture line, resembling a dent in a ping-pong ball. Caused by obstetrics forceps blade. (Option C ruled out) {{caption_text}} Depressed fracture







References:

The Essentials of Forensic Medicine, KS Narayan Reddy, 35th Edition, Page 187, 188, 189

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 234- 237

↑ *Back to this question in Part A*

@Neet_pg_bot

Q9: Identify the lesion shown in the image below: (Q856269)

A. Laceration

B. Incised wound

C. Laceration-looking incised wound

D. Incised looking laceration



Correct Answer: D. Incised looking laceration

Explanation: Correct Option D - Incised looking laceration The most appropriate identification for the lesion shown in the image would be Incised-looking laceration. Split lacerations are commonly seen in areas where the skin is close to bone, such as the scalp, with minimal underlying soft tissue. Although the edges may appear sharp, the presence of tissue bridges confirms the diagnosis of a laceration rather than an incised wound. Types of Laceration Split laceration Avulsion laceration Stretch laceration Tear laceration Cut laceration Types of Laceration {{caption_text}} Split Laceration (Incised looking laceration) These occur when skin is crushed between two objects, such as the scalp being compressed between the skull and a hard surface like the ground or a blunt object. Seen on areas where the skin is close to bone, with minimal underlying tissue E.g., scalp, eyebrows, cheekbones, jaw, iliac crest, perineum, shin. Lacerations without excessive skin crushing can have sharp edges, resembling incised wounds. Also known as incised looking laceration. These are not undermined and show tissue bridges. Avulsion (Shearing Laceration) {{caption_text}} Caused by a shearing force at an acute angle, detaching skin or organs from their attachments. The shearing and grinding force from a heavy object, like a lorry wheel

passing over a limb, can cause the skin to separate from the underlying tissues, a condition known as avulsion or "flaying." This often results in crushed muscles and fractured bones. The detached skin may have extensive abrasions due to the tyre’s friction, but one portion is still in continuity with adjacent skin. Lacerations from shearing forces can leave the skin intact while separating the underlying soft tissue from the fascia, resulting in a blood-filled pocket. This type of injury is often observed on the back of the thighs in pedestrians hit by motor vehicles. Laceration (Option A) is a type of wound that is typically irregular, with jagged or torn edges. It is caused by blunt force trauma or tearing of the skin and underlying tissues. Incised wound (Option B) is a type of wound that is caused by a sharp object or instrument, resulting in clean, straight edges. In the given image, the wound does not have the characteristic clean and straight edges of an incise wound. Laceration-looking incised wound (Option C) This option suggests that the wound appears like a laceration but actually has the characteristics of an incised wound. In the given image, the wound does not exhibit the typical features of an incised wound, such as clean and straight edges.





References:

The Essentials of Forensic Medicine & Toxicology, K. S. Narayan Reddy, 35th Edition, Page 143, 144

↑ *Back to this question in Part A*

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Q10: Which of the following injuries is not expected in a person brought to the hospital with a history of a road traffic accident (RTA)? (Q854649)

A. Contusion

B. Abrasions

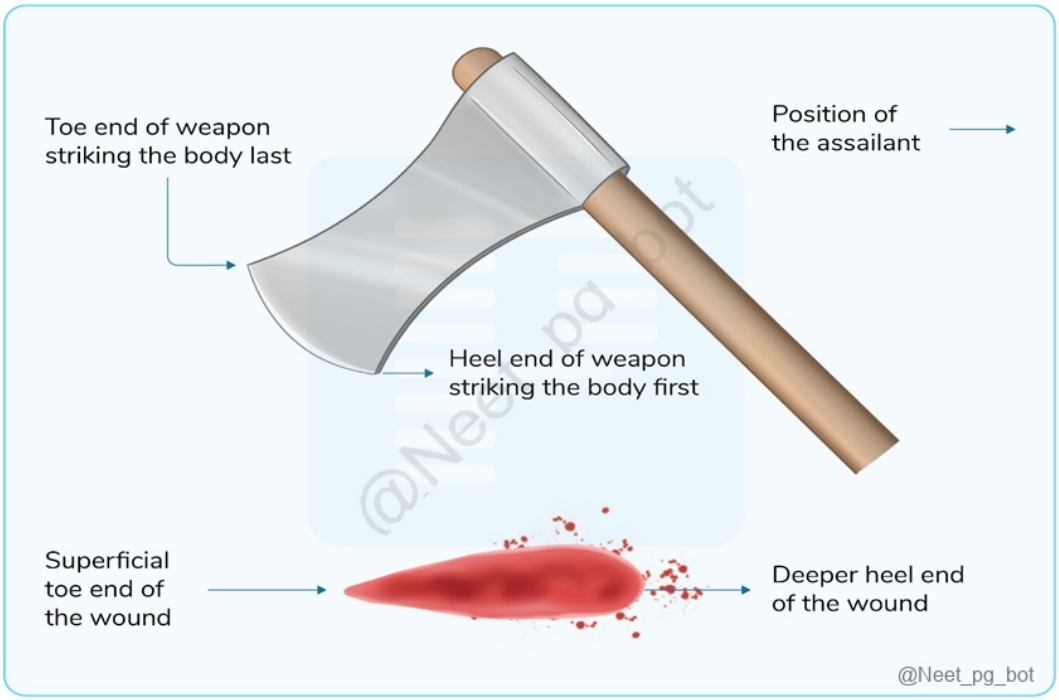
C. Laceration

D. Chop wound

Correct Answer: D. Chop wound

Explanation: Chop wounds are deep, incised wounds caused by heavy, sharp-edged weapons like axes or machetes. Chop/ Slash wound Deep, gaping wounds caused by a blow from a sharp-cutting edge of a heavy weapon (e.g., hatchet, axe, sword, chopper). Wound size corresponds to the cross-section of the blade. Undermining occurs in the direction of chop . The heel (lower end) of the axe typically strikes first , leading to deeper wounds than the toe (upper end). The deeper end indicates the assailant's position . Clean slicing through bone at impact; rebound can create irregular fragments; may lead to complete or incomplete amputations. Mostly homicidal injuries to exposed body parts (head, face, neck, extremities) Incorrect Options: Contusion (Option A):

Contusions (bruises) are commonly observed in RTAs due to blunt force trauma sustained during the impact or collision. Abrasions (Option B): Abrasions are also frequent in RTAs, resulting from friction or scraping of the skin against rough surfaces, such as the road or vehicle parts. Laceration (Option C): Lacerations, or irregular tears in the skin, are often seen in RTAs, especially in cases involving glass shards, sharp edges of vehicles, or other objects.



References:

The Essentials of Forensic Medicine & Toxicology, K. S. Narayan Reddy, 35th Edition, Page 144, 149

↑ *Back to this question in Part A*

@Neet_pg_bot

Q11: A middle-aged man was brought to the ER after an assault with a sharp axe. Identify the type of wound. (Q856344)

A. Incised wound

B. Chop wound

C. Lacerated wound

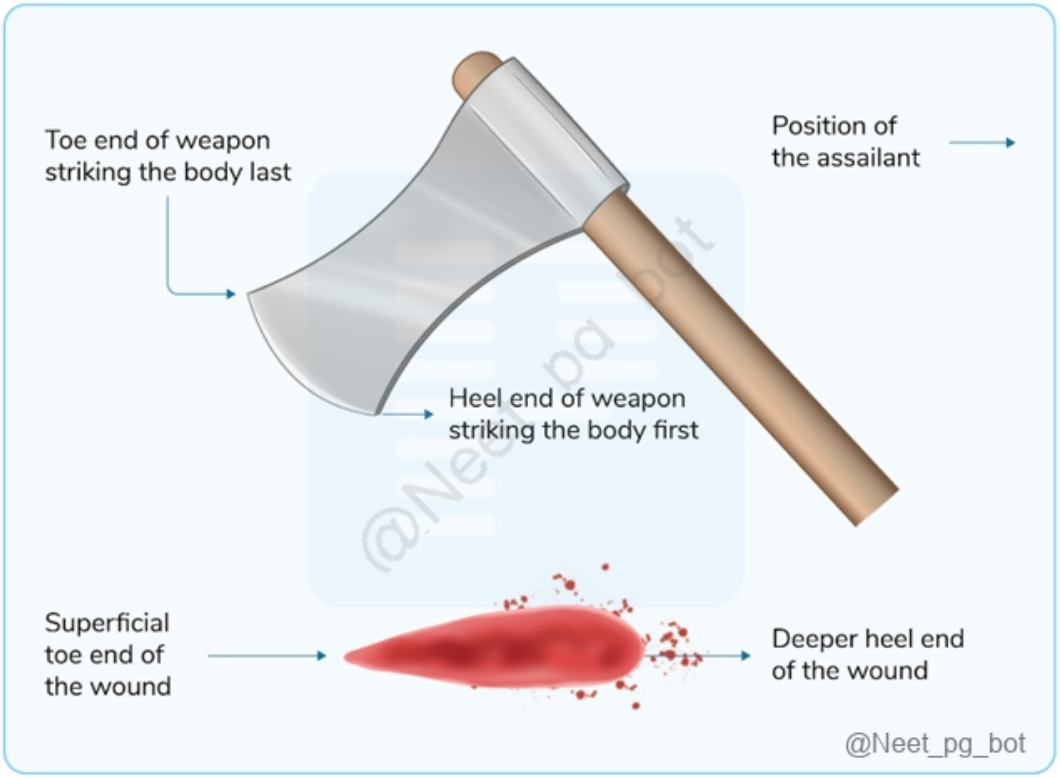
D. Abrasion



Correct Answer: B. Chop wound

Explanation: The injury from the scenario is suggestive of a chop wound. A chop wound is a deep injury caused by a heavy, sharp object like an axe. It combines features of both an incised wound (sharp edges) and a lacerated wound (underlying tissue damage and crushing effect). Chop wounds/ Slash wounds These are deep gaping wounds inflicted by a blow with the moderately sharp cutting edge of a heavy weapon when applied with significant force. It is a combination of blunt and sharp force injury. Weapons used Hatchet Axe Sword Broad heavy knife Chopper Saber Meat cleaver Features of the wound The axe's lower end (heel) strikes first, leaving a deeper wound than the upper end (toe). It is an incised wound on skin with an underlying communited fracture or deep grove in the bone. Dimensions of the wound correspond to the cross-section of the penetrating blade. Margins are sharp and may have abrasions, bruising, and some lacerations with severe injury to underlying organs. Medicolegal importance Most injuries are homicidal. Frew are accidental by machinery (propeller injuries). Rarely suicidal. Wounds give details of the weapon used and the direction of attack. Chop wound on forehead from a propeller accident Incorrect Options: Incised wound (Option A): An incised wound is caused by a sharp-edged object, such as a knife or blade, and is characterized by clean-cut edges. Lacerated wound (Option C): Lacerated wounds are caused by blunt force trauma, resulting in irregular edges. An axe typically causes more defined sharp edges, making it a chop wound rather than a laceration. Abrasion (Option D): Abrasions are superficial injuries caused by friction or scraping against a rough surface, which is not applicable in the case of an axe assault.





References:

The Essentials of Forensic Medicine & Toxicology, K. S. Narayan Reddy, 35th Edition, Page 149

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 200

↑ *Back to this question in Part A*

@Neet_pg_bot

Q12: A 12-year-old boy presents with an injury sustained during a football match after being tackled by an opponent. As the casualty medical officer, how would you describe the wound in the case sheet? (Q856345)

A. Incised wound

B. Abrasion

C. Laceration

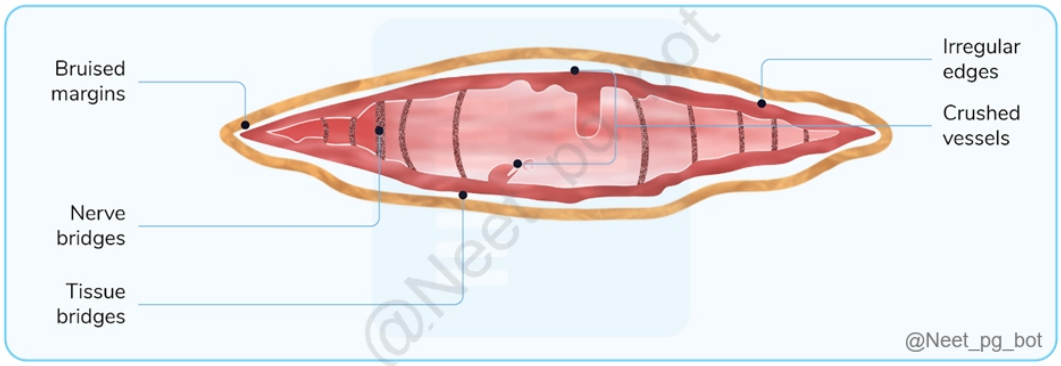
D. Bruise



Correct Answer: C. Laceration

Explanation: The above image and scenario are suggestive of a laceration Laceration is the tearing or splitting of the skin, mucous membranes, muscles, or internal organs due to a shearing or crushing force from a blunt impact over a broad area. When blunt force causes severe bruising and damage to deeper tissues, it is referred to as a crush

injury . Characteristics Irregular Margins : Ragged, uneven edges with pointed or blunt ends, often showing small tears. Swallow Tails : Tearing at the ends of lacerations, diverging. Bruising : Seen around the wound, more pronounced in areas impacted at an angle or with downward force. Tissue Bridges : Deeper tissues are unevenly torn, leaving nerve, vessel, and connective tissue bridges. Hair Damage : Crushed hair bulbs; hair and skin tags may be embedded in the wound. Hemorrhage : Less severe bleeding as arteries are crushed and torn irregularly , retracting and allowing blood to clot . Soiling : Debris like mud, wood splinters, sand, glass, or hair can become embedded, carrying medico-legal significance. Wound Gaping : Impact from an angle causes tearing on the opposite side and abrasion on the impact side, leading to gaping. Incorrect Options: Incised wounds (Option A): They have clean, smooth edges and do not show the uneven tearing or bruising present in this case. Abrasions (Option B): They involve superficial skin damage and typically lack deep tissue involvement and significant bruising. Bruise (Option D): A bruise (contusion) is caused by blunt trauma, leading to subcutaneous bleeding without a break in the skin.



References:

The Essentials of Forensic Medicine & Toxicology, K. S. Narayan Reddy, 35th Edition, Page 144, 145

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 197

↑ *Back to this question in Part A*

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Q13: A dead body was found with a wound on the neck, with clean-cut edges, crushed tissues along with the disruption of the vertebral bones.Identify the type of wound. (Q859877)

A. Incised wound

B. Chop wound

C. Lacerated wound

D. Avulsion

Correct Answer: B. Chop wound

Explanation: A chop wound is characterized by: Clean-cut edges (sharp weapon component). Crushed tissues (blunt force component). Disruption of vertebral bones (high-impact force). Mechanism: Caused by heavy, sharp-edged weapons like an axe, machete, or cleaver. Combines both incised (clean edges) and lacerated (crushing) features due to the weight and force involved. {{caption_text}} Incised wound (Option A): Clean-cut edges without tissue crushing or bone injury. Lacerated wound (Option C): Irregular edges with tissue bridging, caused by blunt trauma. Avulsion (Option D): Tearing away of tissue, often from high-velocity trauma or accidents.



References:

Chop wounds

↑ *Back to this question in Part A*

@Neet_pg_bot

Q14: Identify the type of wound from the image. (Q855839)

A. Defense wounds

B. Antemortem wound

C. Postmortem wound

D. Hesitation cuts



Correct Answer: A. Defense wounds

Explanation: The wound in the image points to an active defense wound where the victim has tried to grasp the weapon to prevent the attack and sustained injuries to the palm and on the fingers which would have been the case with a double-edged weapon. Defence wounds are caused by the immediate and instinctive reaction of the victim to save himself from an attack and are usually seen on the extremities. They are divided into two types: Active defense wounds Passive defense wounds Mechanism of injury The victim tries to grasp the weapon. The victim raises the arms, legs, or hands. Site Depends on the type of weapon. A single-edged weapon causes a single cut on the palm or the bends of fingers or thumb . A double-edged weapon produces cuts on both the palm and fingers . A typical knife defense wound is seen between the base of the thumb and the index finger. Extensor or ulnar surfaces of the forearms, wrists, back of the hands, knuckle. Rarely on the shin and feet. Arms and posterior aspect of lower limbs and back. Type of Injuries Irregular and ragged cuts due to loosening of skin tension while gripping the knife. Fractures of the carpal bones, metacarpals, and digits (mostly blunt trauma). Medicolegal importance Defense wounds indicate homicide. They are absent if the victim is: Unconscious Taken by surprise Attacked from the back Under the influence of drugs or alcohol Antemortem wound (Option B): They are characterized by signs of vital reactions such as bleeding, tissue bridging, clot formation, and signs of inflammation or healing. These features indicate that the injury occurred while the person was alive. Postmortem wound (Option C): They lack vital reactions such as active bleeding or inflammation. They typically have clean, dry edges and no tissue bridging, as blood circulation ceases after death. Hesitation cuts (Option D): {{caption_text}} Hesitation cuts (also known as tentative cuts or trial wounds) are multiple, small, superficial cuts that typically involve only the skin. These cuts are often found at the beginning of a deeper incised wound.



References:

The Essentials of Forensic Medicine & Toxicology, K. S. Narayan Reddy, 35th Edition, Page 141, 156, 157, 158

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 94, 189, 190, 195, 199, 201, 206

↑ *Back to this question in Part A*

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Q15: What is the most likely cause of death in a body with a horizontal ligature mark completely encircling the neck and located below the thyroid, with no dribbling of saliva? (Q855845)

A. Throttling

B. Ligature strangulation

C. Gagging

D. Hanging

Correct Answer: B. Ligature strangulation

Explanation: The horizontal ligature mark completely encircling the neck below the thyroid, along with the absence of dribbling of saliva, is characteristic of ligature strangulation. In ligature strangulation, the ligature compresses the neck, leading to trauma and bruising of the subcutaneous tissues and muscles underneath the ligature. This bruising is a direct result of the force applied by the ligature, which can cause small blood vessels to rupture, resulting in bleeding into the surrounding tissues. Causes of Death in Ligature Strangulation: Asphyxia Cerebral anoxia Vagal inhibition Cervical Vertebrae Fracture Postmortem Findings: 1. External Examination: Finding Description Face Congested, swollen, and cyanosed. Tardieu's spots (petechiae) on the forehead, temples, eyelids, and conjunctiva. Prominent eyes with congested conjunctiva, dilated pupils, and possible subconjunctival haemorrhages. Cyanosis of lips, fingernails, and earlobes. Postmortem staining above the ligature. Swollen, dark-coloured, protruding tongue, possibly bitten. Bloodstained frothy fluid and mucus in mouth and nostrils. Neck Ligature mark ('furrow'): well-defined groove, typically the same width as the ligature, often horizontal. More prominent on the front and sides of the neck. Red base with congested or ecchymosed margins; imprint pattern may be present. Can be indistinct if the ligature is soft; it may appear as a deep groove with a narrow cord ('cheese cutter method'). May show an oblique appearance if the victim was dragged post-strangulation. Other Body Parts Deep, prominent postmortem staining. Involuntary discharge of urine and faecal matter; less common seminal ejaculation. Clenched hands; possible genital turgidity. Possible abrasions, fingernail marks, and contusions on face, and arms, indicating struggle. Horizontal, irregular abrasions on the neck may indicate attempts to remove ligature. 2. Internal Examination: On dissection- Contusion and haemorrhage- of tissue, muscles of the neck, tonsils and glands. Fracture of the thyroid cartilage is commonly seen. Fracture of the hyoid bone is not very common as it is usually at or below the level of the thyroid. Throttling (Option A): Throttling refers to manual strangulation using hands. Post-mortem findings typically include bruising, nail marks, and finger impressions on the neck. The ligature mark described here rules out throttling. Gagging (Option C): Gagging involves obstruction of the airway by an object in the mouth, often without external neck findings. This does not match the described findings. Hanging (Option D): In hanging, the ligature mark is typically oblique , does not completely encircle the neck, and is located above the level of the thyroid cartilage. Dribbling of saliva is a characteristic finding in hanging, which is absent here

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 168- 173

↑ *Back to this question in Part A*

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Q16: The characteristic “crocodile burns’ pattern seen in the image is the most commonly associated with: (Q879116)

A. Electrical injury (high voltage)

B. Mummification

C. Adipocere formation

D. Coagulation burn



Correct Answer: A. Electrical injury (high voltage)

Explanation: This pattern occurs in victims of high-voltage electrocution or when a person is close enough to a live high-tension wire to cause an electrical arc (a flash burn). The term describes the appearance of the skin, which develops multiple, deep, punched-out, and charred lesions that are often confluent, resulting from the electric arc "dancing" over a large area of the body. These individual flash burns create a rough, scaly, and cracked appearance that resembles the skin of a crocodile. Mummification (Option B)→ This is a postmortem change in dry conditions where the body dehydrates and shrinks; not a “burn pattern.” Adipocere formation (Option C)→ This is a postmortem change in damp conditions where fat turns into a soap-like substance; not related to burns. Coagulation burn (Option D)→ This is a type of burn injury (e.g., from scalds or flames) causing tissue coagulation, but not specifically the “crocodile pattern.”

References:

Knight's Forensic Pathology, 4th Edition, Page 325-337

↑ *Back to this question in Part A*

@Neet_pg_bot

Q17: During autopsy examination, a forensic expert found blisters with soddening with a clear line of demarcation over the lower limbs and thigh. This indicates which type of burn? (Q879156)

A. Chemical burn

B. Dry burn

C. Lightening

D. Moist burn

Correct Answer: D. Moist burn

Explanation: Moist burn produces blisters, soddening of the skin, and a clear line of demarcation due to contact with hot liquids or steam. Chemical burn(Option A): Usually shows staining, erosion, or necrosis, but not necessarily a clear line like this unless from a liquid chemical, which is less common in this pattern. Dry burn (Option B): From flame or radiant heat — charring, singeing, and no clear fluid-filled blisters with soddening. Lightning (Option C): May show fern-like patterns (Lichtenberg figures) or burns at entry/exit points, not blisters with a clear demarcation on limbs.

References:

Knight's Forensic Pathology, 4th Edition, Page 325-337.

↑ *Back to this question in Part A*

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Q18: A 35-year-old female patient is admitted to the emergency department following an accidental burn incident. On examination, it is noted that she has sustained burn injuries to her right upper limb, the entire right lower limb, and the entire front and back of her abdomen. Based on the rule of nine, what is the estimated percentage of her total body surface area (TBSA) that is burned? (Q860442)

A. 45%

B. 60%

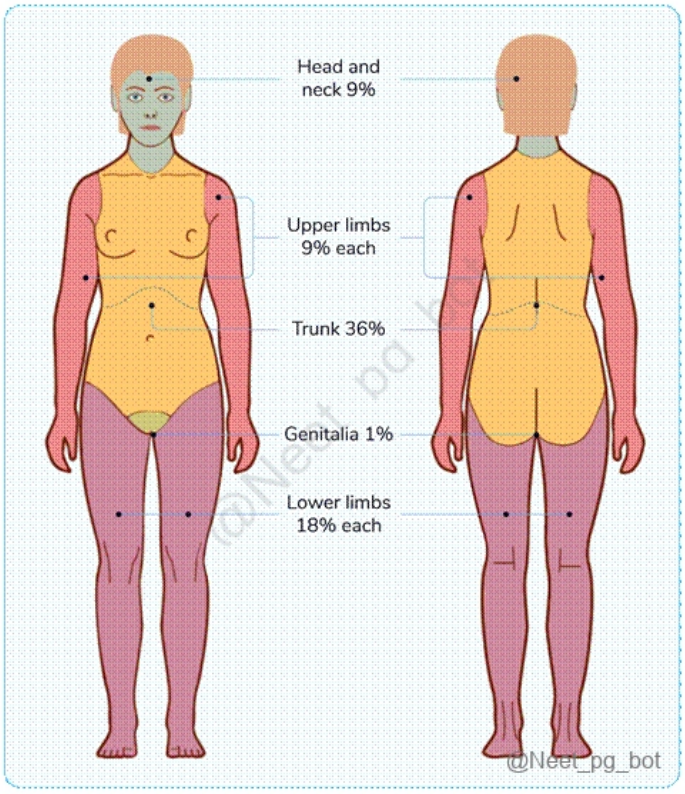
C. 28%

D. 70%

Correct Answer: B. 60%

Explanation: For total body surface area, the Wallace Rule of 9 is used: Calculation: Right upper limb: 9% Entire right lower limb: 18% Entire Front of abdomen: 18% Entire Back of abdomen: 18% Total = 9% + 18% + 18% + 18% = 63% Wallace rule of nine: Body Part Estimated TBSA Adults Labeled Image Entire left arm 9% Entire right arm 9% Head & neck 9% Chest 9% Back of chest 9% Abdomen 9% Back of Abdomen 9% Perineum 1%

Entire left leg 18% Entire right leg 18%



References:

Goutam Biswas Review of Forensic Medicine and Toxicology, 3rd edition, pages 268, 269

↑ *Back to this question in Part A*

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Q19: The triad of abrasions, contusions, and lacerations is most diagnostic of which of the following? (Q865343)

A. Firearm injury

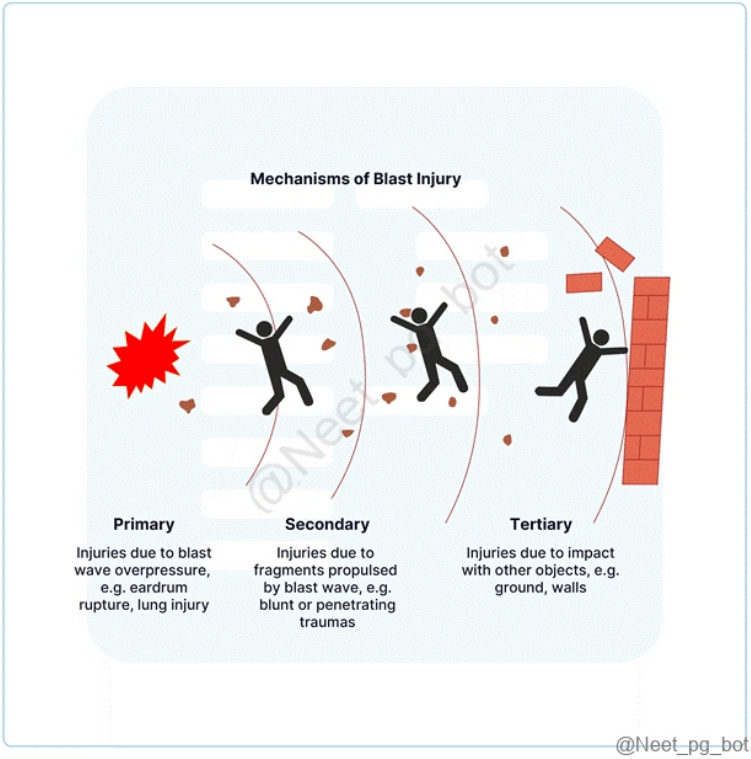
B. Bomb blast injury

C. Road Traffic Accident (RTA)

D. Strangulation

Correct Answer: B. Bomb blast injury

Explanation: Marshall's triad , that is contusion, abrasion and punctate laceration indicates a secondary blast injury. Blast Injury: Blast injuries are complex physical traumas resulting from direct or indirect exposure to an explosion, leading to sudden changes in atmospheric pressure. [1] Classification of Blast Injuries Type Mechanism Features Primary Injury It results from blast waves and is often internal with no external signs. Ears: Tympanic membrane rupture or inner ear disruption. Lungs: Alveolar-capillary membrane haemorrhage (blast lung), most common cause cause of death in survivors. GIT: Injuries to gas-filled organs are more common in underwater blasts. Secondary Injury It is resulting from shrapnel, debris & flying objects (propelled by explosion). Penetrating trauma. The characteristic Marshall triad, which includes bruises, abrasions, and punctate lacerations, is evident. Commonly cause severe thoracic injuries, including lacerations of the heart and great vessels. Tertiary Injury Victims are thrown against solid objects by blast winds. Blunt/Penetrating trauma. Includes bone fractures and coup-contrecoup injuries. Quaternary Injury Encompass all other injuries not classified above Flash burns from extreme heat. Crush injuries and falls due to explosions. Respiratory injuries from toxic dust, gases, or radiation exposure. Psychiatric issues, such as post-traumatic stress disorder (PTSD), may affect individuals even if they are physically unharmed. Firearm injury (Option A) Presents with entry/exit wounds, possible burns or tattooing (based on the type of injury). Lacerations and contusions may occur, but not all three components consistently . Road Traffic Accident (RTA) (Option C): Abrasions, contusions, and lacerations can occur, but patterned injuries , fractures, and internal organ damage are more prominent. The triad might be possible , but not common, diagnostic or specific. ■■■Strangulation (Option D) It is characteriwed by ligature marks , petechiae , facial congestion , and neck muscle hemorrhage . Abrasions may be present around the neck , but the full triad is not typical . FM080



References:

Gautam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Page 290,291

↑ *Back to this question in Part A*

Q20: During autopsy, a body shows curved scratch marks below the right angle of the mandible, three grouped bruises on the left side of the neck below the thyroid cartilage, and additional bruises over the head, posterior shoulder, backside of the trunk, and hip crests. Fracture of the superior horn of the thyroid cartilage present. What is the most likely cause of death? (Q866416)

A. Throttling

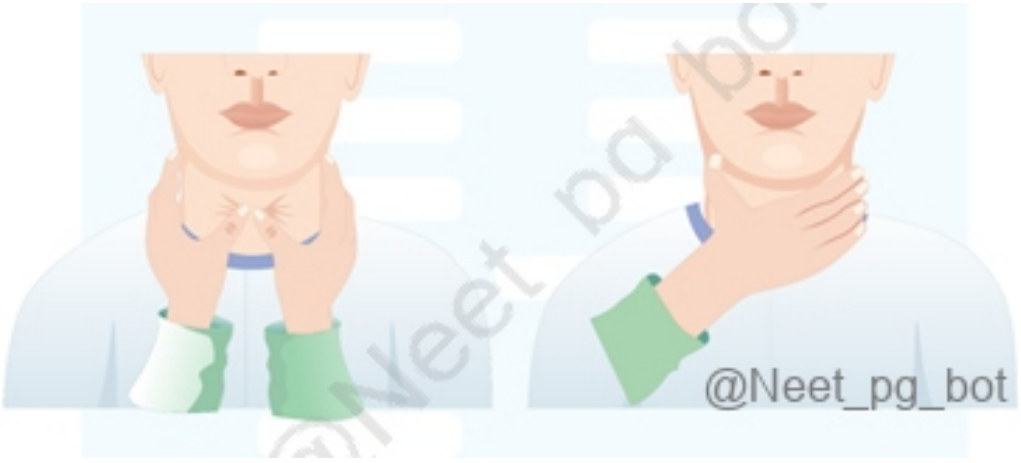
B. Garroting

C. Mugging

D. Ligature strangulation

Correct Answer: A. Throttling

Explanation: Throttling refers to manual strangulation using the hands. The described autopsy findings — curved scratch marks from fingernails, localized grouped bruises from finger pressure, and fracture of the superior horn of the thyroid cartilage — are classic for forceful compression of the neck by human hands. Associated bruises on other body parts often indicate a struggle. Incorrect Options: Option B - Garroting uses a tightened ligature, producing a horizontal mark. Option C - Mugging is an assault type, not a pathological cause. Option D - Ligature strangulation causes patterned marks from the cord, absent here.





References:

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↑ *Back to this question in Part A*

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Q21: A person got stabbed in his anterior thigh and died. His body was brought for postmortem. What type of injury is this? (Q852470)

A. Incised wound

B. Penetrating wound

C. Puncture wound

D. Blunt force injury

Correct Answer: B. Penetrating wound

Explanation: A penetrating wound is caused by a sharp object (e.g., a knife) that pierces the skin and enters deeper tissues or body cavities. In this case, the stab wound to the anterior thigh involves a sharp object penetrating the

skin and underlying tissues, making it a penetrating wound. Stab wound/Punctured wound These are inflicted by penetration with long, narrow instruments having pointed (sometimes blunt) ends into the depth of the body, which is deeper than its length and width. Weapons used Knife (most common) Pieces of glass (broken glass bottle) Scissors Screwdrivers Pens Ice picks Forks Types of stab wounds Puncture wound: (Option C) Soft tissues are involved Penetrating wound: Enters a body cavity or a viscus Perforating wound: Through-and-through puncture wounds The weapon enters the body from one side and comes out the other The wound of entry is larger than the exit Significance of the wound dimensions Length is slightly less than the width of the weapon due to the stretching of the skin. Breadth is more than the thickness of weapon due to gaping. Depth , the greatest dimension of the wound, corresponds to the length of the weapon's blade, which has completely entered the body without perforation. Margins or edges of the wound are clean cut with usually no abrasion or bruising. Margins by a pointed or conical weapon have lacerated edges If the hilt guard of the weapon strikes the skin, a regular, sharp, and well-defined patterned abrasion or bruising is formed Incised wound (Option A): An incised wound is a clean cut caused by a sharp object (e.g., a razor or knife) and is typically longer than it is deep. A stab wound is deeper than it is long, so it does not qualify as an incised wound. Blunt force injury (Option D): This involves trauma caused by a blunt object (e.g., a bat or hammer) and does not involve penetration of the skin or tissues. A stab wound is caused by a sharp object, not blunt force.



References:

K. S. Narayan Reddy, the Essentials of Forensic Medicine and Toxicology, 35th Edition, Page 149, 155 Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 201

↑ *Back to this question in Part A*

@Neet_pg_bot

Q22: What type of fracture is caused by a hammer? (Q852473)

A. Linear

B. Depressed

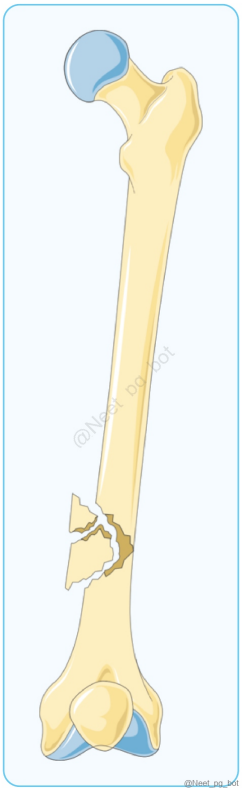
C. Hinge

D. Ring

Correct Answer: B. Depressed

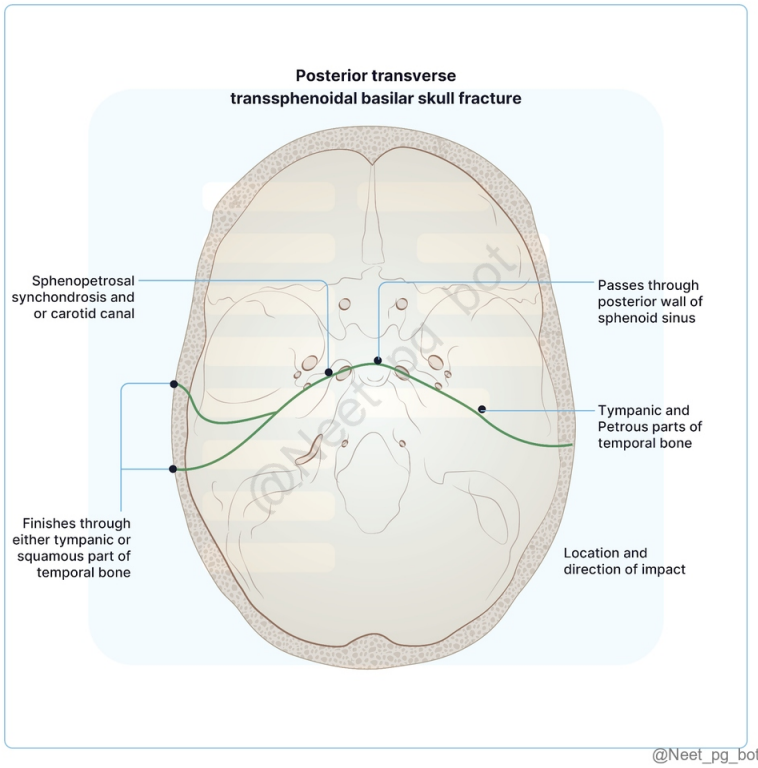
Explanation: A hammer is a heavy, blunt object that delivers a focused impact on the skull. This results in a depressed fracture, where the bone is pushed inward at the point of impact, creating a localized depression or indentation. Depressed Fracture Comminuted Fracture Gutter Fracture Occurs when a fragment of the skull is pushed inward towards the brain. Caused by blows from heavy objects with a small surface (e.g., hammers, bricks). The shape of the depressed area may resemble the object that caused the injury. Variants: Elevated Fracture : One end of the fractured fragment is raised above the skull, while the other is pushed inward. Caused by sharp objects like an axe. Pond Fracture : Seen in infants, this smooth depression occurs without a fracture line, resembling a dent in a ping-pong ball. Caused by obstetrics forceps blade. Involves multiple intersecting fracture lines, breaking the bone into several fragments. Caused by high-impact trauma (e.g., vehicular accidents, crushing injuries). It may occur alongside other fractures (e.g., fissured or depressed fractures). Spider web-like patterns on an X-ray are characteristic of comminuted fractures. In severe cases, bone fragments may penetrate the brain or become displaced. A groove or channel is formed in the skull bone, often due to an oblique bullet wound. Frequently associated with comminuted and depressed fractures of the inner skull table. Bone fragments can cause injury to the meninges or brain. Depressed fracture Comminuted fracture Gutter fracture Ring Fracture (Option D) Motorcyclist Fracture (Hinge Fracture) (Option C) Encircles the foramen magnum at the skull base. Runs from the sella turcica to the petrous ridges and posterior fossa. It can extend to the middle ear and roof of the nose. Transverse fracture at the skull base, splitting it and creating a "hinge" - nodding face sign . It extends from one petrous ridge across the sella turcica to the other petrous ridge. Caused by: Falls landing on feet/buttocks (force transmitted through the spine). Heavy blows to the top of the skull/ vertex. Twisting of the head on the spine. Blows to the occiput or chin. Often caused by side impacts . Ring fracture Hinge fracture Fissured Fracture (Linear Fracture) (Option A) Diastatic Fracture (Sutural Fracture) The most common skull fracture accounts for about 70% of cases. Linear cracks may involve the vertex or skull base. It can affect the full thickness of the bone or just the inner/outer layers. The fracture line is irregular and fine, sometimes hard to detect on X-rays. It runs parallel to the compressive force. No depression of bone fragments. Involves the separation of cranial sutures. More common in children. Often occurs with other skull fractures, especially fissured fractures. Commonly seen at the sagittal suture. Causes: Impact against broad surfaces (e.g., falls or road traffic accidents) Falls on feet or buttocks, transmitting force upwards. Causes: Blunt trauma to the head. Increased intracranial pressure leads to suture separation. Narrow fissure skull fracture Diastatic Fracture

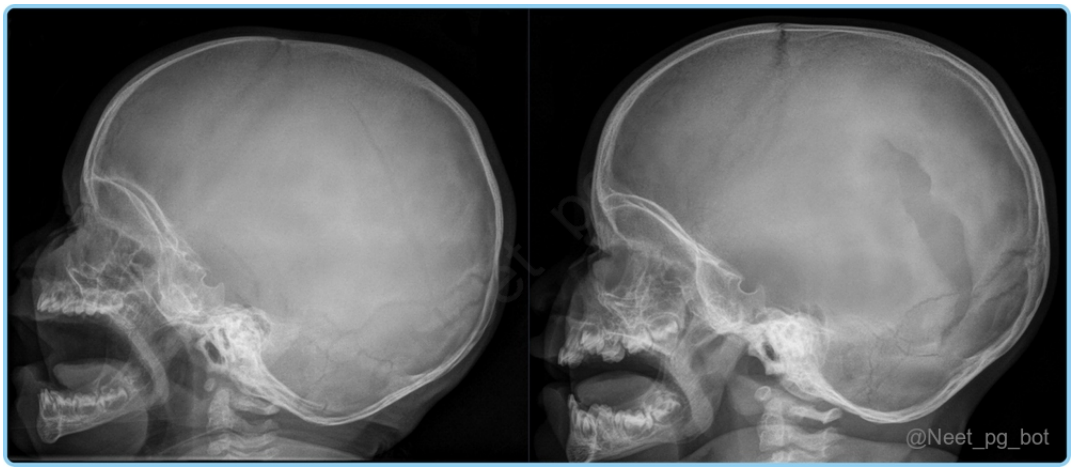

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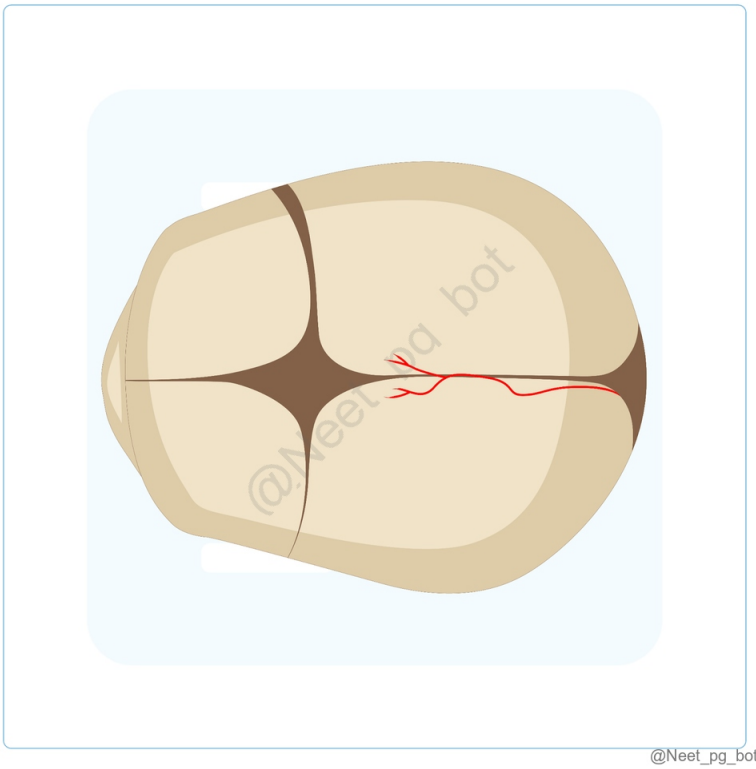

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Posterior transverse
transsphenoidal basilar skull fracture
Sphenopetrosal synchondrosis and or carotid canal
Passes through posterior wall of sphenoid sinus
Tympanic and Petrous parts of temporal bone
Finishes through either tympanic or squamous part of temporal bone
Location and direction of impact
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References:

The Essentials of Forensic Medicine, KS Narayan Reddy, 35th Edition, Page 187,188 Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 234, 235, 236

↑ *Back to this question in Part A*

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Q23: A 3-year-old child presented with multiple burn injuries involving the entire head, neck & right upper limb. What is the percentage of burn? (Q852477)

A. 25-30%

B. 40-44%

C. 18-20%

D. 5-10%

Correct Answer: A. 25-30%

Explanation: In children, the total body surface area (TBSA) percentages differ from adults due to the larger head-to-body ratio. According to the Rule of Nines adjusted for children and the Lund and Browder chart: The entire head and neck account for approximately 18% of the TBSA in a 3-year-old child. Each upper limb accounts for approximately 9% of the TBSA. Adding these together: 18% (head and neck) + 9% (one upper limb) = 27% According to the Wallace rule of 9, this is how the area burned is calculated: Adults Children Infants Head & neck 9% 18% 20% Front of chest & abdominal wall 9 x 2 = 18% 18% 10 x 2 = 20% Back of chest & abdominal wall 9 x 2 = 18% 18% 10 x 2 = 20% Lower limb 18 x 2 = 36% 13.5 x 2 = 27% 10 x 2 = 20% Upper limb 9 x 2 = 18% 18% 10 x 2 = 20% Perineum 1% 1% 40-44% (Option B): This value overestimates the burn area. A 40-44% burn would imply involvement of larger or additional body areas beyond the head, neck, and one upper limb, such as parts of the trunk or both upper limbs. 18-20% (Option C): This value roughly corresponds to the head and neck alone, without including the upper limb. Since the upper limb is also involved, the percentage should be higher. 5-10% (Option D): This severely underestimates the burn size. The entire head and neck alone exceed 10%, so including one upper limb must be substantially more.

References:

SRB 6th edition, page 122

↑ *Back to this question in Part A*

@Neet_pg_bot

Q24: Leading questions can be asked in? (Q852478)

A. Cross-examination

B. Re-examination

C. Anytime

D. Examination in chief

Correct Answer: A. Cross-examination

Explanation: A leading question suggests the answer within the question itself, often prompting a "yes" or "no" response. These questions are typically allowed during cross-examination but not during examination-in-chief or re-examination, except in special circumstances. Examination of Witness : The below sequence is based on the Sec. 138 IEA. Oath ↓ Chief examination ↓ Cross-examination ↓ Re-examination Aspect Examination-in-Chief (Direct Examination) Cross-Examination Re-Examination Conducted By Party who calls the witness (e.g., public prosecutor) Opposing party (typically defense) Party who called the witness Purpose Present all relevant facts Provide expert interpretation if applicable Challenge witness's credibility Elicit favorable facts Test accuracy Clarify issues raised during cross-examination Leading Questions Not allowed unless the witness is declared hostile (Option D) Allowed (Sec. 146 BSA) Not allowed (Option B) Nature of Questions Open-ended questions to elicit narrative Can include leading questions to control the narrative Generally clarifying questions Time Limit Typically structured and may have time constraints No set time limit; may last for hours or even days Generally limited to clarification purposes Judicial Oversight Judge may intervene to ensure questions are relevant and not

leading Court can disallow indecent or scandalous questions (Sec. 154, BSA) Judge monitors to ensure focus remains on clarification Anytime (Option C): This is incorrect because leading questions are restricted during examination-in-chief and re-examination.

References:

The Essentials of Forensic Medicine and Toxicology, K S Narayan Reddy, OP Murty, 35th Edition, Page. 10, 11.
Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page. 51.
https://bprd.nic.in/uploads/pdf/BNS.pdf

↑ *Back to this question in Part A*

@Neet_pg_bot

Q25: Sequence of rigor mortis is? (Q844100)

A. Center to periphery

B. Head to foot

C. Foot to head

D. Simultaneously

Correct Answer: B. Head to foot

Explanation: Correct Option B - Head to foot: Rigor mortis, or postmortem rigidity, typically starts in the smaller muscles and progresses to the larger muscle groups. The sequence generally begins with the muscles of the face and neck, followed by the upper limbs, and then extends to the trunk and lower limbs. Therefore, rigor mortis progresses from the head and upper parts of the body downwards towards the feet. Incorrect Options: Option A - Center to periphery: Rigor mortis does not progress from the center of the body to the periphery. It starts in the head and moves towards the feet, not the central parts to the outer extremities. Option C - Foot to head: Rigor mortis does not start in the feet and move upwards to the head. It starts in the head and progresses downwards towards the feet. Option D - Simultaneously: Rigor mortis does not occur simultaneously in all parts of the body. It progresses in a specific sequence, starting with the head and upper body, then moving downwards.

↑ *Back to this question in Part A*

@Neet_pg_bot

Q26: Identify the bullet range (Q844195)

A. Distant range

B. Close contact

C. Close range

D. Can not be predicted



Correct Answer: C. Close range

Explanation: Correct answer: C) Close range When a gunshot wound shows blackening and tattooing around it, this indicates a close-range shot. Blackening is caused by the deposition of soot and gunpowder residue from the burning propellant, while tattooing is due to the impact of unburned powder particles. These signs are typically seen when the muzzle is relatively close to the target, usually within a few feet. Option A - Distant range: At a distant range, the wound would not exhibit blackening or tattooing because the gunpowder residues would not have had a chance to settle on the skin. Distant range wounds usually present with a clean entry wound without additional residues. Option B - Close contact: Close contact wounds are typically characterized by a much more severe pattern, such as a star-shaped wound with burning and possibly charring of the skin. The presence of blackening and tattooing suggests a somewhat less extreme range, but still close. Option D - Cannot be predicted: The presence of blackening and tattooing can indeed predict the bullet range with a reasonable degree of certainty. Therefore, this option is not accurate as the gunshot range can be estimated based on these features.

↑ *Back to this question in Part A*

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Q27: A 42 year old patient, a case of road traffic accident presented with EDH due to involvement of Middle Meningeal Artery. Where will the impact of collision be? (Q820292)

A. Pterion

B. Angle of mandible

C. Lambdoid suture

D. Nasion

Correct Answer: A. Pterion

Explanation: Correct Option A - Pterion The impact of the collision resulting in an epidural hematoma (EDH) due to involvement of the Middle Meningeal Artery is likely to occur at the pterion. The pterion is a small, delicate area on the side of the skull where four bones come together: the frontal bone, the parietal bone, the temporal bone, and the sphenoid bone. This area is particularly vulnerable to traumatic injury due to its thin bone structure and the presence of the Middle Meningeal Artery, which runs just beneath the skull in this region. Trauma to the pterion can lead to a rupture of the Middle Meningeal Artery, causing bleeding between the dura mater and the skull, resulting in an epidural hematoma. Incorrect Options: Option B - Angle of mandible: The angle of the mandible is the outermost point of the lower jawbone. While trauma to this area can cause facial injuries, it is not directly associated with the development of an epidural hematoma due to involvement of the Middle Meningeal Artery. Option C - Lambdoid suture: The lambdoid suture is the joint between the occipital bone (back of the skull) and the parietal bones. Trauma to this area can result in injuries to the posterior part of the skull, but it is not typically associated with epidural hematomas involving the Middle Meningeal Artery. Option D - Nasion: The nasion is the intersection point between the frontal bone and the two nasal bones. Trauma to this area can lead to facial injuries, but it is not directly associated with the development of an epidural hematoma due to involvement of the Middle Meningeal Artery.

↑ *Back to this question in Part A*

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Q28: Which of the following is the bleeding vessel in extradural hemorrhage? (Q860475)

A. Middle meningeal artery

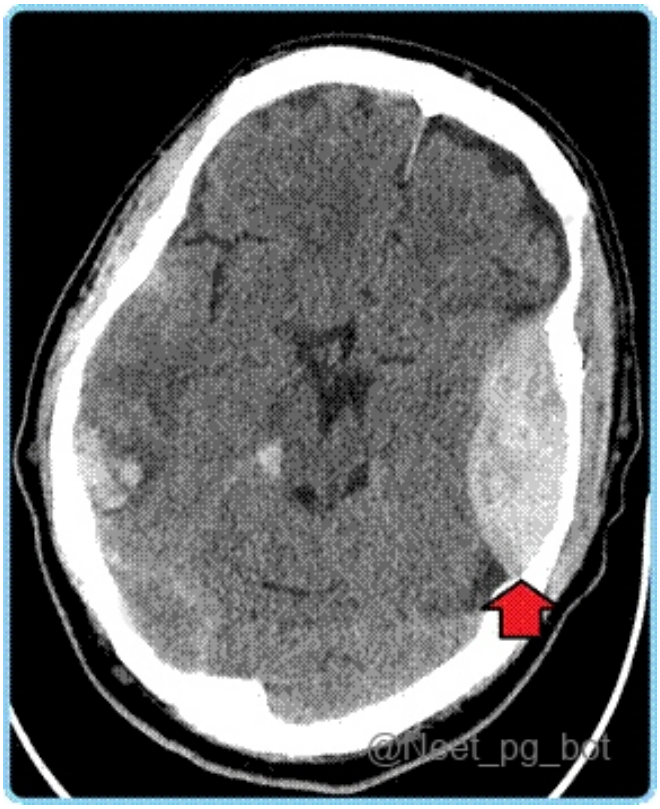
B. Bridging veins

C. Circle of Willis

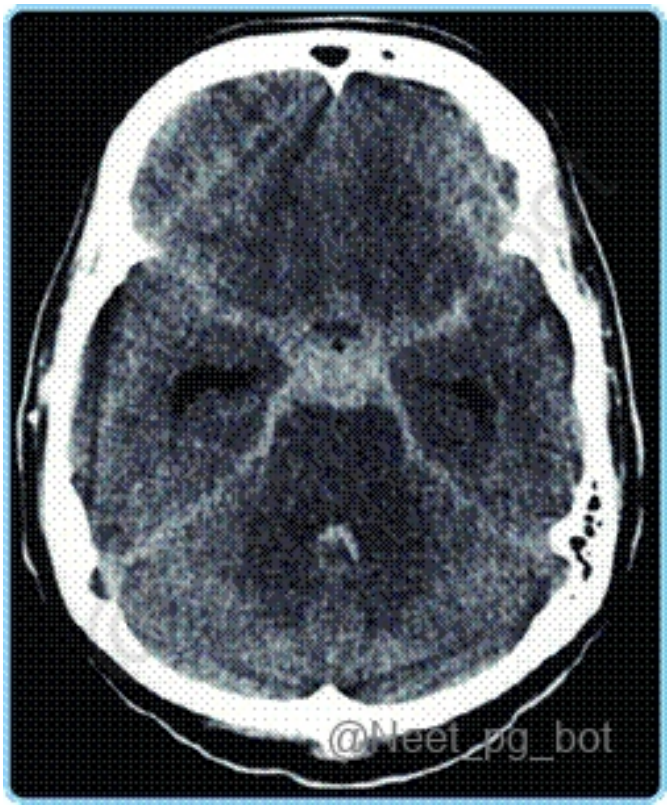
D. Anterior cerebral artery

Correct Answer: A. Middle meningeal artery

Explanation: The bleeding vessel responsible for extradural Hemorrhage (epidural Hemorrhage) is the middle meningeal artery. Intracranial haemorrhages The first layer is the skull vault (cranium), followed by the dura mater, arachnoid mater, pia mater, and brain tissue (cerebrum). The space between the skull and dura contains the middle meningeal artery. The middle meningeal artery is most prominent at the pterion, the point where the frontal, parietal, sphenoid, and temporal bones meet. Space and Hemorrhages Location Blood vessel involved Epidural Space/ Hemorrhage {{caption_text}} Between the skull vault and dura mater. The collection of blood here leads to epidural hematoma. Middle meningeal artery (Option A) Subdural Space/ Hemorrhage {{caption_text}} Between the arachnoid and dura mater. The collection of blood here leads to subdural hematoma. Bridging veins (which drain into the dural venous sinus) (Option B ruled out) Subarachnoid Space/ Hemorrhage {{caption_text}} Between the arachnoid and pia mater Arteries of the circle of Willis (Middle cerebral artery, Anterior communicating artery -most commonly) (Option C ruled out) Anterior cerebral artery (Option D) is not involved in extradural hemorrhage







References:

Spaces

MMA-pterion

Vessels

Subarachnoid

The Essentials of Forensic Medicine, KS Narayan Reddy, 35th Edition, Page 196

↑ *Back to this question in Part A*

@Neet_pg_bot

Q29: During measurement of a rifled barrel weapon, the caliber depends on? (Q860082)

A. Distance between two opposite lands

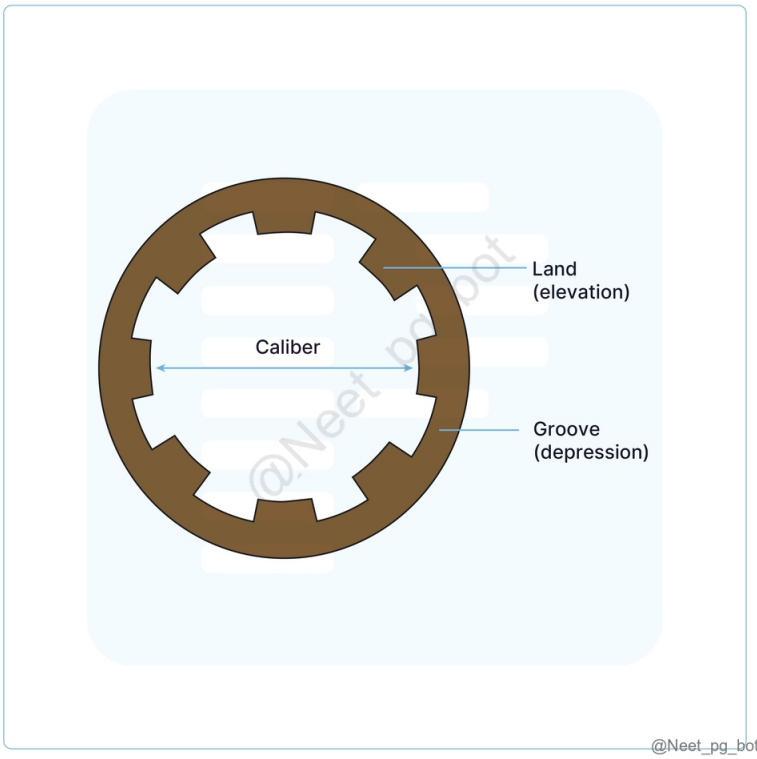
B. Distance between two opposite grooves

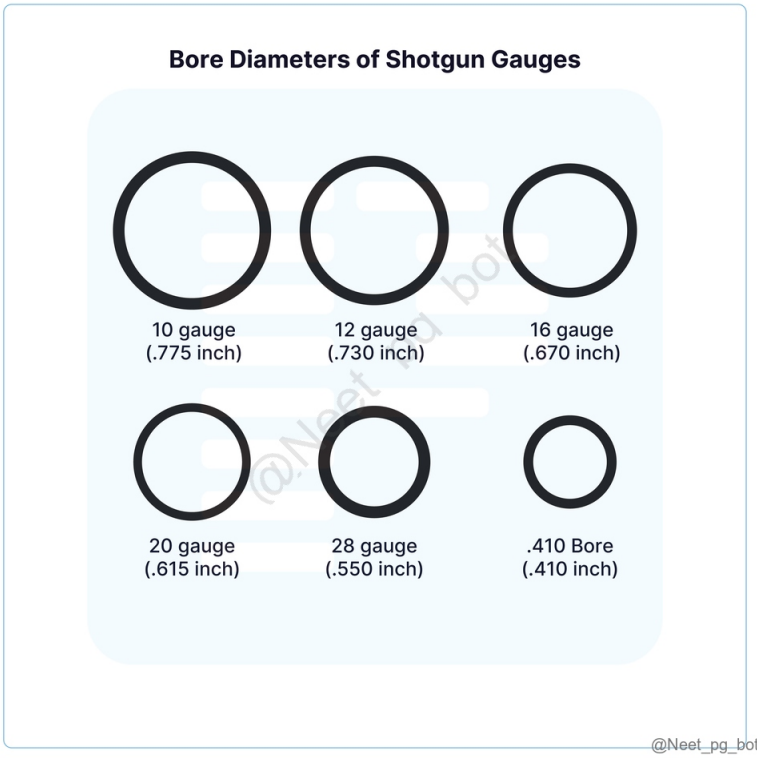
C. Number of lead pellets

D. Mass and velocity

Correct Answer: A. Distance between two opposite lands

Explanation: In forensic ballistics, "caliber" refers to the diameter of a rifled firearm's barrel, specifically measured between opposing lands. This measurement, typically expressed in inches or millimetres, is crucial for linking a bullet to a specific firearm. Rifled Firearms: Rifled firearms have a bore characterised by a series of grooves that spiral along the barrel's length. These grooves (Option B) , known as "rifling," alternate with raised areas called "lands." The caliber is determined by measuring the distance between these lands. (Option A) The direction of rifling can be either right (clockwise) or left (counter-clockwise), with most handguns featuring a right-hand twist. As the bullet travels through the barrel, it engages with the lands and grooves, imparting a spin that stabilises its flight and leaves distinctive markings on the bullet, which serve as identifiers for the firearm. Number of lead pellets (Option C) Bore or Gauge: It is used for smooth bore weapons. The number of balls/pellets of equal size/weight made from 1 pound lead (454g) 12 bore = 12 balls Mass and velocity (Option D) of a projectile fired from a rifled barrel weapon are important factors in its performance, they are not used directly to determine the caliber of the weapon





References:

Gautam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Page 210

↑ *Back to this question in Part A*

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Q30: Most common organ involved in seat-belt injury is? (Q860112)

A. Spleen

B. Liver

C. Pancreas

D. Hollow viscus

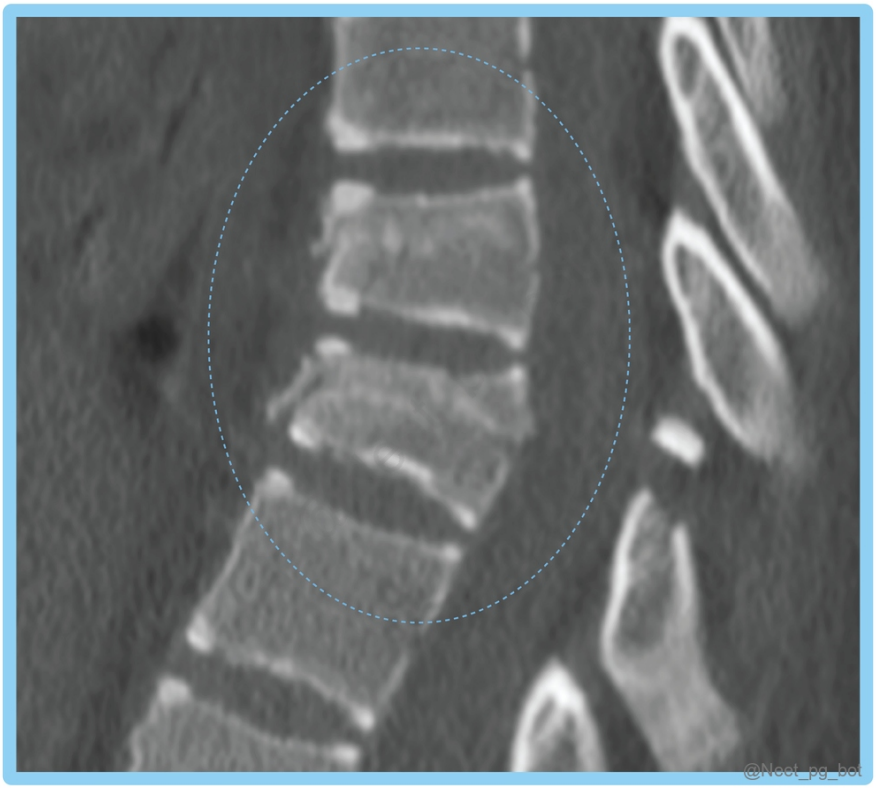
Correct Answer: D. Hollow viscus

Explanation: The most common organ involved in seat belt injury ideally is the mesentery. Since the given options do not contain mesentery the best option here is hollow viscus.



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References:

Essentials of Forensic Medicine & Toxicology by KS Narayan Reddy 35th Edition page- 216.

Knight’s Forensic pathology 4th Edition pages- 284-286.

↑ *Back to this question in Part A*

@Neet_pg_bot

Q31: The most common organ injuries in air blast shock waves will be? (Q860118)

A. Intestine

B. Lungs

C. Kidney

D. Heart

Correct Answer: B. Lungs

Explanation: The most common organ injured in an air blast shock wave is the tympanic membrane (TM); given that the options do not contain TM, the next best answer is the lung. Blast lung is a primary blast injury. The shock wave causes immediate lung injury, characterized by the rupture of alveolar capillaries. Blast Injury: Extent of Damage Greater damage compared to bullet injuries due to complex blast waves. Explosion pressure wave exceeds 1000 pounds per square inch, involving incident and reflected pressure. Factors Causing Damage High-pressure wave impact. Mechanical, chemical, and thermal injuries. Inhalation of toxic gases and smoke. Types of blast injuries: Air Blast Injuries Underwater Blast Injuries Most commonly injured: Tympanic membrane (ear) - Rupture and middle ear damage are common Tympanic membrane (ear) - More likely to occur when the head is submerged. Gastrointestinal tract - When the head is not submerged. Most severely injured: Lungs - Blast lung injury is a common cause of delayed mortality and can cause pulmonary contusion, air embolism, and other damage Gastrointestinal tract - Underwater blasts can cause more severe GI injuries due to pressure effects on hollow organs Intestine, kidney, and heart (Options A, C, and D) are not the most common injuries in air blast

References:

Blast Injuries - PMC (nih.gov)

Blast Injuries - StatPearls - NCBI Bookshelf (nih.gov)

Explosives and Blast Injuries - Injuries; Poisoning - MSD Manual Professional Edition (msdmanuals.com)

Human Injury Criteria for Underwater Blasts

↑ *Back to this question in Part A*

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Q32: During a forensic autopsy, a gunshot victim is examined, and the doctor observes that the firearm injury has a stellate shape. What will be the range of gunshot? (Q820278)

A. Close shot

B. Contact shot

C. Near shot

D. Distant shot

Correct Answer: B. Contact shot

Explanation: Correct Option B - Contact shot A contact shot occurs when the muzzle of the firearm is in direct contact with the victim's skin at the time of firing. This results in the deposition of soot, unburned powder particles, and even possible charring around the entrance wound. The gases and particles from the gunpowder can cause the surrounding skin to exhibit a stellate or star-shaped pattern due to the pressure and heat. Incorrect Options: Option A - Close shot: A close shot refers to a gunshot that is fired from a relatively short distance, usually within a few inches to a few feet. In a close shot, there might be stippling or soot deposition around the entrance wound, but the injury would not typically exhibit a stellate (star-shaped) appearance. Option C - Near shot: A near shot, also known as a close intermediate shot, refers to a gunshot fired from a short distance but not in direct contact with the skin. The range is usually a few inches to a few feet. This might result in stippling or powder tattooing around the entrance wound due to the impact of unburned gunpowder particles on the skin. However, it is less likely to produce a stellate wound pattern as seen in contact shots. Option D - Distant shot: A distant shot is fired from a considerable distance, and the effects on the body are determined by the range of fire. At a greater distance, the bullet's energy dissipates, and there may be no stippling or soot deposition around the entrance wound. The wound tends to be cleaner and smaller compared to closer shots. A stellate wound pattern is unlikely to be present in a distant shot.

↑ *Back to this question in Part A*

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Q33: The dead body of a 30-year-old male drowning victim was brought in for autopsy. Upon examination, multiple cuts were observed on the victim's arm. What finding is likely to be seen in this scenario? (Q820288)

A. Defense wound

B. Self inflicted injury

C. Accidental cut wound from falling

D. Washer-women hands



Correct Answer: A. Defense wound

Explanation: Correct Option A - Defense wound When a person is attacked or struggling to defend themselves against an assailant, they might sustain what are known as defense wounds. These wounds typically occur on the flexor surface of the forearm, as individuals instinctively raise their arms to protect their face and body during an attack. The cuts on the victim's arm in this scenario are consistent with defense wounds, suggesting that the victim was trying to shield themselves from harm. Incorrect Options: Option B - Self-inflicted injury: Self-inflicted injuries are wounds that a person intentionally inflicts upon themselves. These injuries might result from self-harm or suicide attempts. However, in the given scenario, the presence of multiple cuts on the victim's arm does not necessarily suggest self-inflicted injury, as the location and pattern of the cuts seem more indicative of defensive actions rather than self-infliction. Option C - Accidental cut wound from falling: An accidental cut wound from falling might result from an individual accidentally coming into contact with a sharp object while falling. However, this scenario is less likely in this case because the presence of multiple cuts on the flexor surface of the arm is not consistent with typical patterns of injuries sustained during a fall. Option D - Washer-women hands: "Washer-women hands" is a term used to describe the appearance of the fingers and hands after prolonged exposure to water, like during laundry work. This option is not relevant to the scenario described, as it does not explain the presence of multiple cuts on the victim's arm or the context of the drowning incident.

References:

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↑ *Back to this question in Part A*

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Q34: Which of the following characteristics is not typically associated with a true bruise? (Q793579)

A. Negative chemical tests

B. Progression of the color of bruise over time

C. Irregular margins

D. Presence of Itching

Correct Answer: D. Presence of Itching

Explanation: Option D. Presence of vesicles : Itching is not typically associated with true bruises. This symptom is more characteristic of artificial bruises caused by substances that irritate the skin. Incorrect Options: Option A. Negative chemical tests : True bruises usually test negative for the presence of certain chemicals that might be used to create artificial bruises. This is consistent with the definition of a true bruise, which results from the extravasation of blood due to blunt force trauma, not chemical irritation . Option B. Progression of the color of bruise over time : One of the hallmark characteristics of true bruises is the progression of color changes over time due to the breakdown of hemoglobin in the tissue. This progression typically goes from red or purple to blue, green, yellow, and finally fading away . .Option C. Irregular margins : True bruises often have irregular, diffuse margins due to the spread of blood within the tissues. This is in contrast to artificial bruises, which typically have well-defined, regular margins due to the application method of the irritant substance .

References:

Prepladder Notes

↑ *Back to this question in Part A*

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Q35: During the examination of a victim of assault , you notice a wound with ragged, irregular and uneven margins with tears diverging at an angle from the end of the main wound and typical swallowtails. Bleeding from this wound is not significant and shows crushed blood vessels and hair bulbs . You would document this wound as a/an. (Q793559)

A. Incised wound

B. Chopped wound

C. Stab wound

D. Lacerated wound

Correct Answer: D. Lacerated wound

Explanation: Correct Option D - Lacerated wound: The wound described in the scenario is most likely a lacerated wound due to its ragged, irregular, and uneven margins with tears diverging at an angle from the end of the main wound and typical ‘swallowtails ’. Bleeding from this wound is not significant and shows crushed blood vessels and hair bulbs . Lacerated wounds are typically caused by blunt force trauma and have an irregular shape with jagged margins . They can also be caused by tearing, such as in cases of dog bites or machinery accidents. Therefore, the wound should be documented as a lacerated wound. Incorrect Options: Option A - Incised wound: An incised wound typically has clean and sharp margins and is caused by a sharp-edged instrument like a knife. The edges of an incised wound are not ragged, irregular, or uneven, and there are no tears diverging at an angle from the end of the main wound or "swallow tails." Option B - Chopped wound : A chopped wound is a type of wound caused by a heavy, sharp-edged object, such as an axe or a machete. It typically has a clean, straight edge with minimal tissue damage. Option C - Stab wound : A stab wound typically has a narrow and deep wound track with straight or slightly curved margins, and a clean and smooth wound surface. It is caused by a pointed object such as a knife, dagger, or ice pick penetrating the skin and underlying tissues.



References:

Prepladder Notes

↑ *Back to this question in Part A*

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• [05_Ballistics] 012 Forensic Ballistics- I

« Back to Folder Directory

[05_Ballistics] 012 Forensic Ballistics- I — Quick Jump

Q1 (p. 757) *Q2 (p. 760)* *Q3 (p. 762)* *Q4 (p. 762)* *Q5 (p. 764)* *Q6 (p. 767)*
Q7 (p. 768) *Q8 (p. 776)* *Q9 (p. 779)* *Q10 (p. 782)* *Q11 (p. 783)* *Q12 (p. 784)*
Q13 (p. 788) *Q14 (p. 790)* *Q15 (p. 791)* *Q16 (p. 796)* *Q17 (p. 797)* *Q18 (p. 798)*
Q19 (p. 799) *Q20 (p. 800)* *Q21 (p. 801)* *Q22 (p. 803)* *Q23 (p. 805)* *Q24 (p. 806)*
Q25 (p. 808)

Q1: A 40-year-old male was found shot dead in a parking lot. Forensic examination revealed that the cause of death was a shotgun injury. Considering the type of injury, what is the probable range of the shot? (Q847221)

A. <1 metre

B. 1-2 metres

C. 2-4 metres

D. >4 metres

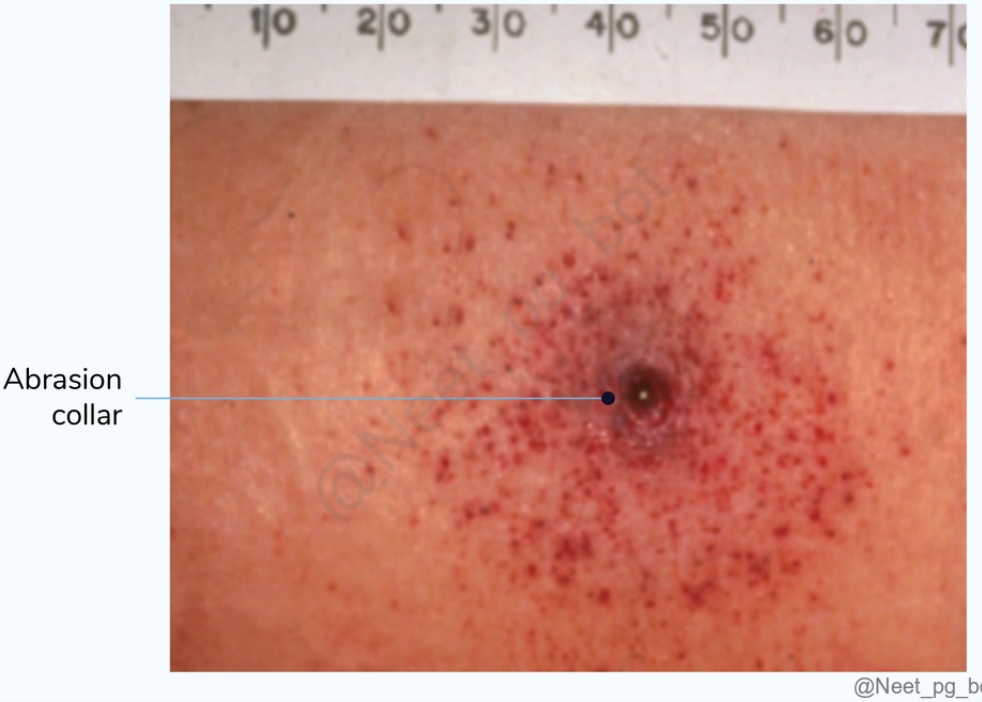


Correct Answer: A. <1 metre

- *Listen (English)*
- *Listen (Hindi)*

Explanation: A close-shot injury (< 1 metre) has a circular or elliptical entry wound with blackening, burning, tattooing, and singeing of hair. The wound track and surrounding tissues appear cherry-red due to carbon monoxide absorption. Shooting Range Range Wound Description Contact shot Muzzle in direct contact Circular entry wound with muzzle imprint, severe tissue damage, blackening, and burning of the wound edges. Cherry-red tissue due to carbon monoxide absorption. Close-shot (Option A) < 1 meter Circular or elliptical entry wound with blackening, burning, tattooing, singeing of hair, and cherry-red tissue discolouration due to carbon monoxide absorption. Short-range (Option B) 1-2 meters Circular 4-5 cm wound (Rat hole) with irregular borders, no blackening, burning, or tattooing. Intermediate shot (Option C) 2-4 meters Large, irregular wound surrounded by multiple satellite wounds. Distant shot (Option D) > 4 meters The entry wound fades, leaving multiple small pellet wounds.


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References:

KS Narayan Reddy and OP Murthy Essentials of Forensic Medicine and Toxicology, 35th Edition, Pages 165-167

Gautam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Pages 218, 219.

↑ *Back to this question in Part A*

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Q2: A 40-year-old laborer was involved in an explosion at a chemical plant caused by a faulty pressure valve. Rescued from a confined space, he arrived at the emergency department with respiratory distress and injuries shown in the image. What type of injury describes this condition? (Q847320)

A. Primary blast injury

B. Secondary blast injury

C. Tertiary blast injury

D. Quatenary blast injury



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Correct Answer: D. Quatenary blast injury

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The provided scenario and accompanying image of traumatic asphyxia, which is a characteristic of quaternary blast injury. Type of blast injury Caused by Features Primary blast injury (Option A) Blast waves Commonly internal with no external signs. Ears: Tympanic membrane rupture Lungs: Alveolar, capillary, and membrane hemorrhage leading to blast lung (most common causes of death among survivors) GIT: Vomiting, melena, hematemesis, perforation. Secondary blast injury (Option B) Shrapnel, debris & flying objects (propelled by explosion) Penetrating trauma Marshall triad: Includes bruises, abrasions, and punctate lacerations. Thoracic injuries Tertiary blast injury (Option C) Victims are thrown against solid objects by blast winds Blunt or penetrating trauma. Bone fractures and coup-countercoup injury. Quaternary blast injury (Option D) Environmental contaminants, chemicals, radiations (nuclear bomb), virus and bacteria Flash burns, crush injuries Fall resulting from the explosion Traumatic asphyxia and respiratory injuries Psychiatric injury Post-traumatic stress disorder (PTSD)

References:

Essentials of Forensic Medicine & Toxicology, KS Narayan Reddy, 35th Edition, Page 183

Gautam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Page 290

↑ *Back to this question in Part A*

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Q3: A 40-year-old male diver is brought to the emergency department after an underwater explosion and complains of severe abdominal pain, nausea, and difficulty breathing. Physical examination reveals tenderness in the abdomen. Which organ is most commonly injured in this patient due to the underwater blast? (Q847319)

A. Lungs

B. Stomach

C. Colon

D. Small intestine

Correct Answer: C. Colon

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: In Underwater explosions, injuries to gas-filled organs are more frequent, with the Colon being the most commonly affected organ . Blast injuries are complex physical traumas resulting from direct or indirect exposure to an explosion that causes sudden changes in atmospheric pressure. Types of Blast Exposure: Air Blast: Causes less severe injuries due to energy dissipation. Immersion Blast: Force transmitted through water, leading to more severe injuries due to dense molecular packing. In enclosed spaces, shock waves can amplify, increasing injury severity. Solid Blast: Force transmitted through solids, affecting areas in contact with vibrating structures, leading to primary and secondary injuries. Underwater Explosion: Injury to gas-filled organs is more frequent, with the Colon being the most commonly affected organ. Other potential injuries: Perforation of the stomach Small intestine Cecum Lung Injury (Less Common)

References:

Gautam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Page 290

Essentials of Forensic Medicine & Toxicology, KS Narayan Reddy, 35th Edition, Page 183

↑ *Back to this question in Part A*

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Q4: A 35-year-old male construction worker was involved in a workplace explosion. Positioned near the blast's epicenter, he was swiftly taken to the emergency department with multiple injuries, including punctate abrasions, contusions, and lacerations as depicted in the image. What type of blast injury is most likely in this case? (Q847318)

A. Primary injury

B. Secondary injury

C. Tertiary injury

D. Quaternary injury



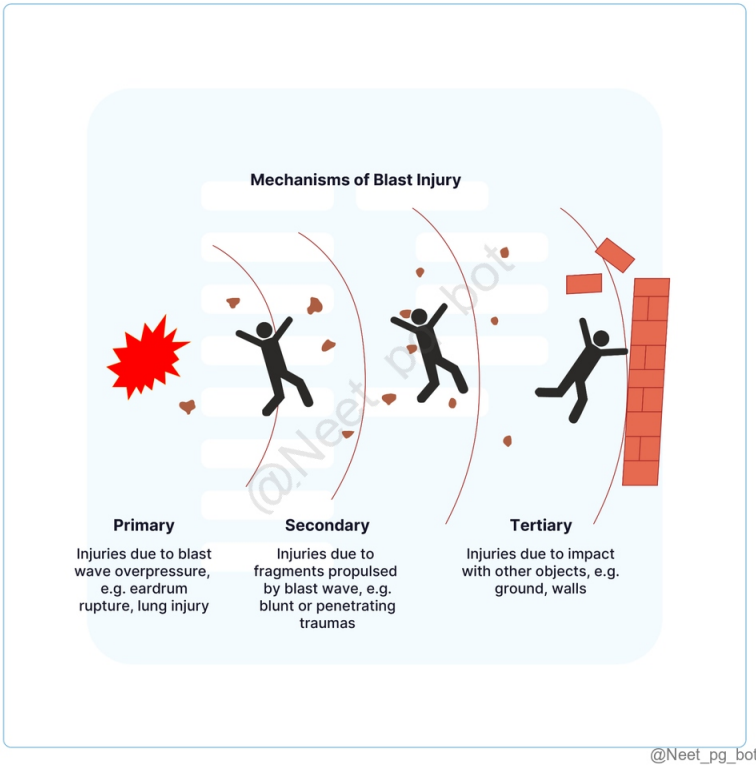
Correct Answer: B. Secondary injury

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The provided case scenario, along with the accompanying image, illustrates Marshall's triad (contusion, abrasion and punctate laceration), which indicates a secondary blast injury. Blast Injury: Blast injuries are complex physical traumas resulting from direct or indirect exposure to an explosion, leading to sudden changes in atmospheric pressure. Classification of Blast Injuries Type Mechanism Features Primary Injury It results from blast waves and is often internal with no external signs. Ears: Tympanic membrane rupture or inner ear disruption. Lungs: Alveolar-capillary membrane haemorrhage (blast lung), most common cause cause of death in survivors. GIT: Injuries to gas-filled organs are more common in underwater blasts. Secondary Injury It is resulting from shrapnel, debris & flying objects (propelled by explosion). Penetrating trauma. The characteristic Marshall triad, which includes bruises, abrasions, and punctate lacerations, is evident. Commonly cause severe thoracic injuries, including lacerations of the heart and great vessels. Tertiary Injury Victims are thrown against solid objects by blast winds. Blunt/Penetrating trauma. Includes bone fractures and coup-contrecoup injuries. Quaternary Injury Encompass all other injuries not classified above Flash burns from extreme heat. Crush injuries and falls due to explosions. Respiratory injuries from toxic dust, gases, or radiation exposure. Psychiatric issues, such as

post-traumatic stress disorder (PTSD), may affect individuals even if they are physically unharmed.



References:

Gautam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Pages 290, 291

↑ *Back to this question in Part A*

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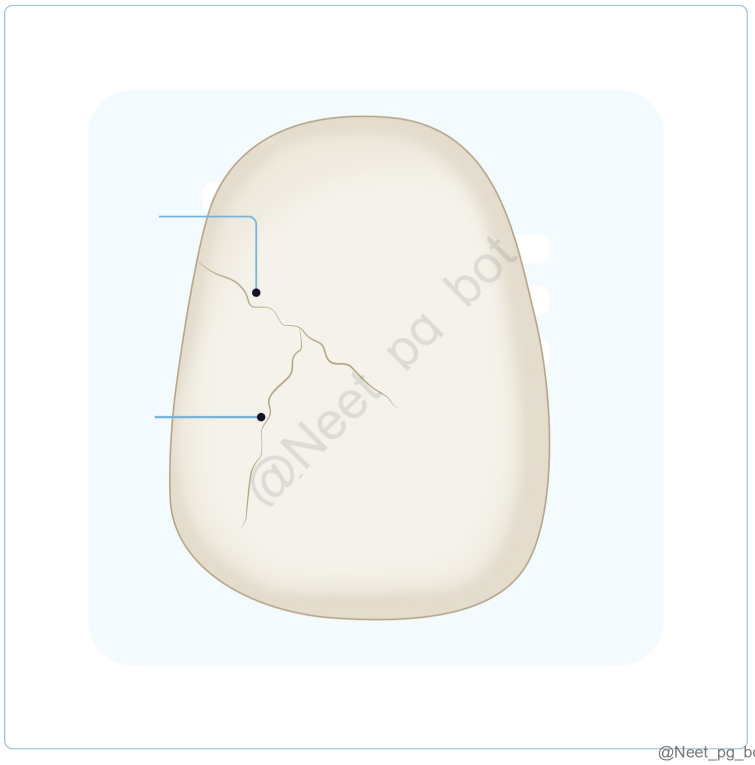
Q5: In the forensic analysis of cranial fractures, Puppe's Rule is applied to determine the sequence of impacts. According to this rule, when two fracture lines intersect ,as shown below, what can be inferred about their relationship? (Q847310)

A. The line that ends at the intersection is the newer injury.

B. The second fracture line crosses the first line.

C. Both fracture lines are of equal age.

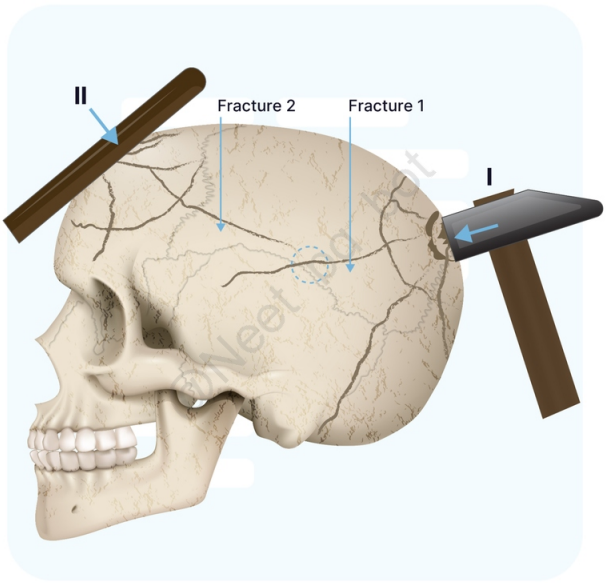
D. Crossing fracture indicates a higher velocity impact.



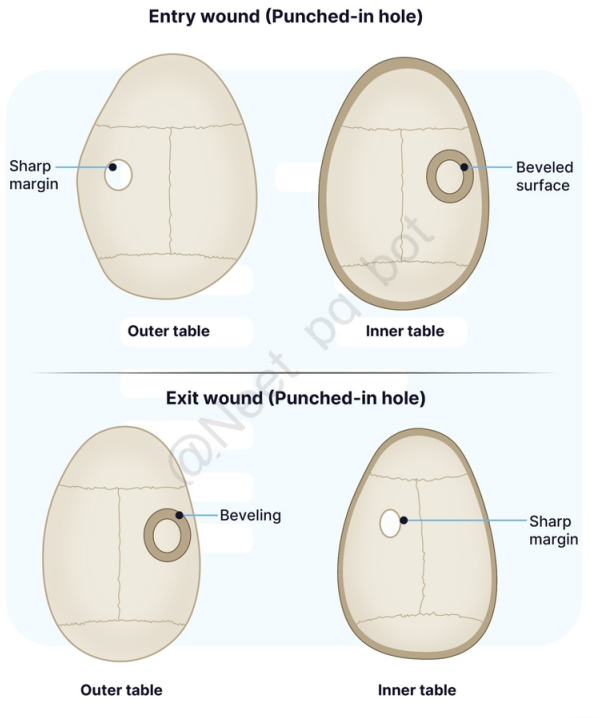
Correct Answer: A. The line that ends at the intersection is the newer injury.

- *Listen (English)*
- *Listen (Hindi)*

Explanation: According to Puppe’s rule , the line that ends at the intersection indicates a more recent injury after forming the initial line. Puppe’s Rule: It states that the second fracture line does not cross the first when two fracture lines intersect . This principle helps determine the sequence of shots when multiple bullets have impacted the cranium, and it also applies to cases of multiple blunt force impacts on the skull. Beveling of Skull: Entry wound: The entry wound presents as a punched-out hole with a clean cut on the outer table and a bevelled appearance on the inner table , where the bone remains unsupported, leading to chipping. Exit wound: The exit wound on the inner table shows a clean-cut hole with beveling on the outer table. It is typically larger than the entry wound due to the bullet's deformation and tumbling upon entering the skull. Kronlein Shot: Rare injury caused by a high-velocity bullet, resulting in bursting of the skull, laceration of the dura, and evisceration of the brain. An autopsy of the skull could not determine the appearance of primary gunshot wounds and entry or exit wounds.



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References:

Gautam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Page 221,224

↑ *Back to this question in Part A*

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Q6: A 28-year-old male was found dead in an abandoned warehouse due to a shotgun wound to the chest. Analysis indicated that the shotgun pellets caused an effect where multiple pellets, fired from a high range, impacted the same area, leading to significant damage and a larger wound channel. What effect is being described here? (Q847308)

A. Billiard ball effect

B. Balling effect

C. Rayalseena phenomenon

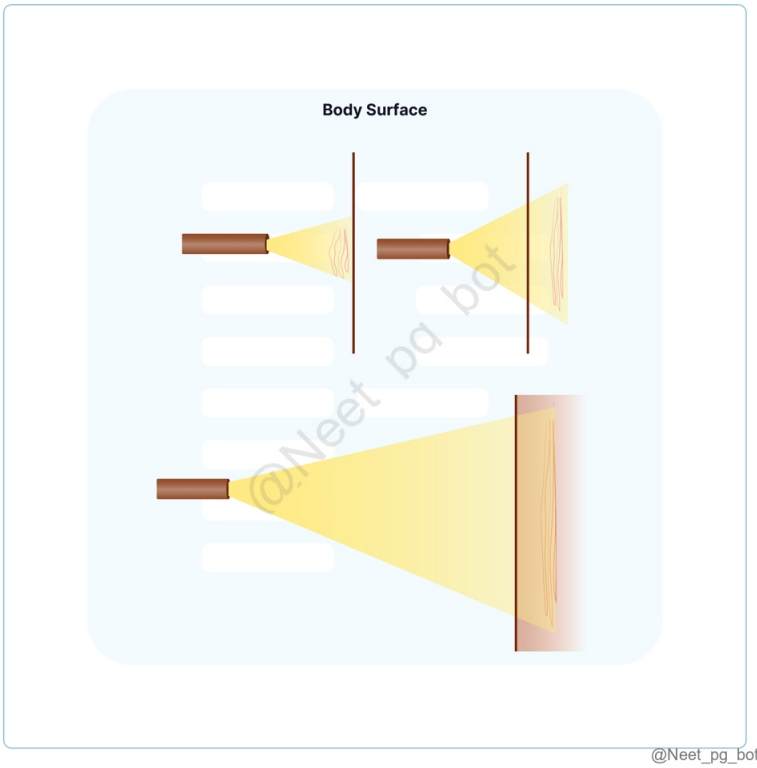
D. Kennedy phenomenon

Correct Answer: B. Balling effect

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The effect described above, where multiple pellets fired from a high range impact the same area and create a larger wound channel, is known as the balling effect. Billiard ball effect (Billiard Ball Ricochet Effect) (Option A) Balling or welding (Option B) When shotgun pellets enter tissue, the first pellets slow down and are struck from behind by subsequent pellets, causing them to scatter through the tissue like a cluster of billiard balls hit by the cue ball. In distant shots, the pellets can merge into a compact mass, causing the lead shots to stick together and create a larger entry wound while exhibiting some dispersion. It occurs due to: Faulty manufacture (too much powder, poor pressure of wads,paraffin into cartridge case) Old ammunition Very high dispersion (due to resistance) Less dispersion Low range (near shot resembles distant range) High range (wound mimics intermediate shot) Rayalseena phenomenon (Option C) : To disguise a murder as a firearm injury, a bullet is placed in an individual who was initially killed by a stab wound, misleading the investigating agency. Kennedy phenomenon (Option D) : I dentifying the wound becomes challenging due to surgical alterations.



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References:

Essentials of Forensic Medicine and Toxicology, KS Narayan Reddy, 35th Edition, Page 168. Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 211, 223.

↑ *Back to this question in Part A*

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Q7: A 40-year-old male was shot during a robbery while walking home at night. The weapon used was identified as a firearm, and forensic investigators recovered a bullet from the scene, as shown in the image below. Identify it. (Q847307)

A. Hollow point bullet

B. Souvenir bullet

C. Incendiary bullet

D. Dum dum bullet



Correct Answer: D. Dum dum bullet

- *Listen (English)*
- *Listen (Hindi)*

Explanation: The image depicts a Dum Dum bullet, which is a type of semi-jacketed bullet. Types of Bullets Type Description Images Dum-dum bullet (Option D) A jacketed bullet that leaves an area near the nose uncovered to expose the core. Hollow point bullet (Option A) The modern Dum Dum bullet features a pit at the nose. Upon impact, pressure in the pit causes the lead ring to expand into a mushroom shape, resulting in increased soft tissue damage and a higher incapacitation index. Soft point bullet A jacketed bullet with an open tip that exposes some lead inside expands upon impact but more slowly than a hollow-point bullet. Tandem bullet (Piggyback bullet) Bullets eject one after another when the first bullet fails to exit the barrel and is pushed out by a subsequently fired bullet (faulty ammunition or a firearm that hasn't been used for years). Duplex bullet It contains two projectiles by design (used in military rifles) and enters a target at different points. Frangible bullet Designed to fragment or disintegrate upon impact, made of copper, powdered tungsten, lead, or iron. They do not ricochet. Souvenir or sleeping Bullet (Option B) A bullet remains in the body for a long time without fresh bleeding, surrounded by a dense fibrous tissue capsule. It can result in lead poisoning. Armour-piercing bullet A jacketed bullet (penetrates armour) with an inner core of hard, high-density metal like tungsten, tungsten carbide, depleted uranium, or steel, featuring a truncated cone. Incendiary bullet (Option C) A type of military bullet designed to ignite a fire in the target. Tracer bullet It leaves a visible mark or "trace" during flight, allowing the shooter to see where the shot impacts. Nontoxic shot or Green bullet It replaces the copper-jacketed lead core with a copper-jacketed tungsten, steel, bismuth, tin, or nylon core. It does not release toxic lead (lead-free) into the environment (green bullet). Exploding bullet A bullet designed to detonate or break apart uses an explosive or deflagrant, causing extensive damage to the victim. These bullets pose a risk to medical personnel, as they may explode during procedures if they fail to detonate in the body. Boat tail bullet The cartridge's rear end is tapered rather than squared off to

stabilise the projectile in flight. Poisoned bullets Contains curare, ricin or aflatoxin. Wadcutter Specifically designed for shooting paper targets at close range and high velocities.

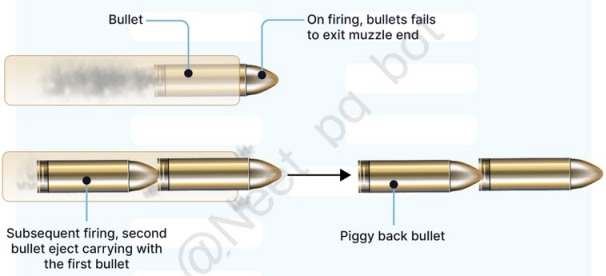

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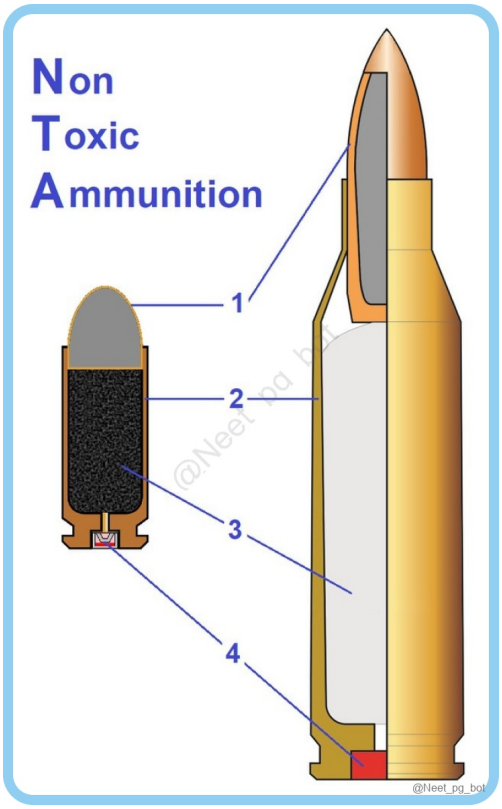

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Non
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References:

Essentials of Forensic Medicine and Toxicology, KS Narayan Reddy, 35th Edition, Page 163. Gautam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Page 212, 213.

↑ *Back to this question in Part A*

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Q8: A 30-year-old male was participating in a target shooting session at a local outdoor range when he accidentally fired a bullet that deflected off a metal target and struck another participant, resulting in his death. Which of the following best describes the bullet? (Q847306)

A. Yawning bullet

B. Ricochet bullet

C. Tumbling bullet

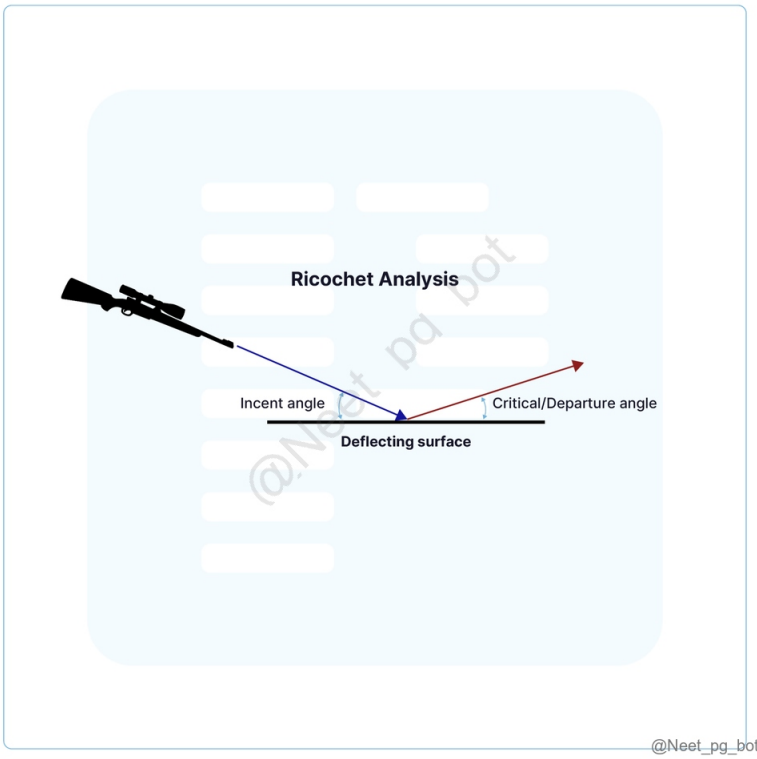
D. Tandem bullet

Correct Answer: B. Ricochet bullet

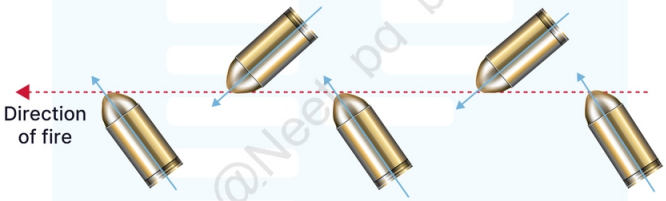
■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The scenario presented, in which a bullet deflects off a surface before striking the target, is characterised as a Ricochet Bullet . Ricochet Bullet: A ricochet bullet is a projectile that rebounds or deflects from its original path after striking an intermediate surface. The critical angle for ricochet is approximately 30 degrees . Wound Characteristics: No Abrasion Collar : Due to the loss of spin and rotation. Absence of Burning, Blackening, and Tattooing Atypical Wound Patterns : Resulting from the bullet's secondary movements after ricocheting. Common Bullet Types Associated with Ricochets Round-nose bullets Full metal jacketed bullets Low-velocity bullets Yawning bullet (Option A) travels irregularly instead of travelling nose-on. Tumbling bullet (Option C) rotates end to end during its motion. Tandem bullet (Option D) refers to the simultaneous exit of two bullets (due to previously stuck bullet), also known as a piggyback bullet .

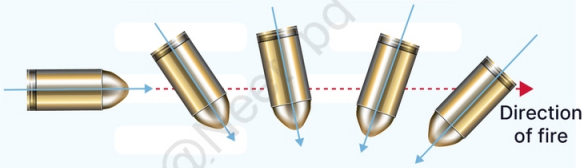


Representation of 'Yaw' assoicated with bullets

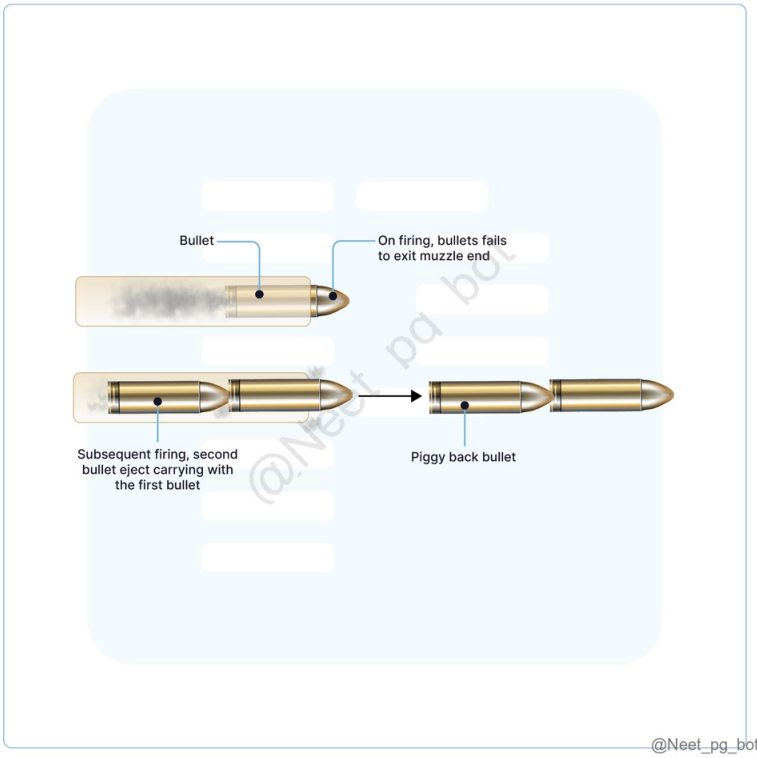


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Representation of 'Tumble' assoicated with bullets



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References:

Essentials of Forensic Medicine and Toxicology, KS Narayan Reddy, 35th Edition, Page 176. Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 222, 223.

↑ *Back to this question in Part A*

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Q9: A 45-year-old male was found dead after a suspected shooting incident involving a shotgun. During the investigation, experts examined the shotgun's characteristics to determine factors affecting its range. Which of the following does not enhance the range of shotguns? (Q847305)

A. Elongated and pointed bullet

B. Barrel length

C. Paradox gun

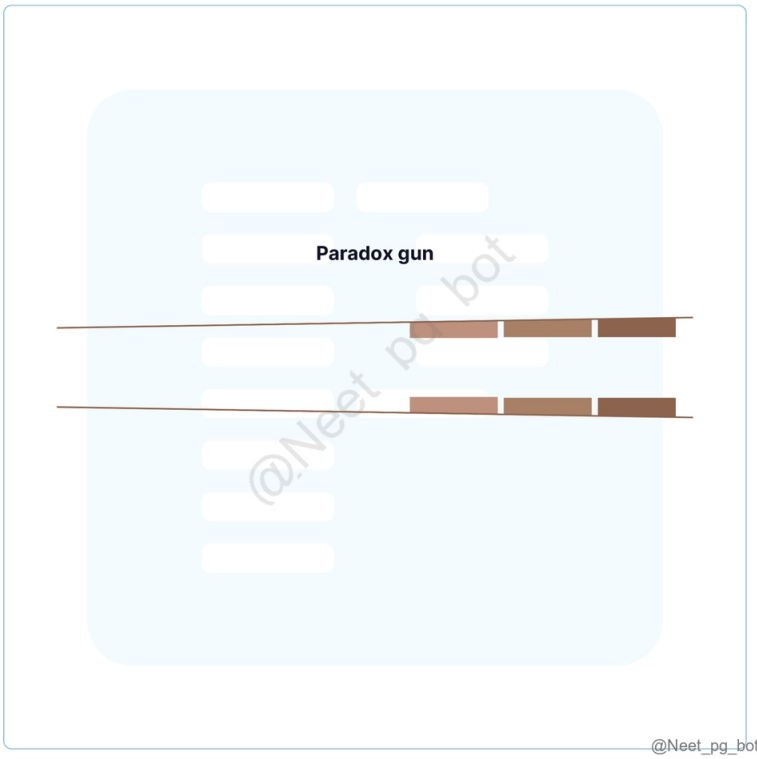
D. Presence of a choke

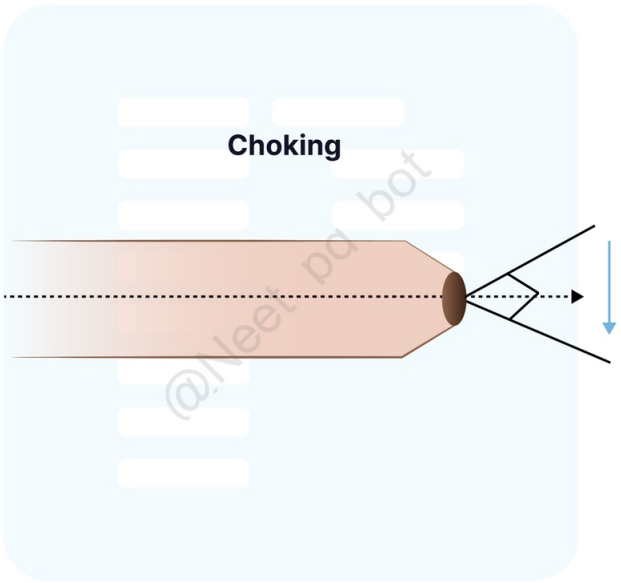
Correct Answer: A. Elongated and pointed bullet

■ *Listen (English)*

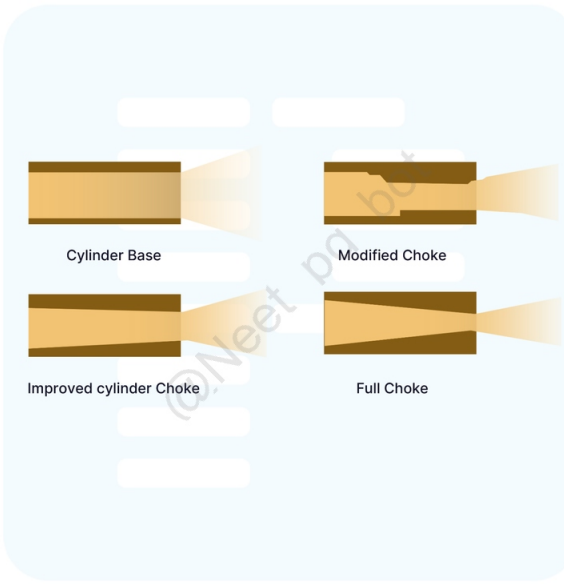
■ *Listen (Hindi)*

Explanation: An elongated and pointed bullet does not enhance the effective range of shotguns. Factors Enhancing the Range of Firearms Shotgun Paradox gun: A mixed gun incorporating characteristics of both a rifle and a shotgun, featuring a shotgun design with a rifled section in the barrel towards the muzzle end. Choking: Constriction at the muzzle end of a shotgun in order to: Reduce the dispersion of lead shot Enhance the velocity of the pellets Types of choking: Type Range Cylindrical base (unchoked) 25 yards Improved cylindrical choke 30 yads Modified cylindrical choke 35 yards Full choke 40 yards Rifled Firearm Elongated and pointed bullet (Option A) : Aerodynamic shape reduces air resistance, allowing the bullet to maintain velocity and travel farther. Lands and Grooves (Rifling) (Option B) : Imparts spin to the bullet, stabilising it in flight and improving accuracy and range. Calibre (Distance between two opposite lands) (Option C) : Larger calibers maintain stability and energy over longer distances, contributing to extended range. Barrel length: A longer barrel increases bullet velocity by allowing more time for propellant gases to act, enhancing range. Ammunition Type: High-performance bullets reduce drag, improving aerodynamic efficiency and range. Muzzle Velocity: Higher initial bullet speed reduces the effects of gravity and air resistance, extending range.

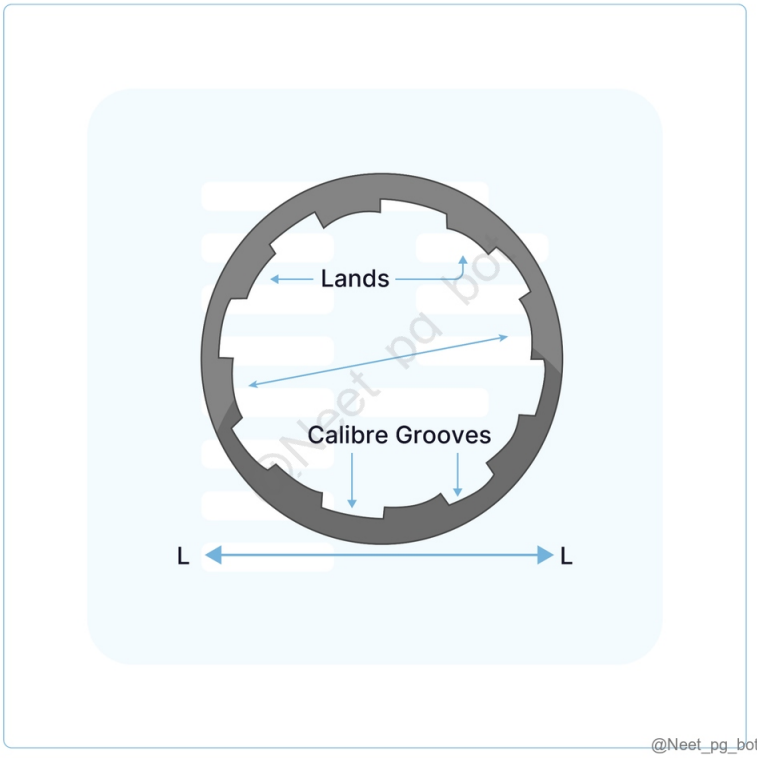




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References:

The Essentials of Forensic Medicine and Toxicology, KS Narayan Reddy, 35th Edition, Page 167, 168. Review of Forensic Medicine and Toxicology, Gautam Biswas, Third Edition, Page 211.

↑ *Back to this question in Part A*

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Q10: A forensic investigation was launched after a 20-year-old boy was found dead with a bullet in his body, showing signs of burning, blackening, and tattooing. At what distance does a shotgun produce a flame effect? (Q847225)

A. 7 cm

B. 15 cm

C. 30 cm

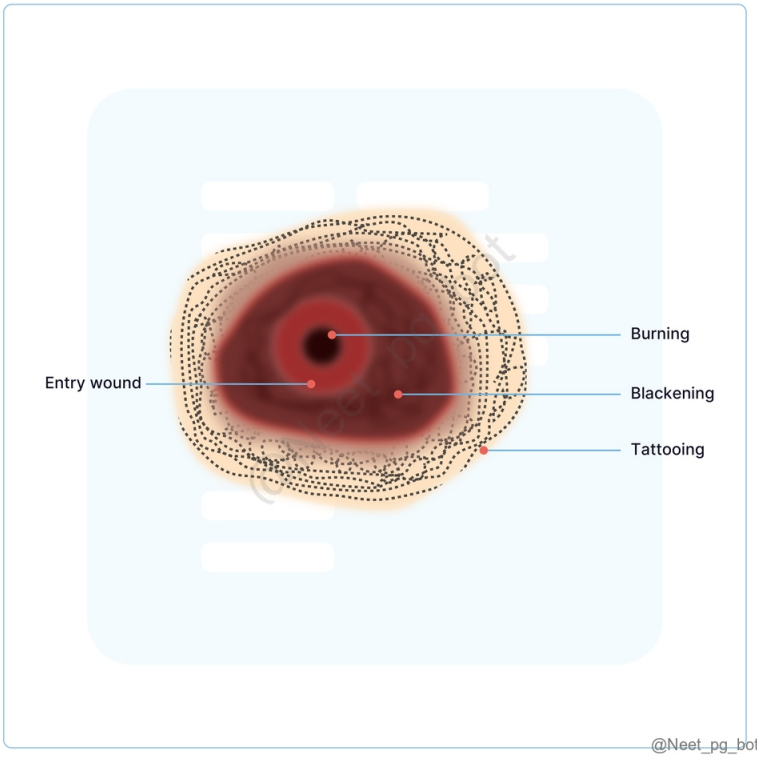
D. 45 cm

Correct Answer: B. 15 cm

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The flame effect occurs at a distance of 15 cm with a shotgun. Range of Effects of the Firearms Effects Rifle Shotgun Flame (burning) 7 cm (Option A) 15 cm (Option B) Smoke or soot (blackening) 30 cm (Option C) 45 cm (Option D) Gunpowder (tattooing) 60-90 cm 60-90 cm



References:

The Essentials of Forensic Medicine and Toxicology, KS Narayan Reddy, 35th Edition, Page 164, 168. Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 226.

↑ *Back to this question in Part A*

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Q11: A 30-year-old male was shot outside a nightclub late at night. Witnesses reported hearing gunshots and saw a dark sedan fleeing the scene. Police found shell casings and a bloodstained area, collecting gunshot residue (GSR) samples from the victim's hands and clothing. Which of the following is the most specific gunshot residue test? (Q847224)

A. Harrison and Gilroy test

B. Atomic absorption Spectrometry

C. Neutron activation analysis.

D. SEM-EDXA

Correct Answer: D. SEM-EDXA

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The most specific Gunshot Residue (GSR) Test is SEM-EDXA (Scanning Electron Microscopy with Energy Dispersive X-ray Analysis). Gunshot Residue (GSR) Tests Test Description Harrison and Gilroy test (Option A) A qualitative calorimetric chemical test detects antimony, barium, and lead but is not specific to firearm discharge residues. Atomic absorption Spectrometry (AAS) & Flameless atomic absorption spectrophotometry (FAAS) (Option B) Uses high temperatures to vaporise metallic elements in primer residues for detection and quantification. Measuring antimony, barium, and lead from the primer, along with copper from the cartridge case or bullet jacketing. Neutron activation analysis (Option C) Identifies minute traces of elements in hair, nails, soil, glass, paint, gunshot residue (GSR), and drugs by detecting radioisotopes formed through irradiation in a nuclear reactor. Antimony and copper residues from the primer can be found on the suspect's hand. SEM-EDXA (Scanning electron microscopy energy dispersive X-ray analysis) (Option D) It is the most advanced tool for detecting minute traces of gunshot residue (GSR) on a suspect's body, providing qualitative rather than quantitative analysis. It is the most specific test. Dermal Nitrate Test (Paraffin Test) An obsolete and non-specific method for detecting gunshot residue (GSR) by identifying nitrates and nitrites on a suspect's hand

References:

Essentials of Forensic Medicine and Toxicology, KS Narayan Reddy, 35th Edition, Page 180, 181. Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 229.

↑ *Back to this question in Part A*

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Q12: A 38-year-old female is found deceased in an urban park with a single gunshot wound to the left side of her chest. Forensic analysis suggests the shot was fired from a distance, with no evidence of close-range effects like soot, muzzle imprint, or stippling. Which of the following is a feature of the entry wound? (Q847223)

A. Fat and soft tissue expulsion

B. Irregular, stellate-shaped wound

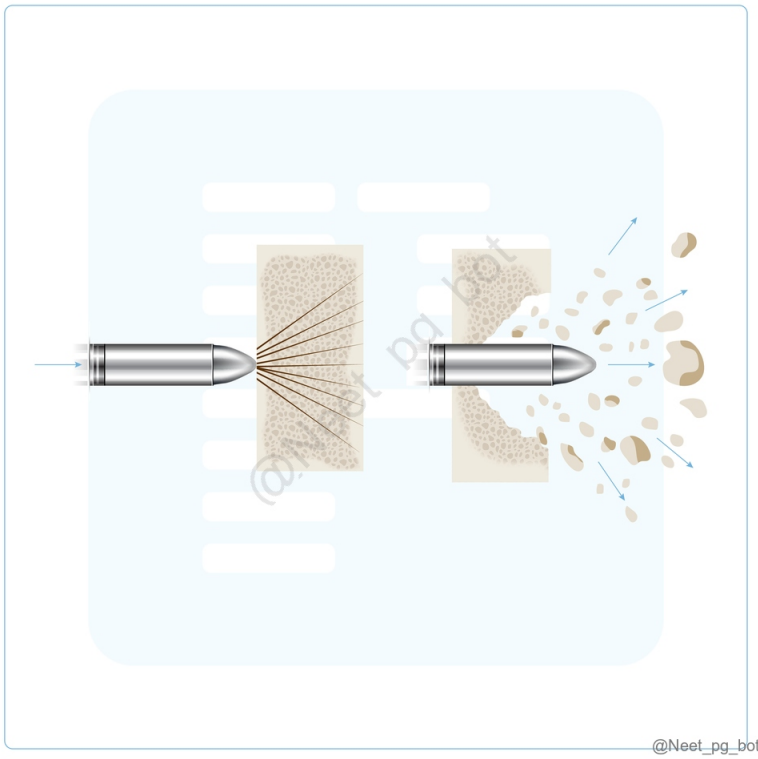
C. Presence of everted margins

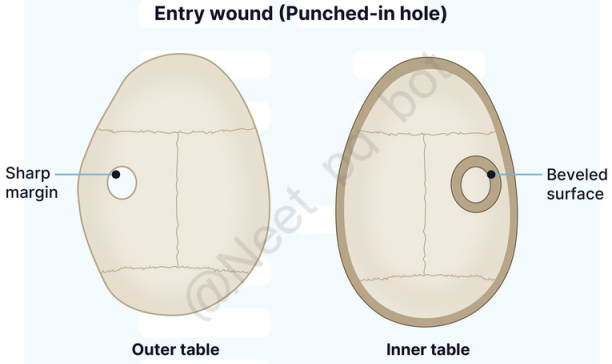
D. Presence of cherry red wound track

Correct Answer: D. Presence of cherry red wound track

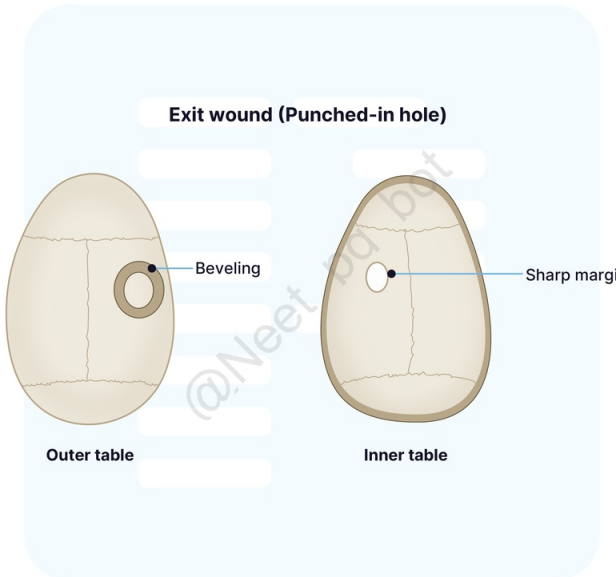
- *Listen (English)*
- *Listen (Hindi)*

Explanation: A cherry-red colour in the wound track is due to the reaction between carbon monoxide (CO) and haemoglobin in the blood at the entry wound site. Features of the Entry Wound and Exit wound Entry wound Exit wound Size and shape (compared with a bullet) Small, clean, circular wound Large (except in contact shot), Irregular, stellate-shaped wound. (Option B) Margins Inverted Everted (Option C) Abrasion & Grease collar Present Absent (except in shored exit) *Shored exit: When the skin at an exit wound is supported by firm objects, tight clothing, or a body leaning against a hard surface, the wound appears as a circular defect with an abrasion margin similar to an entry wound. The pattern of the overlying material may also be imprinted on the wound's edges. Burning, blackening & tattooing Present Absent Skull Inner table: Beveled Outer table: Clean cut Inner table: Clean cut Outer table: Beveled Cherry-red wound track Present (might be) (Option D) Absent Bleeding Less More Fat and soft tissue expulsion Absent Present (Option A) Lead ring May be present Absent Cloth fibres Turned in Turned out Spectrograph More metal found Less metal found

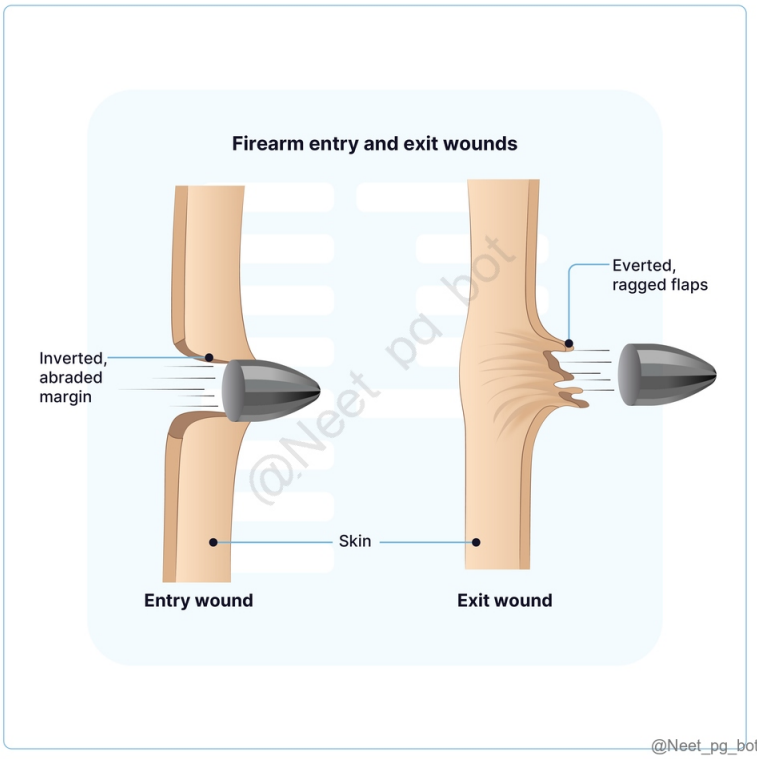




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References:

Essentials of Forensic Medicine and Toxicology, KS Narayan Reddy, 35th Edition, Page 174

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 222

↑ *Back to this question in Part A*

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Q13: A 35-year-old male was found dead in an abandoned building with no weapon at the scene. Forensic examination revealed a rifle was used. Which of the following wound characteristics is true regarding distant gunshot injury? (Q847222)

A. Presence of blackening and tattooing around the wound

B. Presence of abrasion collar around the entry wound

C. Clean, circular entry wound with everted edges

D. Presence of multiple small pellet wounds

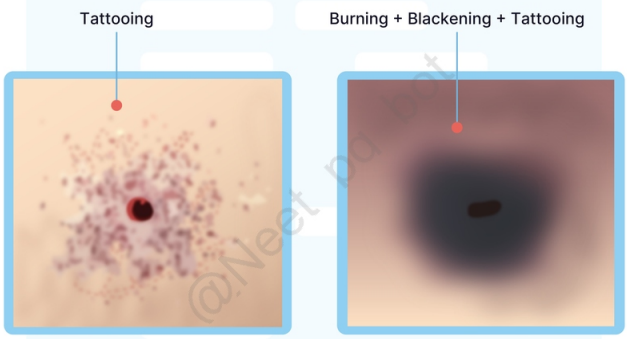
Correct Answer: B. Presence of abrasion collar around the entry wound

■ *Listen (English)*

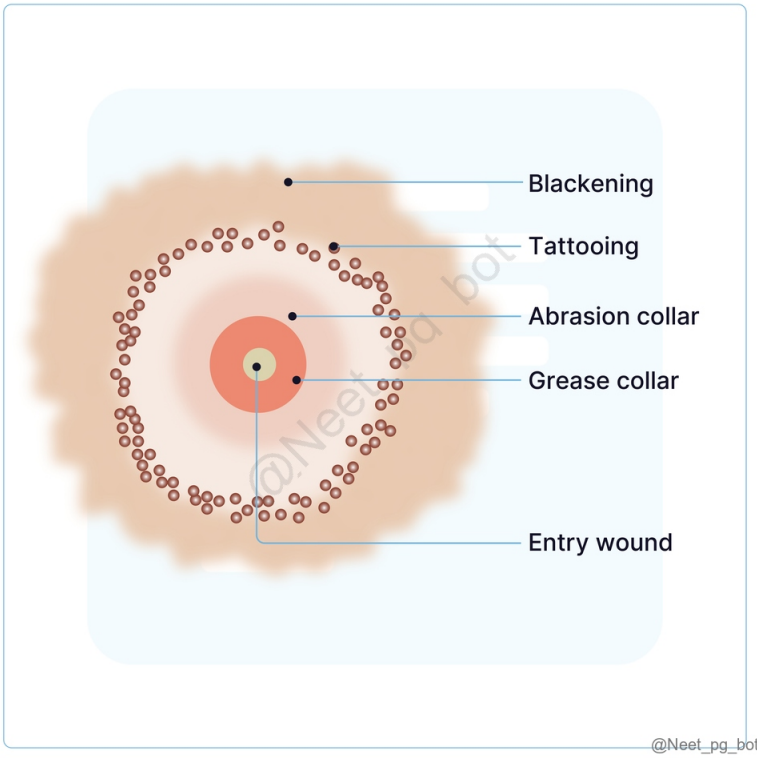
■ *Listen (Hindi)*

Explanation: The entry wound of a distant shot from a rifled firearm will be circular in shape, featuring a grease collar and an abrasion collar , but will not exhibit blackening or tattooing. Wound characteristics of a Rifled Firearm Contact shot Close shot or Flame Range (within 2–3 inches or 5–8 cm) Near shot (Medium-Range or Intermediate Range, within 24 inches or 60 cm) Distant shot (> 2 feet) Muzzle impression Present Absent Absent Absent Shape Stellate or cruciate Circular Circular Circular Grease collar and Abrasion collar Present Present Present Present Burning Present Present Absent Absent Blackening Present Present Absent Absent Tattooing Present Present Present Absent A grease collar is a dark ring around the entry wound caused by residues from the bullet, indicating skin contact. An abrasion collar is a ring of scraped skin around the entry wound, caused by the bullet's friction, revealing the angle of entry. Presence of blackening and tattooing around the wound (Option A): These are characteristics of close-range gunshot wounds, where gunpowder particles are deposited around the entry wound. In distant shots, there is typically no gunpowder residue, leading to a clean wound appearance without blackening or tattooing. Clean, circular entry wound with everted edges (Option C) : Distant gunshot wounds usually present as clean, circular entry wounds with smooth edges , not everted edges. Presence of multiple small pellet wounds (Option D) : This characteristic is indicative of shotgun injuries or wounds caused by projectiles that disperse multiple small pellets, not rifle wounds, which typically fire a single projectile.





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References:

Essentials of Forensic Medicine and Toxicology, KS Narayan Reddy, 35th Edition, Pages 164-167

Gautam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Pages 219-221

↑ *Back to this question in Part A*

@Neet_pg_bot

Q14: A forensic investigator is analysing the injuries caused by a bullet at a crime scene. Which of the following best describes the study of the interaction between a projectile and its target? (Q847209)

A. Proximal Ballistics

B. Intermediate Ballistics

C. External Ballistics

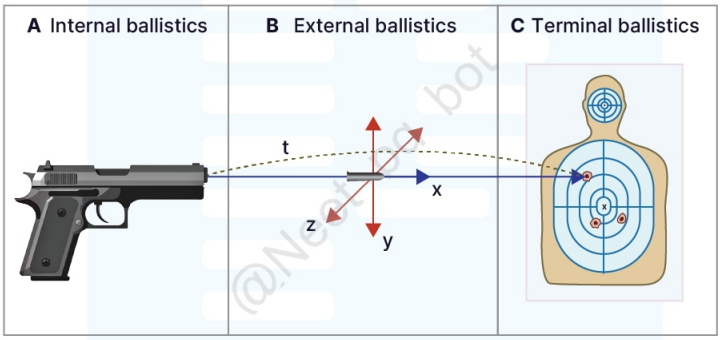
D. Terminal Ballistics

Correct Answer: D. Terminal Ballistics

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Terminal Ballistics refers to the study of how a projectile behaves when it strikes and interacts with its target, including the damage inflicted upon tissues or materials. Classification of Ballistics: Internal Ballistics (Proximal Ballistics): Study of the firearm and the projectile's behaviour from the moment the trigger is pulled until it exits the barrel. External Ballistics (Intermediate Ballistics): Analysis of a projectile's motion after it leaves the barrel and until it reaches the target. Terminal Ballistics: Study of the interaction between a projectile and its target upon impact. Wound Ballistics: Study of motion and effects of projectile in the tissue.



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References:

Gautam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Page 209 Essentials of Forensic Medicine & Toxicology, KS Narayan Reddy, 35th Edition, Page 158

↑ *Back to this question in Part A*

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Q15: A 50-year-old female is found deceased in her living room with a shotgun wound to the head. Considering the characteristics of the injury, what type of wound is this? (Q847220)

A. Close shot wound

B. Near shot wound

C. Intermediate shot wound

D. Contact shot wound



Correct Answer: D. Contact shot wound

■ *Listen (English)*

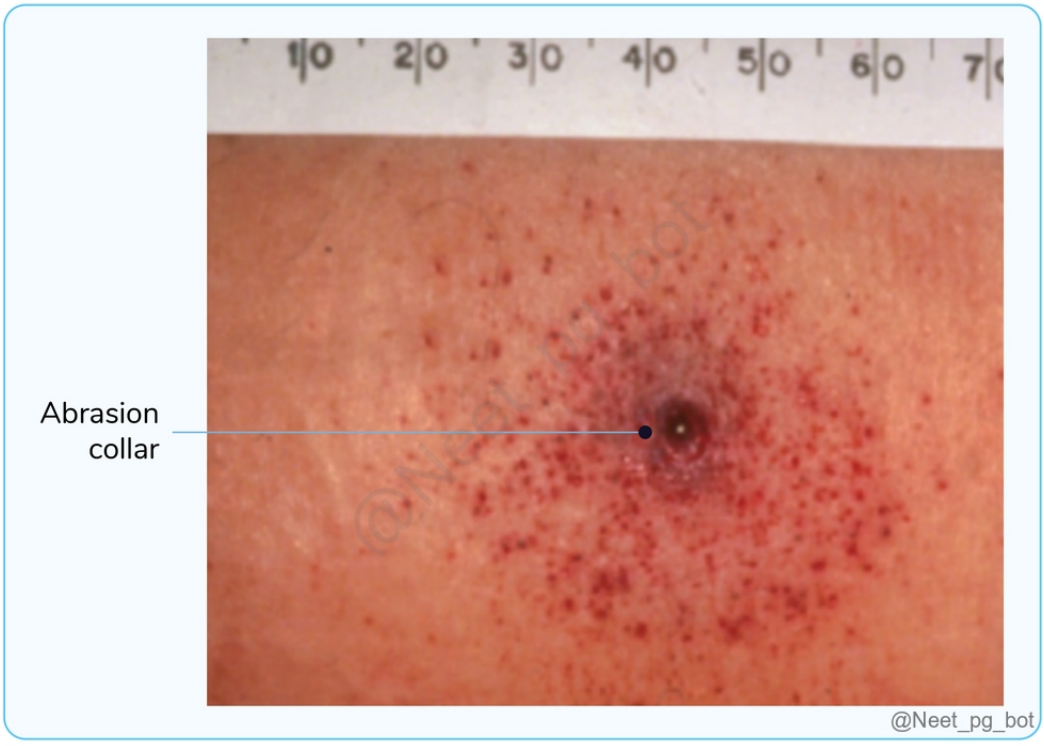
■ *Listen (Hindi)*

Explanation: A contact shot wound shows a cruciate/ stellate entry wound , especially over thick bony areas like the skull, along with a muzzle impression and burning, blackening and tattooing in the surroundings. Blowback phenomenon: It occurs in contact gunshot wounds, particularly over thick, bony areas such as the skull. It results from the high energy and expanding gases generated when a firearm is discharged at close range. As the bullet penetrates the skin, the force of the gases creates a pressure wave that causes significant tissue displacement and injury. Type of shotgun wounds Type of wound Contact Close (Option A) Short/ Intermediate-range (Option C, D) Distant Approx. distance from muzzle 0 cm (muzzle touching skin) Up to ~0.5–1 m ~1–3 m >3 m Entry wound Cruciate/Stellate (Skull) or Circular Circular Rat-hole like Multiple small pellet wounds with the mostly dispersed entry wound Border of wound Contused, Irregular and muzzled appearance Clean-cut, irregular or lacerated Abraded and scalloped borders Irregular Blackening Present around the margins and even inside the wound. Present Absent Absent Burning Absent Tattooing Present Images


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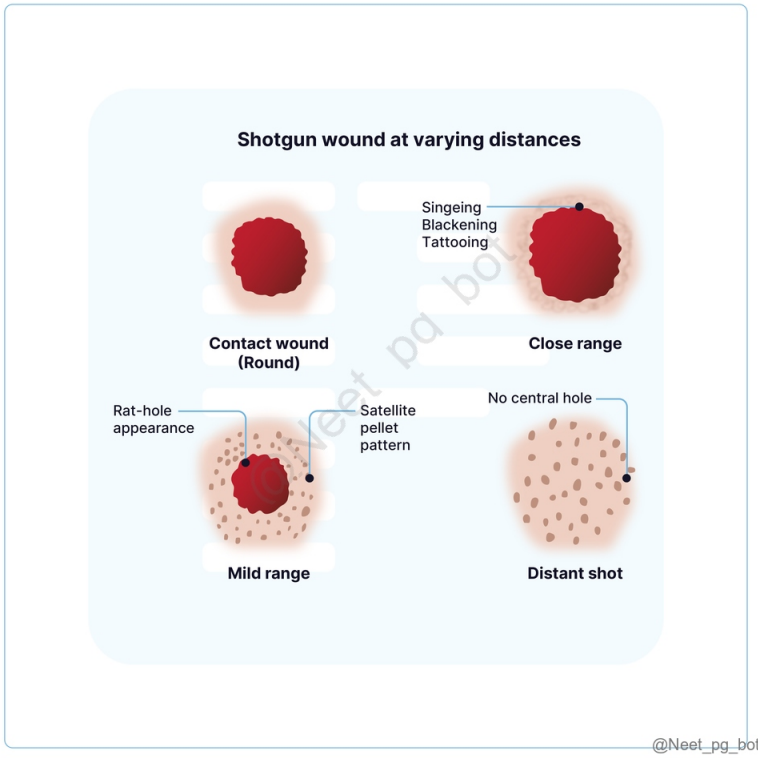

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References:

KS Narayan Reddy and OP Murthy Essentials of Forensic Medicine and Toxicology, 35th Edition, Pages 164-167

Gautam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Pages 218, 219

↑ *Back to this question in Part A*

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Q16: In a forensic investigation of a 45-year-old male found dead from a gunshot wound, the scene indicates forced entry, with the front door ajar and a bullet and shell casing collected. Which of the following are not considered primary markings on the bullet? (Q847219)

A. Diameter and width of lands and grooves

B. Number of lands and grooves

C. Degree of rifling twist

D. Surface irregularities from barrel imperfections

Correct Answer: D. Surface irregularities from barrel imperfections

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Primary markings on bullets include the number, diameter, and width of lands and grooves (striations) and the degree of rifling twist . Surface irregularities serve as secondary markings . These markings allow forensic experts to connect bullets from a crime scene to a specific firearm, aiding in criminal investigations. Primary Markings (Class characteristics) Secondary Markings (Individual or accidental characteristics) Determined by manufacturing specifications, design, and dimensions are most useful for identifying the make and model of the firearm involved. It consists of: Number, diameter and width of lands and grooves (Option A, B) Depth of grooves Direction and degree of rifling twist (Option C) Surface irregularities (Option D) on the bullet result from imperfections in the barrel and the adhesion of bullet particles to the bore during firing (Metallic Fouling) . It may be identical for bullets fired by two different weapons. These are different for bullets fired by two different weapons, reflecting each firearm's distinct barrel characteristics. It's more pronounced for jacketed bullets. It is more pronounced when the grooves deeply mark the lead bullet. The bullet found in the body, called the crime bullet , is compared under a Comparison Microscope with a test bullet fired from a suspected weapon (using the same brand and type of ammunition).

References:

Essentials of Forensic Medicine and Toxicology, KS Narayan Reddy, 35th Edition, Page 180

Gautam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Pages 226, 227

↑ *Back to this question in Part A*

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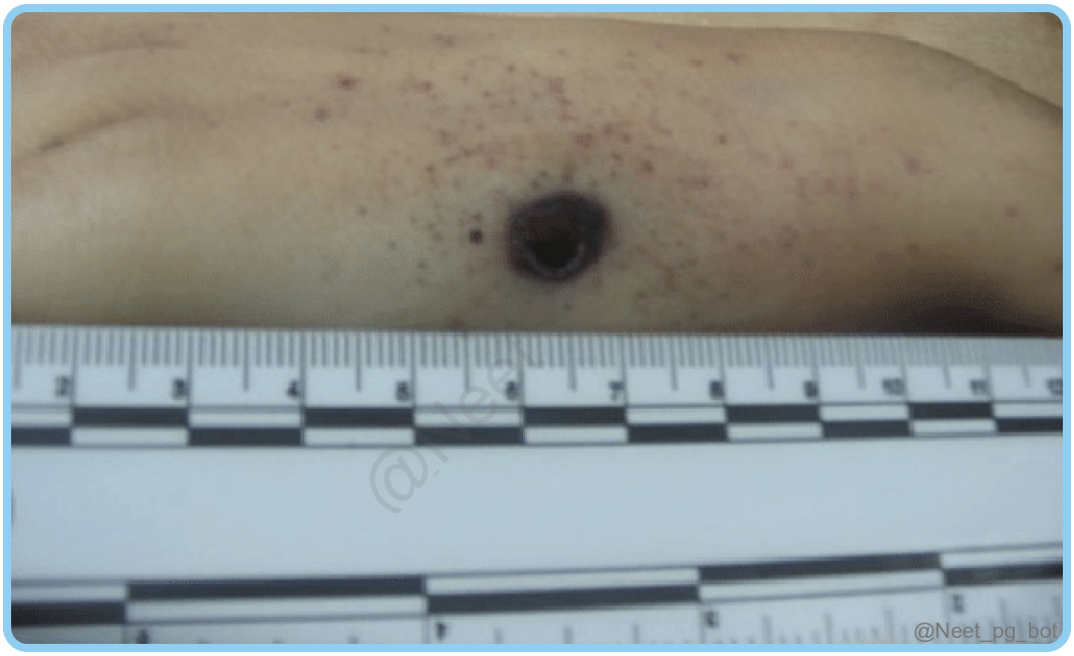
Q17: A 30-year-old male is found lying in the driveway with multiple gunshot wounds and is pronounced dead at the scene. Which component is responsible for the effects depicted in the wound image? (Q847218)

A. Soot deposition

B. Flame

C. Unburnt gunpowder

D. Weapon end



Correct Answer: C. Unburnt gunpowder

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The scenario presented involves a gunshot injury, and the highlighted structure in the image is tattooing, caused by unburnt gunpowder. Discharge of the Gun Effects Effects Components causing the effect Blackening (soot or smoke soiling or smudging) Powder soot (carbon) deposition (Option A) Tattooing or peppering or stippling Unburnt or partially burnt gunpowder granules (Option C) Burning or singeing Flame (Option B) Weapon end (Option D) creates a patterned abrasion or intradermal contusion caused by the muzzle end during close contact, with the shape depending on the type of firearm, ammunition, and the anatomical condition.



References:

KS Narayan Reddy and OP Murthy Essentials of Forensic Medicine and Toxicology, 35th Edition, Page 165

↑ *Back to this question in Part A*

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Q18: Forensic analysis of the cartridges recovered from the crime scene of a gunshot victim reveals the presence of primers. Which of the following is not used as a component of a primer? (Q847217)

A. Tetrazine

B. Antimony sulphide

C. Barium Nitrate

D. Mercury fulminate

Correct Answer: D. Mercury fulminate

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The primer in a firearm is a small explosive device located at the base of the cartridge. When the trigger is pulled, the firing pin strikes the primer, igniting it; this produces a flame that ignites the gunpowder, propelling the bullet out of the cartridge due to increased pressure. In modern usage, lead azide and mercury fulminate are replaced by other components, such as lead peroxide, antimony, sulphide, and barium . Composition of Primer (Pneumonic- BLAST) B arium nitrate (Option C) L ead peroxide A ntimony sulphide (Option B) S typhnate T etrazine (Option A)

References:

KS Narayan Reddy and OP Murthy Essentials of Forensic Medicine and Toxicology, 35th Edition, Page 163

↑ *Back to this question in Part A*

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Q19: A 28-year-old male is found deceased in his apartment with a gunshot wound, and police find a firearm at the scene, along with traces of smokeless gunpowder on the victim's hands. What is the composition of single-base smokeless gunpowder? (Q847216)

A. Nitroguanidine

B. Nitroglycerine

C. Potassium nitrate

D. Nitrocellulose

Correct Answer: D. Nitrocellulose

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Nitrocellulose or Gun cotton is the main component of single-base smokeless gunpowder. They produce less heat, smoke, and flame than traditional black gunpowder. They produce around 12000 to 13000 cc of gas. Smokeless gunpowder is of 3 types: Single base: Nitrocellulose Double base: Nitrocellulose + Nitroglycerine (Option B) Triple base: Nitrocellulose + Nitroglycerine + Nitroguanidine (Option C) They come in various G like flakes, discs, globules, squares, rectangles and cylinders. Potassium nitrate (Option C), combined with sulfur and charcoal, forms the composition of Black Gunpowder. Semi-Smokeless Gunpowder Semi-smokeless powder is a mixture of black gunpowder and smokeless powder It produces less smoke than black powder but more smoke than smokeless powder Historically used in some early cartridges , but it is largely obsolete today



References:

KS Narayan Reddy and OP Murthy Essentials of Forensic Medicine and Toxicology, 35th Edition, Page 163

↑ *Back to this question in Part A*

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Q20: A 30-year-old man presents to the emergency with severe burns and injuries after an accidental explosion while handling fireworks. Which of the following statements are true regarding the type of gunpowder commonly used in fireworks? Produces less smoke compared to newer gun powders Produces more heat and flame while burning 1gm of this powder produces 3000cc of gas It contains only Sulphur and Charcoal It is used in the composition of Semi smokeless gunpowder (Q847215)

A. 1, 2, 4

B. 1, 4, 5

C. 2, 4, 5

D. 2, 3, 5

Correct Answer: D. 2, 3, 5

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Most fireworks are made of black gunpowder , which mainly consists of Potassium nitrate (oxygen supplier or oxidizer) (75%) , Charcoal (fuel) (15%) , and Sulphur (increases density) (10%) . This powder produces more heat, flame, and smoke while burning, and 1 gm of it produces up to 3000 cc of gas. Gunpowder is graded by the letter F, like F, FF, and FFF, where the number of Fs is directly proportional to the powder's fineness and burning speed . These days, this is mainly replaced by smokeless powder and is only used in a few areas, such as fireworks, mining, and military use. Black powder Smokeless powder Semi smokeless Composition Potassium nitrate Charcoal Sulphur Consists of Nitrocellulose, Nitroglycerine, and Nitroguanidine 80% Black powder + 20% Smokeless powder Gas produced per gram of powder 3000-4500 cc 12000-13000 cc Smoke produced +++ + Power + +++ Flame Temperature Higher Lower (due to Nitroguanidine) Burning of powder Incomplete Complete Wound produced More blackening and tattooing Less blackening and tattooing



References:

KS Narayan Reddy and OP Murthy Essentials of Forensic Medicine and Toxicology, 35th Edition, Page 163
Gautam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Page 221-222

↑ *Back to this question in Part A*

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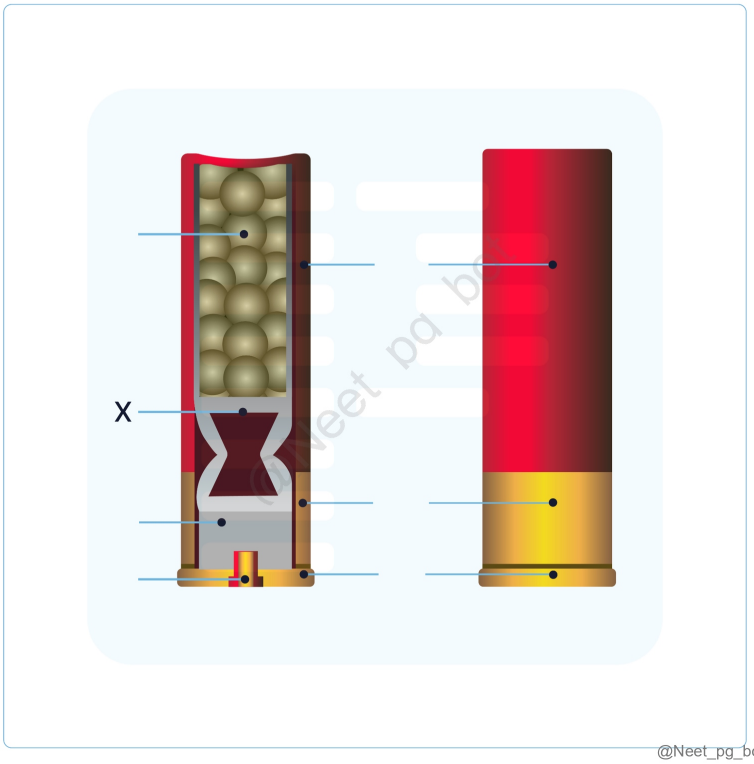
Q21: Which of the following is not an advantage of the structure labeled “X” in the image? (Q847214)

A. Effective sealing of bore

B. Lubrication

C. Allows gas to escape from the breech end

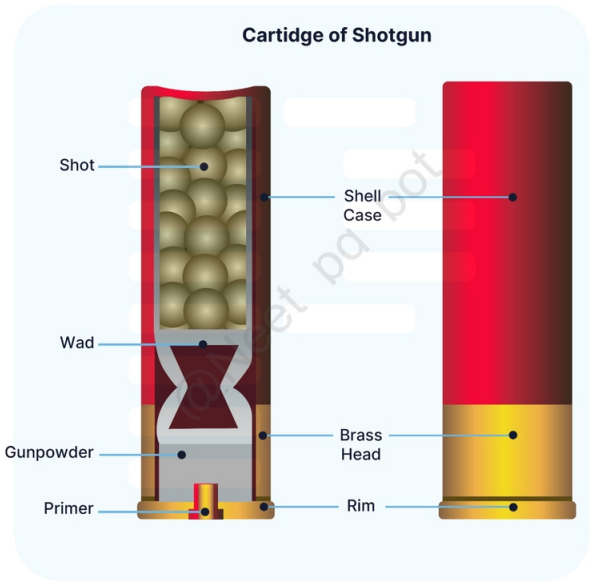
D. Facilitates optimal pressure



Correct Answer: C. Allows gas to escape from the breech end

- *Listen (English)*
- *Listen (Hindi)*

Explanation: The labeled structure in the image is the Wad , a part of the shotgun that prevents gas from escaping at the breech end. Positioned between the powder and the shot or placed on top of the shot, while the cardboard disc behind the shot charge stops the pellets from becoming trapped in the felt wad. Advantages of Wad Develops optimum pressure Seals the bore effectively Aids in lubrication Prevents gas from escaping at the breech end Separates propellant from the projectiles



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References:

Gautam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Page 214

↑ *Back to this question in Part A*

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Q22: During a forensic examination of a shooting incident, a medical examiner discovers both shotgun pellets and rifle bullets at the crime scene. The examiner notes the differences in their design and function. Which statement about these ammunition types is not correct? (Q847213)

A. Shotgun cartridges contain multiple projectiles that spread upon firing.

B. Wads are used in all types of cartridges

C. Rifle bullets are generally elongated with a pointed tip

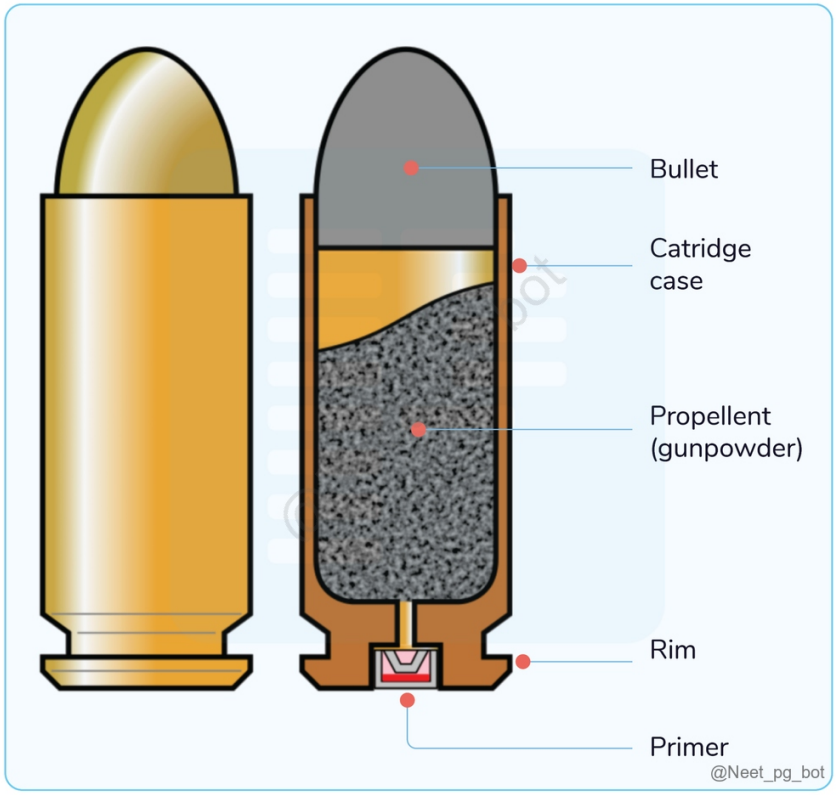
D. Rifle bullets and shotgun pellets are made of lead

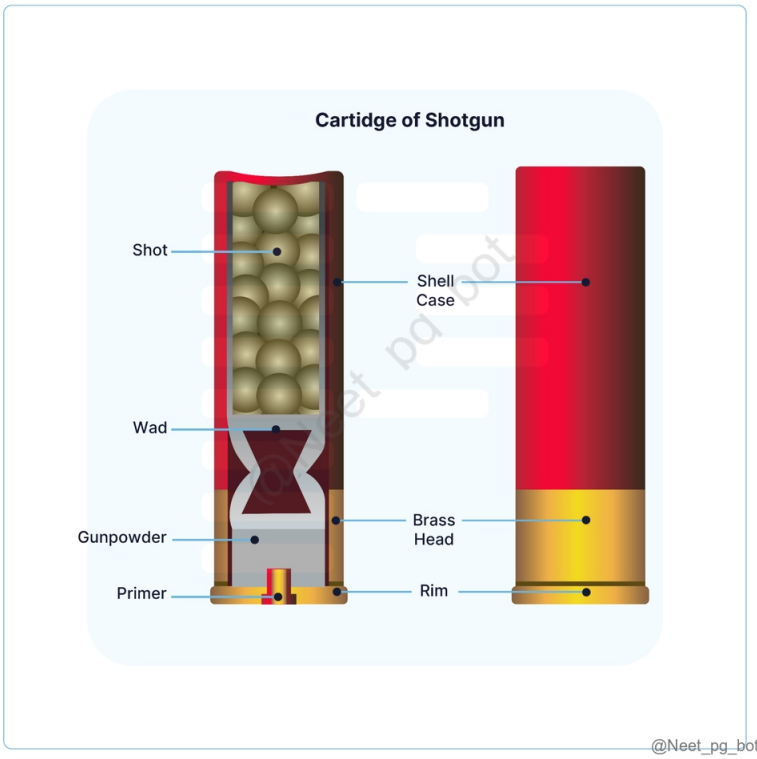
Correct Answer: B. Wads are used in all types of cartridges

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Wads are specifically used only in smooth-bore shotgun cartridges , not rifle cartridges. Cartridge: A cartridge is a complete unit of ammunition consisting of the following components: Cartridge case : Contains the percussion cap with primer. Propellant charge : Typically gunpowder. Projectile : This can be bullets or pellets. Cartridge of Rifle Cartridge of Shotgun Contains a primer on the base and a cartridge case filled with gunpowder. Features a single projectile (bullet). Does not include a wad (Option B) Contains lead shots (Option D) / Pellets (Multiple Projectiles) (Option A) Wads : Used only in smoothbore weapons (Shotguns). Advantages of Wads: Facilitates optimal pressure. Prevents gas escape from the bore. Aids in lubrication. Stops gas from escaping at the breech end. Maintains separation between the propellant and projectiles. Bullet: A projectile that exits the muzzle of a rifled firearm upon discharge. Material : Typically made from soft metal, primarily lead (Option D) , often with added antimony and/or tin for increased hardness. Shape: Round nose soft bullet : Commonly used in revolvers and pistols. Rifle bullets : Generally elongated with a pointed tip. (Option C) Types: Lead bullets : Made entirely of lead, offering expansion upon impact. Metal-Jacketed Bullets : A lead core encased in a metal jacket (usually copper) enhances accuracy and reduces barrel fouling. They also prevent deformation from dirt and impacts and reduce fragmentation to protect the firearm from damage.





References:

Gautam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Pages 212, 213, 214

↑ *Back to this question in Part A*

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Q23: During a forensic investigation, experts discussed the benefits of rifled firearms and how rifling impacts evidence collection. All the following are advantages of rifling except? (Q847212)

A. Increases accuracy by stabilizing the bullet

B. Improves range by imparting spin to the projectile

C. Limits spread of pellets

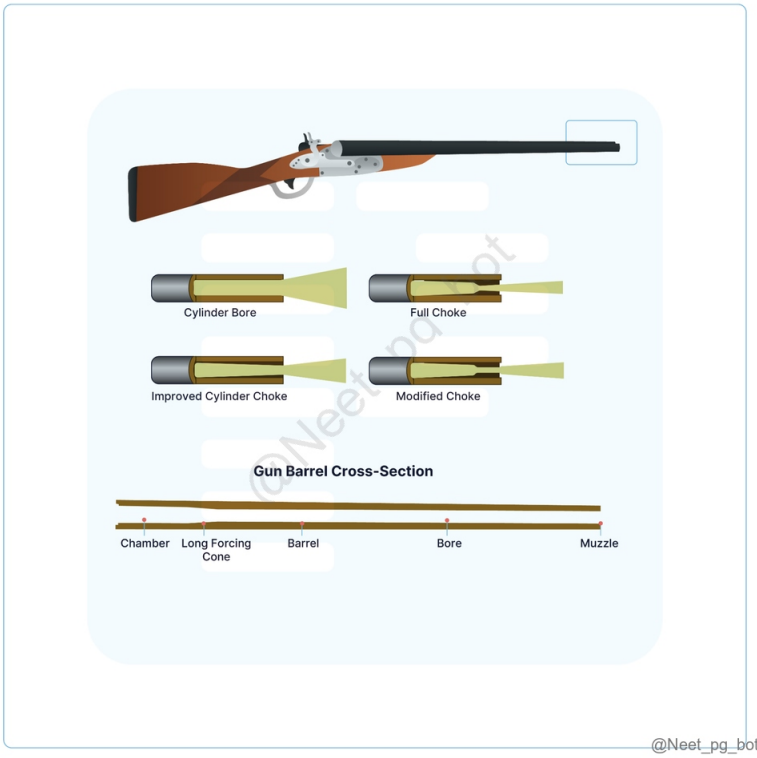
D. Reduces wobbling of the bullet in flight

Correct Answer: C. Limits spread of pellets

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Limiting the spread of pellets is a characteristic more associated with smooth-bore shotguns (not rifled firearms), achieved through a process known as Choking. Choking Rifling (Rifled Firearms) Definition: Choking refers to the constriction at the muzzle end of a shotgun barrel. Types: Cylinder Bore: The barrel has a uniform diameter throughout. Choke Bore: The muzzle is slightly constricted. Degrees of Choke : Full, modified, improved cylinder, and cylinder. Advantages of Choking: Reduces shot spread. Increases explosive force. Enhances velocity and range. Dispersion: A fully choked barrel produces shot dispersion that is half that of a cylinder bore. As the bullet travels through the bore, it engages with the rifling, imparting a spin that enhances accuracy and stability. Each weapon leaves a unique marking on the bullet, aiding forensic identification. Advantages of Rifling: Gyroscopic Stability Increased Accuracy (Option A) : Increased Range (stability and spin) (Option B) Reduced Wobbling (Option D) (tumbling end-over-end during flight) Greater Penetration Power



References:

Gautam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Page 210, 211

↑ *Back to this question in Part A*

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Q24: During a forensic analysis of a crime scene, investigators examined firearms and noted the distinctions between rifled and smooth-bore firearms. Which of the following is true regarding rifled and smooth-bore firearms (Q847211)

A. Rifled firearms usually have multiple projectiles

B. Smooth-bore firearms include handguns and revolvers

C. Shotguns typically have a smooth barrel

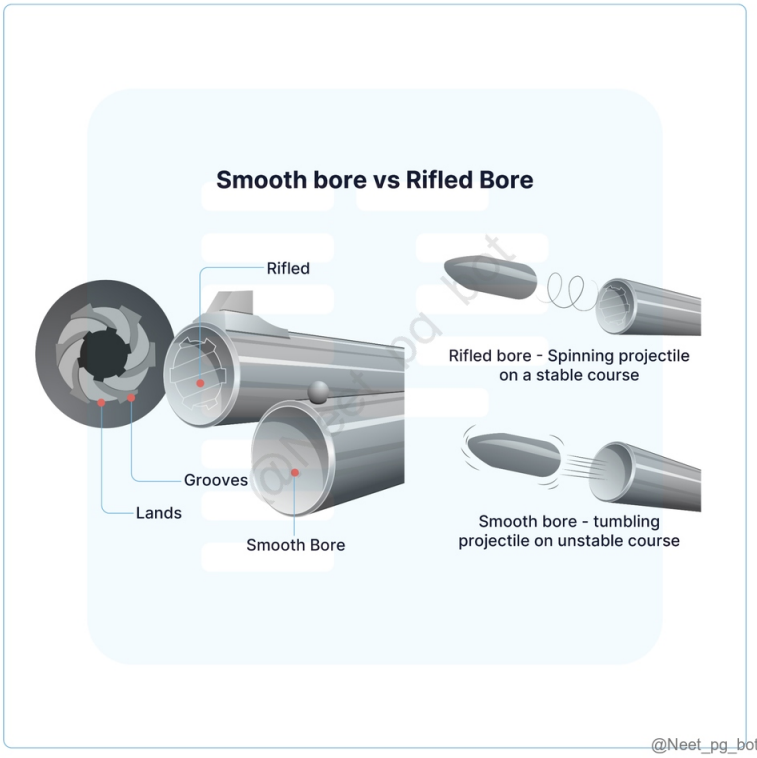
D. Smooth-bore firearms typically don’t have chokes

Correct Answer: C. Shotguns typically have a smooth barrel

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Shotguns belong to the smooth-bore firearms, which usually have uniformly smooth barrels. Difference between Rifled & Smooth Bore Firearms Feature Rifled Firearms Smooth Bore Firearms Barrel Interior Contains spiral grooves (Rifling) Uniformly smooth barrel without grooves Measurement Caliber: Diameter between opposite lands, measured before rifling grooves are cut. Bore: Defined by the number of lead balls of a specific size (diameter) that can be made from one pound of lead (454 grams). Bullet Type Typically fires a single projectile (bullet) (Option A) Fires multiple pellets (shot) or a single slug Accuracy Higher due to rifling Lower accuracy, designed for spread over a wide area. Functionality Imparts spin to the bullet for greater stability and precision Fires multiple projectiles simultaneously for short-range effectiveness Choke Usually not applicable May have chokes to control the spread of the shot (Option D) Examples Rifles, Pistols, Revolvers (Option B) Shotguns



References:

Gautam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Page 210,211

↑ *Back to this question in Part A*

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Q25: At a forensic lab, a team was examining evidence from a recent shooting. One forensic analyst pointed out that identifying the caliber of the gun can help in linking it to a specific weapon. What does the term "caliber" refer to in forensic ballistics? (Q847210)

A. Distance between two opposite lands

B. Distance between two opposite grooves

C. Muzzle design influencing the dispersion of shot

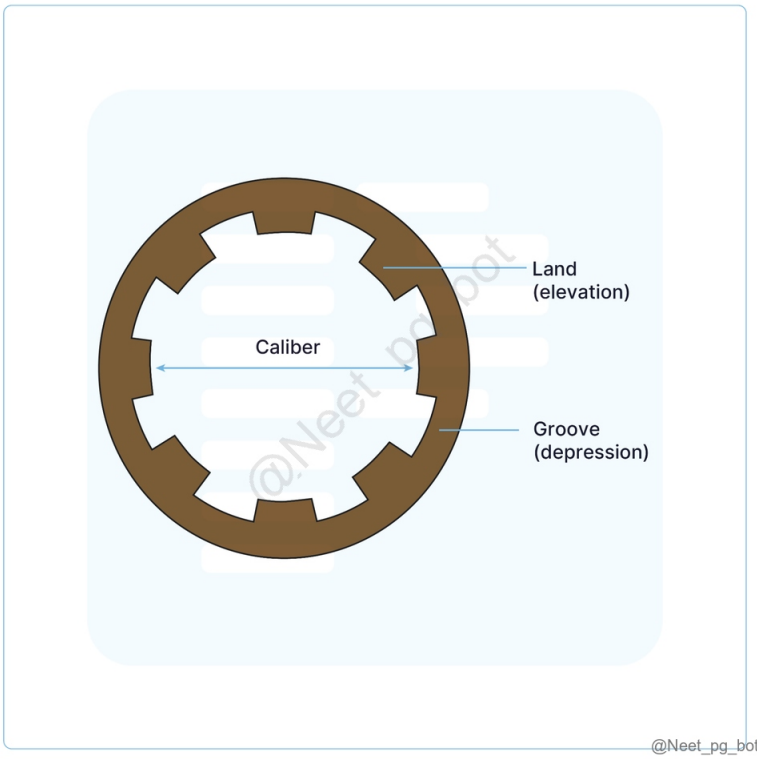
D. Measurement of the diameter of the shotgun barrel

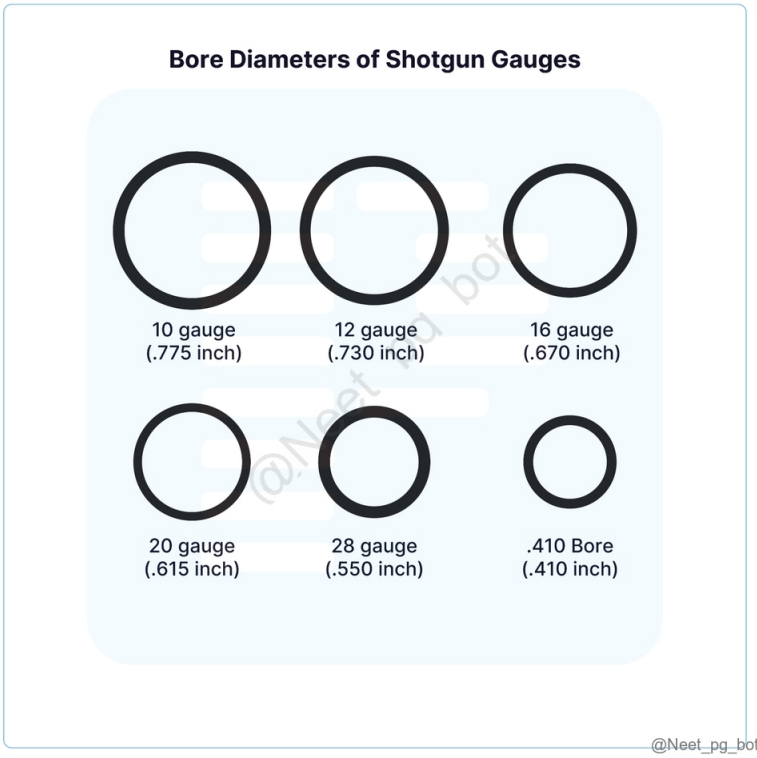
Correct Answer: A. Distance between two opposite lands

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: In forensic ballistics, "caliber" refers to the diameter of a rifled firearm's barrel, specifically measured between opposing lands. This measurement, typically expressed in inches or millimetres, is crucial for linking a bullet to a specific firearm. Rifled Firearms: Rifled firearms have a bore characterised by a series of grooves that spiral along the barrel's length. These grooves (Option B) , known as "rifling," alternate with raised areas called "lands." The caliber is determined by measuring the distance between these lands. The direction of rifling can be either right (clockwise) or left (counter-clockwise), with most handguns featuring a right-hand twist. As the bullet travels through the barrel, it engages with the lands and grooves, imparting a spin that stabilises its flight and leaves distinctive markings on the bullet, which serve as identifiers for the firearm. Muzzle constriction controlling shot spread (Option C) : This refers to the Choke , which narrows the barrel's end to control the dispersion of shot pellets as they exit, influencing the effectiveness of the shotgun at different ranges. Measurement of shotgun bore diameter (Option D) : This describes the Gauge , indicating the size of the shotgun bore, which is determined by the number of lead balls c orresponding to the diameter of shotgun bo re that can be made from one pound of lead.





References:

Gautam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Page 210

↑ *Back to this question in Part A*

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• [05_Ballistics] 013 Previous Year Questions

« Back to Folder Directory

[05_Ballistics] 013 Previous Year Questions — Quick Jump

Q1 (p. 811) *Q2 (p. 811)* *Q3 (p. 812)* *Q4 (p. 813)* *Q5 (p. 814)* *Q6 (p. 818)*

Q1: Marshall's triad (punctate lacerations, bruises, and abrasions) is seen in which type of blast injury? (Q853108)

A. Primary blast injury

B. Secondary blast injury

C. Tertiary blast injury

D. Quaternary blast injury

Correct Answer: B. Secondary blast injury

Explanation: Secondary blast injuries are Caused by flying debris and shrapnel propelled by the blast. This results in Marshall's triad: punctate lacerations, bruises, and abrasions , characteristic of injuries from high-velocity fragments. Blast Injury: Blast injuries are complex physical traumas resulting from direct or indirect exposure to an explosion, leading to sudden changes in atmospheric pressure. Classification of Blast Injuries: Type Mechanism Features Primary Injury (Option A ruled out) It results from blast waves and is often internal with no external signs. Ears: Tympanic membrane rupture or inner ear disruption. Lungs: Alveolar-capillary membrane haemorrhage (blast lung), most common cause cause of death in survivors. GIT: Injuries to gas-filled organs are more common in underwater blasts. Secondary Injury It is resulting from shrapnel, debris & flying objects (propelled by explosion). Penetrating trauma. The characteristic Marshall triad, which includes bruises, abrasions, and punctate lacerations, is evident. Commonly cause severe thoracic injuries, including lacerations of the heart and great vessels. Tertiary Injury (Option C ruled out) Victims are thrown against solid objects by blast winds. Blunt/Penetrating trauma. Includes bone fractures and coup-contrecoup injuries. Quaternary Injury (Option D ruled out) Encompass all other injuries not classified above Flash burns from extreme heat. Crush injuries and falls due to explosions. Respiratory injuries from toxic dust, gases, or radiation exposure. Psychiatric issues, such as post-traumatic stress disorder (PTSD), may affect individuals even if they are physically unharmed.

References:

Gautam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Page 290,291

↑ *Back to this question in Part A*

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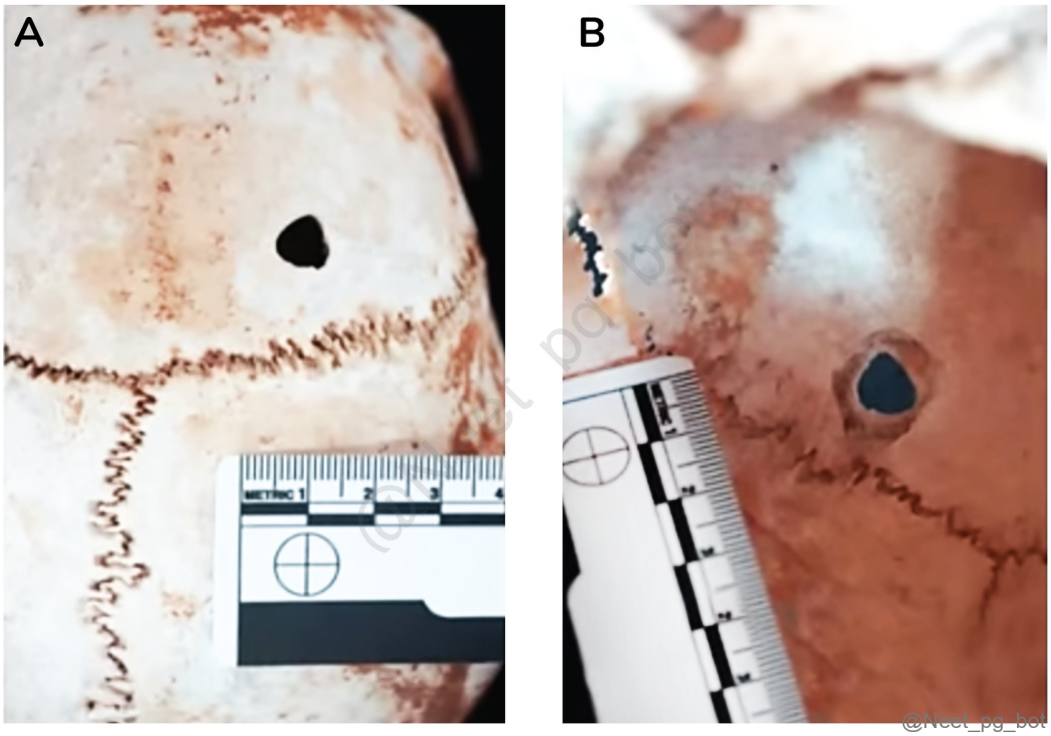
Q2: Identify the source of the trauma given in the image below. (Q840080)

A. Bullet

B. Rod

C. Axe

D. Scissor



Correct Answer: A. Bullet

Explanation: Correct Option A- Bullet: The above image is of Bullet wound showing the bevelling of the skull. Entry wound- Clean wound Exit wound- Cone-shaped erosion Bevelling is always seen at the exit point of the table In the entry wound, beveling is towards the inner table. In the exit wound, bevelling is towards the outer table Incorrect Options: Option B - Rod: Rod causes blunt fracture. Option C - Axe: Axe causes a chop wound. Option D - Scissor: Scissors causes a incised wounds

↑ *Back to this question in Part A*

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Q3: What causes the blackening around a gunshot entry wound? (Q854642)

A. Smoke particles

B. Unburned gunpowder

C. Muzzle of firearm

D. Fire effect

Correct Answer: A. Smoke particles

Explanation: The blackening is caused by soot or smoke particles from the combustion of gunpowder, which adhere to the skin around the entry wound. This phenomenon is typically observed in close-range gunshot wounds. Incorrect Options: Unburned gunpowder (Option B): Tattooing or stippling results from the impact of partially burned or unburned gunpowder particles on the skin. These cause small reddish-brown or black marks but do not lead to blackening. Muzzle of firearm (Option C): The muzzle may leave an imprint if the firearm is discharged at close or contact range, but this does not cause the blackening around the wound. Fire effect (Option D): The flame from the firearm may produce thermal burns near the wound, but this is distinct from the blackening caused by smoke particles.

References:

KS Narayan Reddy and OP Murthy Essentials of Forensic Medicine and Toxicology, 35th edition, Page 164, 165, 166, 167.

Gautam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Page 218, 219.

↑ *Back to this question in Part A*

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Q4: Bullet fingerprinting involve: (Q856677)

A. Primary markings

B. Secondary markings

C. Both

D. None

Correct Answer: C. Both

Explanation: Primary markings on bullets include the number, diameter, and width of lands and grooves (striations) and the degree of rifling twist . Surface irregularities serve as secondary markings. These markings allow forensic experts to connect bullets from a crime scene to a specific firearm, aiding in criminal investigations. Primary Markings (Class characteristics) Secondary Markings (Individual or accidental characteristics) Determined by manufacturing specifications, design, and dimensions are most useful for identifying the make and model of the firearm involved. It consists of: Number, diameter and width of lands and grooves Depth of grooves

Direction and degree of rifling twist Surface irregularities on the bullet result from imperfections in the barrel and the adhesion of bullet particles to the bore during firing (Metallic Fouling) . It may be identical for bullets fired by two different weapons. These are different for bullets fired by two different weapons, reflecting each firearm's distinct barrel characteristics. It's more pronounced for jacketed bullets. It is more pronounced when the grooves deeply mark the lead bullet. The bullet found in the body, called the crime bullet , is compared under a Comparison Microscope with a test bullet fired from a suspected weapon (using the same brand and type of ammunition).

References:

Essentials of Forensic Medicine and Toxicology, KS Narayan Reddy, 35th Edition, Page 180.

Gautam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Page 226, 227.

↑ *Back to this question in Part A*

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Q5: Identify the injury depicted in the image provided. (Q856353)

A. Shot gun wound

B. Tattooing

C. Arsenic poisoning

D. Graze wound



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Correct Answer: A. Shot gun wound

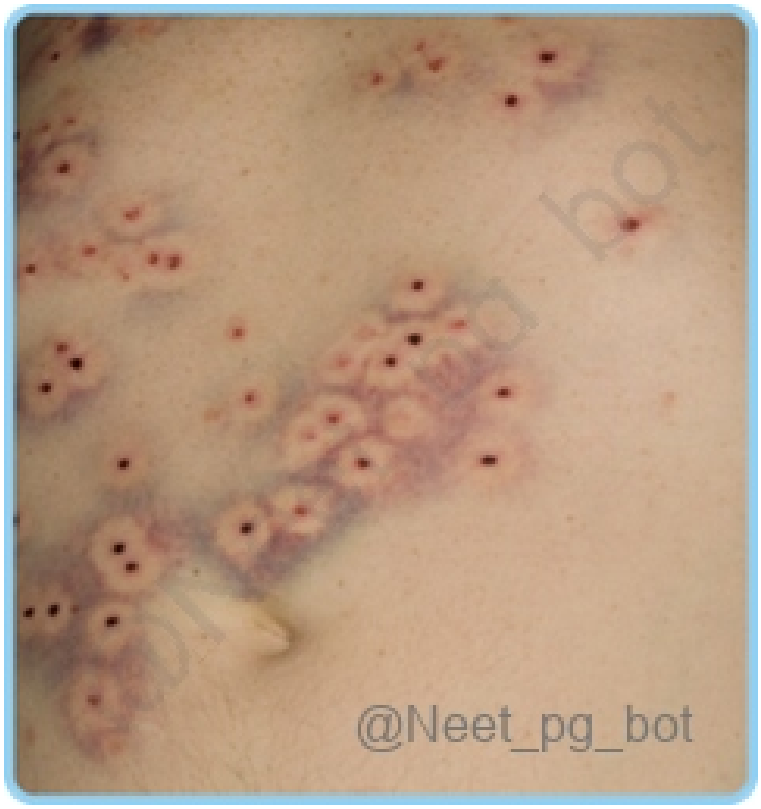
Explanation: The image shown depicts a typical pattern of injury caused by a shotgun . The appearance of multiple pellet or shot holes, irregular wound edges, and tissue destruction is characteristic of a shotgun wound. Type of shotgun wounds Type of wound Contact Close Short/ Intermediate-range Distant Entry wound Cruciate/Stellate (Skull) or Circular Circular Rat-hole like Multiple small pellet wounds with the mostly dispersed entry wound Border of wound Contused, Irregular and muzzled appearance Clean-cut, irregular or lacerated Abraded and scalloped borders Irregular Blackening Present around the margins and even inside the wound. Present Absent Absent Burning Absent Tattooing Present Images {{caption_text}} {{caption_text}} {{caption_text}} Incorrect Options: Tattooing (Option B): Tattooing refers to pinpoint marks caused by unburned gunpowder particles embedding in the skin around the entry wound, typically seen in close-range firearm injuries. While tattooing can be a feature of shotgun wounds, it is not the primary injury type depicted. Arsenic poisoning (Option C): Arsenic poisoning presents with systemic signs like Mee's lines (white lines on nails), gastrointestinal distress, and multi-organ failure. No external wound patterns are associated. Graze wound (Option D): A graze wound occurs when a projectile or object scrapes the skin surface, leaving an elongated abrasion.

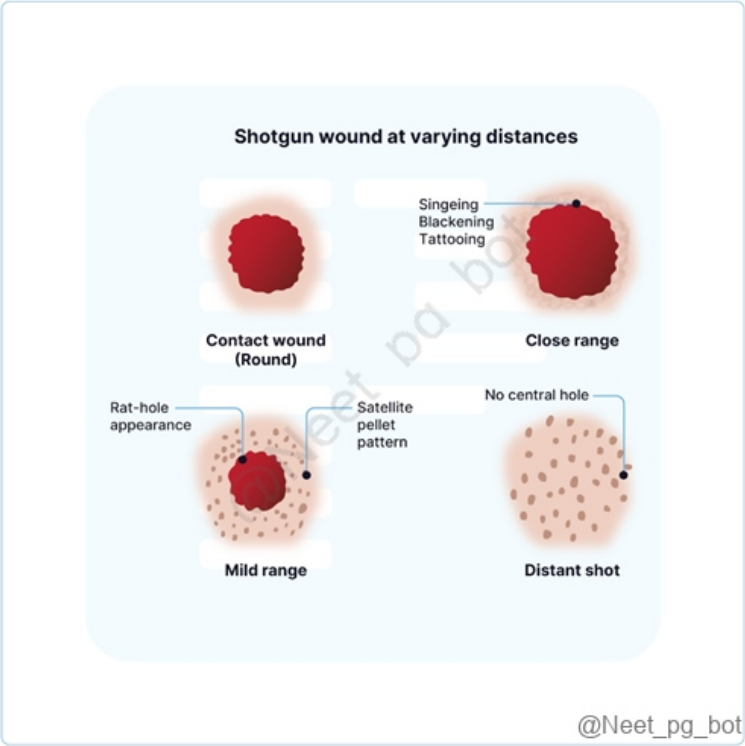


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Abrasion collar
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References:

KS Narayan Reddy and OP Murthy Essentials of Forensic Medicine and Toxicology, 35th edition, Page 164, 165, 166, 167.

Gautam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Page 218, 219.

↑ *Back to this question in Part A*

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Q6: Identify the gun and the corresponding range of the shot that caused the wound (Q855822)

A. Shot gun, intermediate range

B. Shot gun, close range

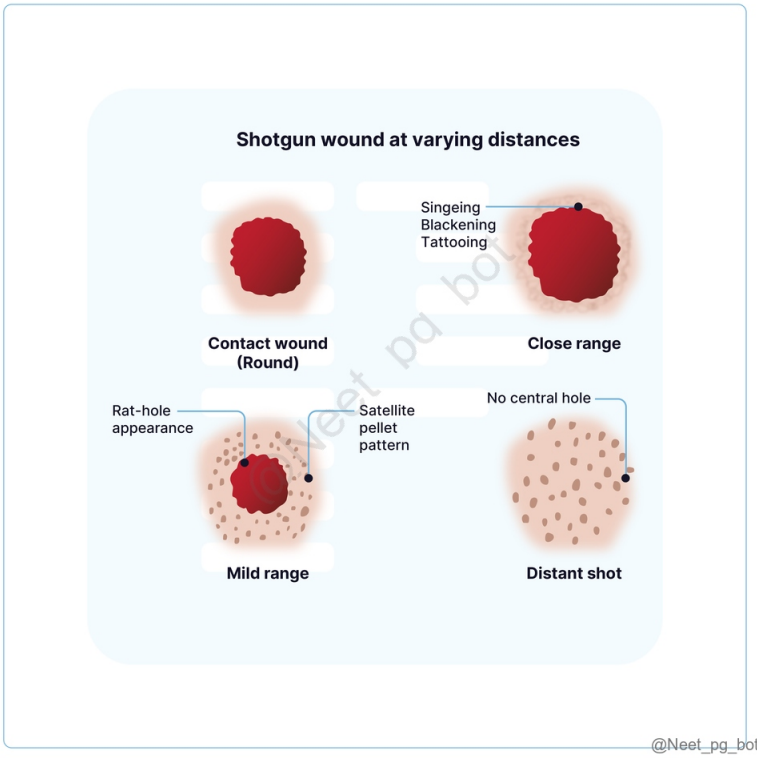
C. Pistol, near shot

D. Pistol, close shot



Correct Answer: C. Pistol, near shot

Explanation: The characteristics of gunshot wounds vary with the type of firearm and the range at which it is fired. For a pistol fired at a near range , the wound demonstrates specific features: The muzzle is very close to the skin but not in direct contact. Soot deposition (due to gunpowder combustion) and tattooing (due to unburnt or partially burnt gunpowder particles embedding in the skin) are present around the entry wound. The wound edges may appear abraded due to the energy of the projectile. Shotgun, intermediate range (Option A): Shows a central wound with pellet dispersion and reduced soot/tattooing, which is not consistent with the described wound. Shotgun, close range (Option B): Typically produces extensive central tissue destruction, scorching, and concentrated pellet effects, inconsistent with a pistol wound. Pistol, close shot (Option D): A "close shot" (slightly farther than a near shot) would lack soot deposition and show only mild tattooing with a clean entry wound. Gunshot wound characteristics based on Range of shooting: Shooting Range Range Wound Description Contact shot Muzzle in direct contact Circular entry wound with muzzle imprint, severe tissue damage, blackening, and burning of the wound edges. Cherry-red tissue due to carbon monoxide absorption. Close-shot < 1 meter Circular or elliptical entry wound with blackening, burning, tattooing,, and cherry-red tissue discolouration due to carbon monoxide absorption. Short-range 1-2 meters Circular 4-5 cm wound (Rat hole) with irregular borders, no blackening, burning, or tattooing. Intermediate shot 2-4 meters Large, irregular wound surrounded by multiple satellite wounds. Distant shot > 4 meters The entry wound fades, leaving multiple small pellet wounds.



References:

KS Narayan Reddy and OP Murthy Essentials of Forensic Medicine and Toxicology, 35th edition, Page 164, 165, 166, 167.

Gautam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Page 218, 219.

↑ *Back to this question in Part A*

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• [06_Asphyxial Deaths] 014 Asphyxial Death

« Back to Folder Directory

[06_Asphyxial Deaths] 014 Asphyxial Death — Quick Jump

Q1 (p. 821)	*Q2 (p. 822)*	*Q3 (p. 825)*	*Q4 (p. 826)*	*Q5 (p. 827)*	*Q6 (p. 831)*
Q7 (p. 832)	*Q8 (p. 835)*	*Q9 (p. 838)*	*Q10 (p. 840)*	*Q11 (p. 841)*	*Q12 (p. 842)*
Q13 (p. 843)	*Q14 (p. 844)*	*Q15 (p. 845)*	*Q16 (p. 846)*	*Q17 (p. 846)*	*Q18 (p. 847)*
Q19 (p. 849)	*Q20 (p. 850)*	*Q21 (p. 851)*	*Q22 (p. 852)*	*Q23 (p. 852)*	*Q24 (p. 853)*
Q25 (p. 854)	*Q26 (p. 855)*	*Q27 (p. 856)*	*Q28 (p. 857)*	*Q29 (p. 858)*	*Q30 (p. 859)*
Q31 (p. 860)	*Q32 (p. 862)*	*Q33 (p. 863)*	*Q34 (p. 864)*	*Q35 (p. 866)*	*Q36 (p. 867)*
Q37 (p. 869)	*Q38 (p. 872)*	*Q39 (p. 874)*	*Q40 (p. 875)*	*Q41 (p. 877)*	*Q42 (p. 877)*
Q43 (p. 879)	*Q44 (p. 879)*	*Q45 (p. 880)*	*Q46 (p. 881)*	*Q47 (p. 882)*	*Q48 (p. 883)*
Q49 (p. 885)	*Q50 (p. 886)*	*Q51 (p. 886)*			

Q1: A convicted criminal is executed by judicial hanging using a long-drop technique. In order to produce rapid death, the knot of the ligature is most appropriately placed at which of the following positions? (Q884243)

A. Between the chin and ear

B. Above the chin

C. Below the ear

D. Occiput

Correct Answer: C. Below the ear

Explanation: In judicial hanging , the knot is commonly placed below the ear so that, during the long drop, sudden lateral rotation and hyperextension of the neck occur. This facilitates fracture–dislocation of the cervical vertebrae and spinal cord injury , resulting in rapid death . Aspect Judicial Hanging Intent Capital punishment; intended to cause death. Execution Highly controlled; specific knot placement and calculated drop height. Injuries Designed to cause rapid death through forceful cervical spine fracture (hangman‘s fracture-spondylolisthesis of C2 over C3). Ligature Mark Typically distinct, located below the chin or ear. Cervical Spine Fracture A hallmark feature. Scene Findings Takes place in a controlled environment; no signs of sexual activity. Between the chin and ear (Option A): This represents a lateral knot commonly seen in suicidal hanging and is not preferred in judicial execution. Above the chin (Option B): A submental knot mainly causes airway compression and asphyxia , leading to slower death and is therefore unsuitable for judicial hanging. Occiput (Option D): Although posterior knot placement may be seen in some hangings, judicial hanging classically uses a knot placed below the ear to ensure effective cervical spine injury during the drop.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Pages 167, 184, 185

↑ *Back to this question in Part A*

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Q2: Identify the given method of strangulation. (Q884231)

A. Throttling

B. Mugging

C. Bansdola

D. Garroting



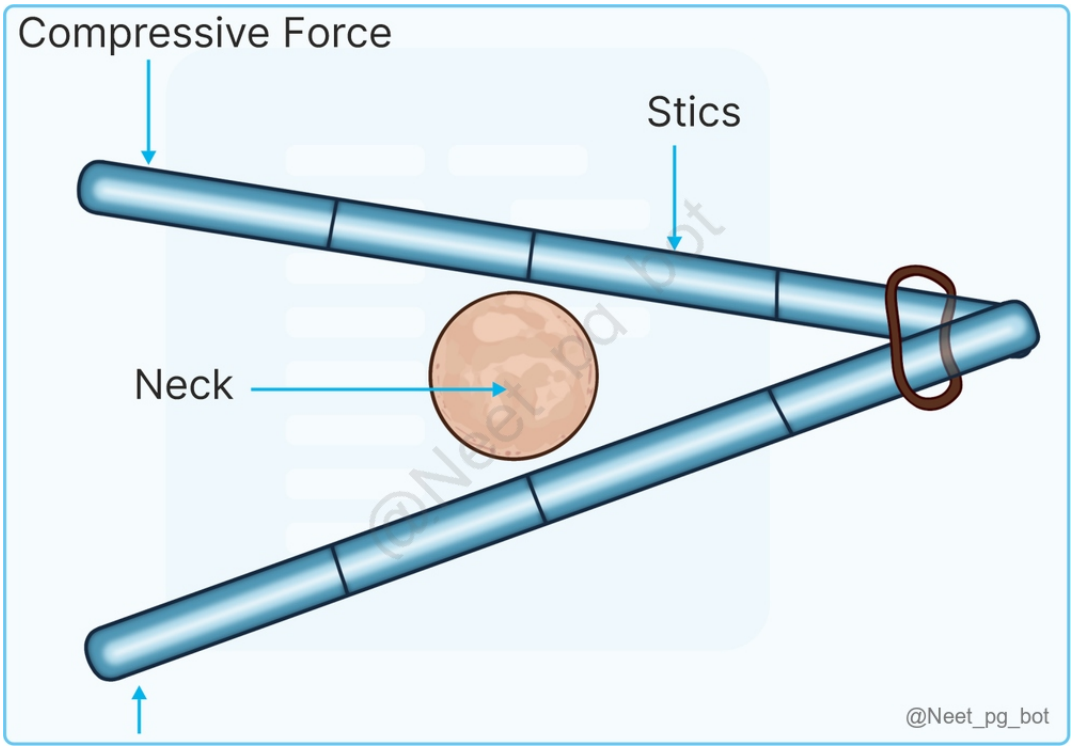
Correct Answer: D. Garroting

Explanation: Garroting involves using a ligature tightened rapidly by a lever, leading to a quick loss of consciousness. Types of Strangulation Description Manual Strangulation (Throttling) (Option A ruled out) Involves compression of the victim's neck using fingers, palms, or hands. About 50% of deaths result from vagal inhibition due to pressure on the carotid nerve plexus. Pressure needs to be applied for at least 2 minutes for death

to occur. Mugging (Option B ruled out) Involves compressing the victim's neck using the bend of the elbow or knee. Typically, a surprise attack from behind often leaves minimal injury marks. Also known as a "chokehold," which is prohibited in wrestling due to its danger. Bansdola (Option C ruled out) A brutal method using a bamboo stick or similar object to crush the neck. Involves tying sticks across the neck or pressing a foot or knee against the throat while lying down. Leaves a distinct bruise across the trachea corresponding to the width of the object used. Garroting Uses a ligature that is tightened by twisting with a lever (Spanish windlass). Causes rapid loss of consciousness and collapse. Historically, it has been used as a method of execution in countries like Spain, Portugal, and Turkey.




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References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Pages 167, 168, 171

↑ *Back to this question in Part A*

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Q3: During the autopsy of a deceased individual suspected to have died due to neck compression, which of the following is not a standard procedure? (Q884232)

A. Careful palpation and dissection of the laryngeal framework before brain removal

B. Pre-dissection radiography (X-ray) or CT scan of the neck to detect fractures

C. Incising major neck vessels at the very beginning of the autopsy

D. Examination and documentation of external ligature marks before internal dissection

Correct Answer: C. Incising major neck vessels at the very beginning of the autopsy

Explanation: In cases of suspected strangulation or neck compression , the primary medico-legal objective is to identify antemortem injuries to neck structures (soft tissues, vessels, cartilages, and bones) without causing

artefactual damage during autopsy. Therefore, methodical, sequential examination is crucial. In suspected strangulation, early incision of major neck vessels is avoided because it can: Destroy evidence of antemortem vascular injury (intimal tears, perivascular haemorrhage) Create postmortem artefacts that mimic true haemorrhage Neck vessels must be examined in situ after careful layered dissection . Careful palpation and dissection of the laryngeal framework before brain removal (Option A) is an accepted precaution in suspected strangulation, because neck structures should be examined in a controlled manner before routine autopsy procedures can disturb local findings. Pre-dissection radiography (X-ray) or CT scan of the neck (Option B): This is recommended to detect occult fractures of the hyoid, thyroid cartilage, or cervical vertebrae, especially in throttling or decomposed bodies. Examination and documentation of external ligature marks before internal dissection (Option D): This is mandatory , as external ligature characteristics are crucial for differentiating strangulation from hanging and must be recorded before artefacts are introduced.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 167- 170

↑ *Back to this question in Part A*

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Q4: A middle-aged man is found dead in an abandoned area. Autopsy reveals fracture of the thyroid cartilage, extensive bruising of the neck muscles, and multiple abrasions over the front and sides of the neck. No ligature material is recovered from the scene. What is the most likely cause of death? (Q884233)

A. Hanging

B. Throttling

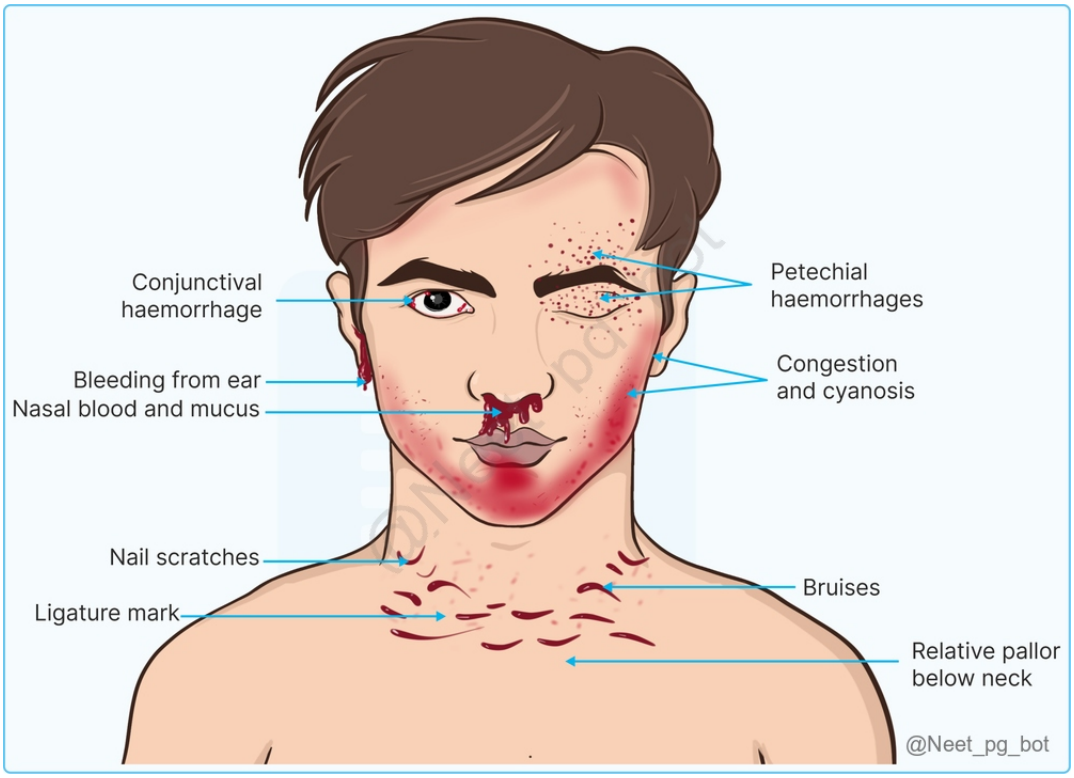
C. Ligature strangulation

D. Garroting

Correct Answer: B. Throttling

Explanation: Throttling (manual strangulation) is characterised by direct compression of the neck using hands , producing: Fracture of the thyroid cartilage Bruising of neck muscles and soft tissues Abrasions and fingernail marks on the neck These findings strongly indicate homicidal manual compression of the neck. Throttling (Manual Strangulation): A method of strangulation where the assailant compresses the victim's neck with their hands. Mechanisms of Death : Asphyxia : Obstruction of the airway due to neck pressure. Cerebral Anoxia : Restricted blood flow to the brain due to pressure on blood vessels, leading to potential brain damage. Vagal Inhibition : Stimulation of the vagus nerve can cause a sudden drop in heart rate and blood pressure, potentially resulting in cardiac arrest. Fatality Requirement : Pressure must be applied for about 2 minutes or more to cause death. Postmortem Findings: Examination Type Findings External Examination Bruises and Abrasions: On the front and sides of the neck. Signs of Asphyxia: Cyanosis, facial swelling, Tardieu's spots, bleeding from the nose and ears. Injuries on Other Body Parts: Additional signs of violence (abrasions, bruises, scratches). Internal Examination

Haemorrhages: In subcutaneous tissues under bruises. Muscle Damage: Tears or lacerations in neck muscles. Hyoid Bone Fracture: A significant diagnostic indicator, typically from inward compression. Laryngeal and Tracheal Damage: Fractures of superior horns of the thyroid cartilage; cricoid cartilage is usually not fractured. Haemorrhages in Mouth/Throat: Bruising and lacerations on the tongue, haemorrhages in the mucous membranes. Medico-legal Questions: Determining Manner of Death : Suicidal Throttling : Considered impossible; hands would relax upon unconsciousness. Homicidal Throttling : Presumed unless proven otherwise; common in homicides, especially involving vulnerable victims. Accidental Throttling : Rare, may occur during playful or affectionate contact. Hanging (Option A): Typically shows an oblique, non-continuous ligature mark situated above the thyroid cartilage; deep neck bruising is less common and thyroid cartilage fracture is unlikely. Ligature strangulation (Option C): Usually presents with a well-defined ligature mark (furrow), often transverse and continuous, with bruising beneath the mark; scratches may also be present near the ligature due to attempts to pull it away. Garroting (Option D): Involves a ligature tightened with a lever; characteristic findings include a horizontal ligature mark rather than manual bruising and abrasions.



References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Pages 171, 172, 173

↑ *Back to this question in Part A*

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Q5: An unidentified individual is brought dead for a medicolegal autopsy. The following findings were noted on examination. No ligature material or patterned mark

is seen around the neck. What is the most probable cause of death? (Q884234)

A. Throttling

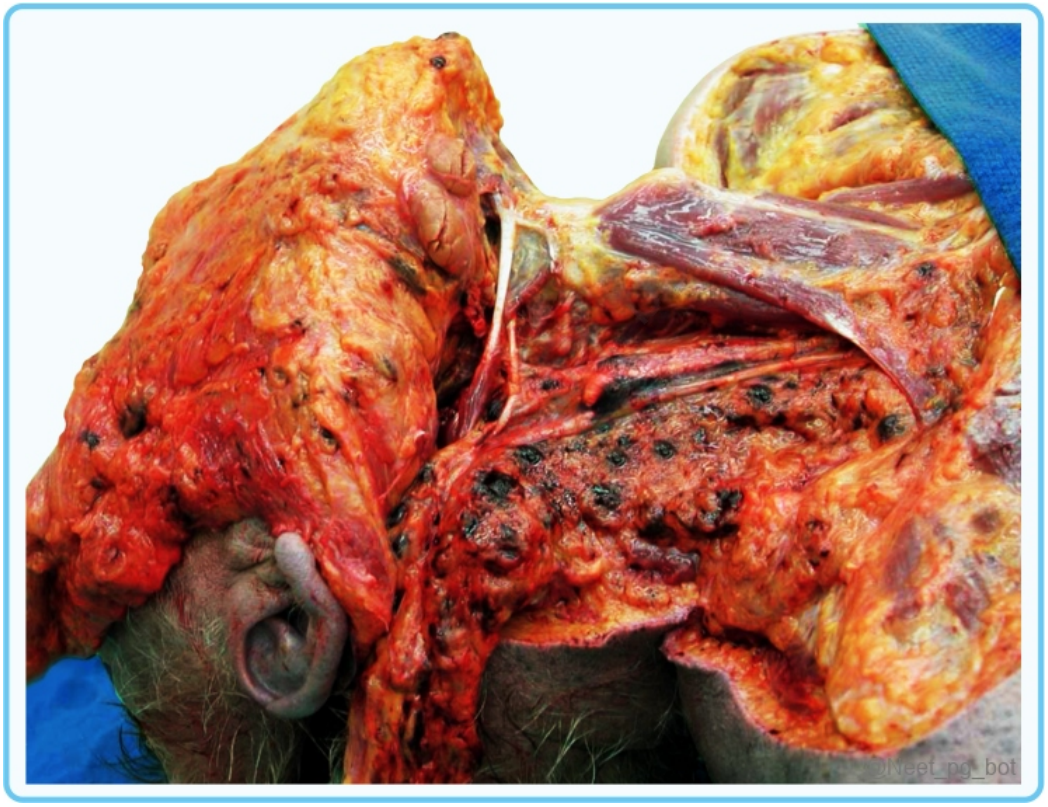
B. Ligature strangulation

C. Hanging

D. Mugging



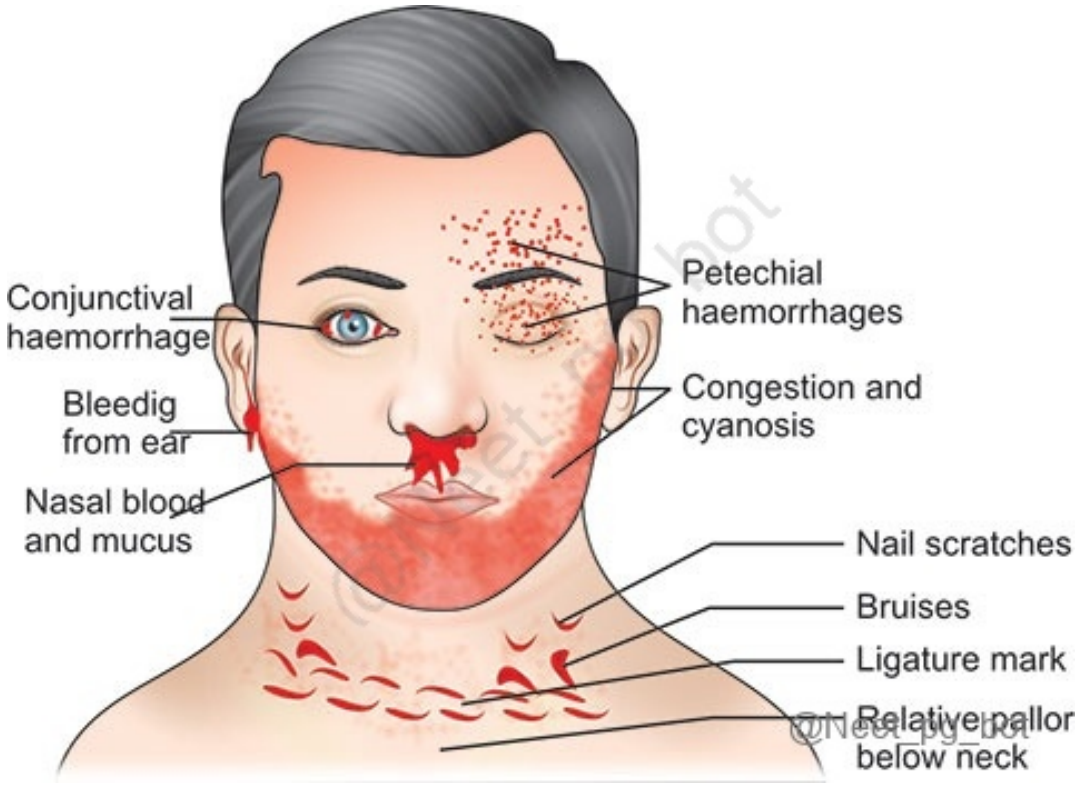

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Correct Answer: A. Throttling

Explanation: The autopsy images given are diagnostic of throttling. Postmortem Findings in Throttling: Examination Type Findings External Examination Abrasions and bruises on front and sides of neck, commonly near laryngeal prominence and below jaw-line, may extend to upper sternal area. Fingertip bruises (oval/round, 1.5-2 cm), more prominent on thumbs. Nail scratch abrasions may indicate a struggle; direction shows assailant's position. Multiple curvilinear abrasions may result from the victim trying to remove the grip; horizontal if victim, vertical if assailant. Bruising patterns: single hand-thumb on one side, fingers on opposite; both hands-marks on both sides; back grip-pressure all around neck. Facial bruises on nose, lips, chin, cheeks, forehead due to struggle or attempts to silence victim. Cyanosis, edema, and congestion are classical signs of asphyxia. Tardieu's spots-pinpoint haemorrhages in eyes/face. Bleeding from nose/ears may occur with prolonged pressure. Internal Examination Subcutaneous haemorrhage under external bruises/abrasions. Tears of platysma or sternomastoid muscles. Tongue bruising or laceration may protrude or be bitten. Haemorrhages in mucous membranes of larynx, epiglottis, pharynx, and peritonsillar region. Inward compression fracture of hyoid bone is most diagnostic for throttling. Fracture of superior horns of thyroid cartilage, not always on both sides. Rib fractures possible if assailant kneels on chest. Possible tear of carotid sheath or inner coat of carotid artery. Cricoid cartilage is usually not fractured. Ligature strangulation (Option B): Usually shows a well-defined ligature mark (furrow), typically transverse, continuous, and below the thyroid cartilage Hanging (Option C): Usually produces an oblique, non-continuous ligature mark above the thyroid cartilage. Mugging (Option D): Caused by compression of the neck in the bend of the elbow or knee and may leave no external or internal injury marks



References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Pages 171, 172, 173

↑ *Back to this question in Part A*

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Q6: During a medicolegal investigation of a death, it was noted that victims were suspended head-down for a prolonged periodwithout external neck pressure or traumatic chest compression. Autopsy revealed facial congestion, petechial haemorrhages, and venous pooling, with no traumatic chest injuries. What is the most likely mechanism of death? (Q884235)

A. Suffocation

B. Traumatic asphyxia

C. Postural asphyxia

D. Mechanical asphyxia

Correct Answer: C. Postural asphyxia

Explanation: Postural asphyxia occurs when abnormal body positioning interferes with respiration and venous return , despite a patent airway. In this case, an inverted crucifixion posture causes positional asphyxia. In the inverted position, the abdominal contents push the diaphragm upwards and compress the thoracic organs, reducing respiratory movements and impairing venous return, leading to cardiorespiratory failure. Positional asphyxia is a form of asphyxial death that occurs when a person's body posture interferes with normal respiratory mechanics, leading to ineffective ventilation and hypoxia, without primary external airway obstruction or direct compression by heavy objects. Mechanism: Death results from: Impaired chest and diaphragmatic movement due to body position, Venous congestion and stasis, especially in dependent parts, Reduced lung ventilation and hypoventilation. In extreme positions (e.g., head-down), gravitational effects and abdominal pressure against the diaphragm contribute to respiratory failure. Common Positions Causing Positional Asphyxia: Head-down / inverted suspension / inverted crucifixion - like this case Prone immobilization Jack-knife position (flexed at the waist) Wedged/confined position in restricted spaces Hyperflexion or hyperextension of the neck that limits airflow These can all compromise respiratory movement even without direct neck compression. Contributory Factors: Alcohol or drug intoxication - reduces the ability to reposition or call for help, Physical incapacity (e.g., elderly, disability), Confined space entrapment makes escape impossible. Such factors predispose to positional asphyxia because the victim cannot self-correct the dangerous posture. Autopsy Indicators (supportive but not specific): Facial/neck congestion , petechiae , and pulmonary congestion/oedema. These reflect impaired venous return and hypoxia, but must be interpreted with scene and circumstantial evidence. Medicolegal Diagnosis: Requires thorough scene investigation , body positioning reconstruction , and exclusion of other causes such as mechanical obstruction of the airway or toxic gases. An autopsy alone often cannot distinguish positional asphyxia without context. Suffocation (Option A): Results from obstruction of external air (e.g., plastic bag, smothering); no such airway blockage is described. Traumatic asphyxia (Option B): Results from mechanical fixation/compression of the chest, usually with severe compression of the chest and abdomen, preventing chest expansion and diaphragmatic descent Mechanical asphyxia (Option D): A broad category, but the specific mechanism described here is postural asphyxia

References:

The Essentials of Forensic Medicine, KS Narayan Reddy, 35th Edition, Pages 282-284

https://pmc.ncbi.nlm.nih.gov/articles/PMC3841541/

https://pmc.ncbi.nlm.nih.gov/articles/PMC10214897/

https://pmc.ncbi.nlm.nih.gov/articles/PMC12617309/

https://pubmed.ncbi.nlm.nih.gov/18761306/

https://pubmed.ncbi.nlm.nih.gov/31119506/

↑ *Back to this question in Part A*

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Q7: An intoxicated individual was found dead in a severely flexed posture, with the trunk bent forward and thighs pressed against the abdomen. There was no evidence of external neck pressure or traumatic chest compression. Autopsy showed pulmonary

congestion and facial cyanosis. What is the most likely cause of death? (Q884236)

A. Wedging

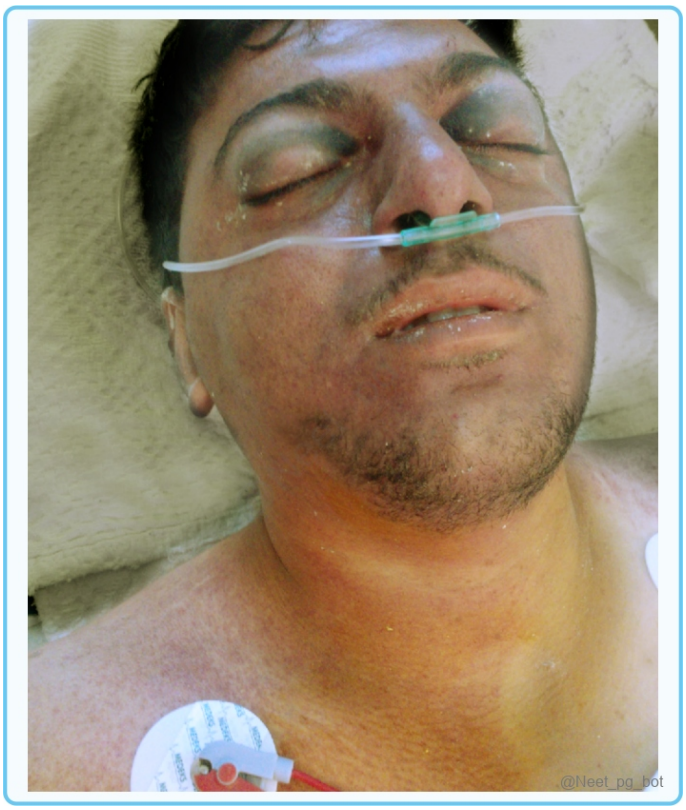
B. Burking

C. Positional asphyxia

D. Traumatic asphyxia

Correct Answer: C. Positional asphyxia

Explanation: Positional asphyxia occurs when abnormal body posture interferes with respiration. In the jack-knife position (marked flexion at the waist with thighs pressed against the abdomen), diaphragmatic excursion and chest wall expansion are restricted , leading to impaired respiration, venous congestion, and cardiorespiratory failure. Features Traumatic Asphyxia Positional Asphyxia Definition Respiratory arrest due to mechanical fixation of the chest by unyielding substances or external pressure. (Perthe's syndrome) Asphyxia results from the body being in a position that impairs breathing, often due to neck twisting or compression of the trachea. Mechanism Prevents normal chest wall movements, leading to respiratory failure. Often associated with significant compression of the chest and abdomen Abdominal weight compresses the diaphragm, hindering thoracic organ function and respiratory movement. Impaired venous return to the heart can contribute to asphyxia. Common Causes Crowded situations leading to trampling Crushing accidents (e.g., falls of earth/stones in mines, building collapses). Heavy objects (e.g., vehicles or machinery) pressing on the body. Physical restraint in a prone position (face down). Falling and wedging in a well or narrow space. Indirect compression (jack-knife position) where thighs and knees push against the chest. Postmortem Findings Intense congestion and petechial haemorrhages in the head, neck, and upper chest. Skin colour above the compression level: deep purple or purple-red; below this level: pale or mildly cyanosed.- Masque ecchymotique Swelling, congestion, and petechiae on the face, lips, and scalp. Diffuse petechiae and ecchymoses on the neck and face Marked congestion and cyanosis in the face and neck. Presence of petechiae on the face. Wedging (Option A): Involves entrapment in a confined space with inability to escape; the scenario describes posture-related respiratory restriction rather than spatial confinement. Burking (Option B): Requires combined smothering and chest compression , typically homicidal; no such findings are present. Traumatic asphyxia (Option D): Results from severe external compression of the chest or abdomen (e.g., crowd crush); external compressive force is absent here.





References:

The Essentials of Forensic Medicine, KS Narayan Reddy, 35th Edition, Pages 282-284

https://pmc.ncbi.nlm.nih.gov/articles/PMC3841541/

https://pmc.ncbi.nlm.nih.gov/articles/PMC10214897/

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https://pubmed.ncbi.nlm.nih.gov/18761306/

https://pubmed.ncbi.nlm.nih.gov/31119506/

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Q8: Identify mugging strangulation from the given options. (Q884237)

A.

B.

C.

D.

Correct Answer: B.

Explanation: The given image represents mugging, which involves compressing the victim's neck using the bend of the elbow or knee. Type Description Manual Strangulation (Throttling) (Option A ruled out) Involves compression of the victim's neck using fingers, palms, or hands. About 50% of deaths result from vagal inhibition due to pressure on the carotid nerve plexus. Pressure must be applied for 2 minutes or more to cause death. Mugging (Option B) Involves compressing the victim's neck using the bend of the elbow or knee. It is usually an attack from behind and may leave no external or internal injury mark. Also known as a "chokehold," which is prohibited in wrestling due to its danger. Smothering (Option C ruled out) Definition : Closing the nose and mouth using hands or foreign substances (e.g., mud, cloth). Autopsy Findings : External : Pallor may be present around the mouth/nose, pressure marks, distinct nail marks, petechiae, contusions on the inner lip, and stains on the bedding. Internal : Potential internal organ haemorrhages. Garroting (Option D ruled out) Uses a ligature that is tightened by twisting with a lever (Spanish windlass). Causes rapid loss of consciousness and collapse. Historically, it has been used as a method of execution in countries like Spain, Portugal, and Turkey.


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References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Pages 167, 168, 171

The Essentials of Forensic Medicine, KS Narayan Reddy, 35th Edition, Pages 279-282

↑ *Back to this question in Part A*

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Q9: In a case of hanging with the feet touching the ground. Despite this, death occurs due to the downward traction produced by the mass of the head, arms, and thorax, which tightens the ligature around the neck. Which type of hanging best explains this mechanism? (Q884238)

A. Partial Hanging

B. Typical Hanging

C. Atypical Hanging

D. Complete Hanging

Correct Answer: A. Partial Hanging

Explanation: Partial hanging occurs when the body is not fully suspended. In such cases, the weight of the head, arms, and chest acts as the constricting force , producing sufficient neck compression to cause asphyxia or vascular occlusion even though the feet or other body parts remain in contact with the ground. Hanging Hanging is a form of asphyxia resulting from the suspension of the body by a ligature around the neck, with the constricting force primarily being the body weight. Near-Hanging: Survivors of a hanging injury who reach the hospital are classified as near-hanging cases. Types of Hanging 1. Based on Knot Position: Typical Hanging: The knot is positioned centrally over the occiput, at the nape of the neck. (Option B ruled out) Atypical Hanging: The knot is located anywhere other than the occiput. (Option C ruled out) 2. Based on the Degree of Suspension: Complete Hanging: The body is fully suspended, with no part touching the ground, and the constricting force is the entire weight of the body. (Option D ruled out) Incomplete (Partial) Hanging: A part of the body (toes, feet) is touching the ground, or the individual is in a sitting, kneeling, lying, or prone position, with the weight of the head, arms and thorax acting as the constricting force. (Option A) 3. Based on Intent: Suicidal Accidental Homicidal Autoerotic Types of Knots in Hanging Slip Knot (Running Noose): Created by attaching a rope to itself, forming a loop. The loop can be tightened to create a running noose. Binding Knot (Fixed Knot): The rope wraps around the neck at least once. Secured by tying the two ends of the rope together, forming a fixed noose.





References:

The Essentials of Forensic Medicine, KS Narayan Reddy, 35th Edition, Page 262

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Pages 161, 162

↑ *Back to this question in Part A*

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Q10: During an experimental simulation of ligature compression, approximately 10 kg of circumferential pressure was applied around the neck. Which of the following structures would most likely be compressed at this level? (Q884239)

A. Jugular veins only

B. Jugular veins and carotid arteries

C. Jugular veins, carotid arteries, and trachea

D. Jugular veins, carotid arteries, trachea, and vertebral arteries

Correct Answer: B. Jugular veins and carotid arteries

Explanation: At ~10 kg of neck compression , the jugular veins (≈2 kg) are easily occluded, and the carotid arteries (2.5–10 kg) are also compressed, producing cerebral anaemia/anoxia . The trachea remains patent at this level of force. Neck structure compressed Compression Pressure Result Jugular Veins 2 kg Venous congestion leading to cessation of cerebral circulation Carotid Arteries 2.5 - 10 kg Cerebral anemia/ anoxia Trachea 15 kg Asphyxia Vertebral Arteries 8 - 30 kg Cerebral anemia/ anoxia Jugular veins only (Option A): Venous compression occurs at much lower pressure (~2 kg) ; 10 kg exceeds this threshold. Jugular veins, carotid arteries, and trachea (Option C): Tracheal compression requires ~15 kg , which is higher than the force applied. Jugular veins, carotid arteries, trachea, and vertebral arteries (Option D): Vertebral arteries are protected within transverse foramina and require significantly higher force to occlude.

References:

https://www.jebmh.com/articles/medicolegal-aspects-of-asphyxia-with-reference-to-hanging.pdf.pdf

https://emedicine.medscape.com/article/1988699-overview#a3

↑ *Back to this question in Part A*

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Q11: In a case of hanging, death may occur due to several physiological mechanisms. Which of the following does not contribute to death in such cases? (Q884240)

A. Cerebral ischemia leading to neuronal death

B. Fracture-dislocation of cervical vertebrae

C. Reflex laryngeal spasm

D. Vagal inhibition

Correct Answer: C. Reflex laryngeal spasm

Explanation: Death in hanging is due to mechanical airway compression and vascular obstruction , not reflex laryngeal spasm . Death in Hanging: The usual period for death is 3–5 minutes and this can extend to 5–8 minutes of suspension leading to death. Immediate Death: Occurs if cervical vertebrae are fractured. (In Judicial hangings) This can happen if there is inhibition of the heart. Rapid Death: Usually results from asphyxia. Least Rapid Death: If coma is the cause, death occurs more slowly. Causes of Death from Hanging Asphyxia : The constricting force of the ligature compresses the larynx and trachea, leading to asphyxia. Venous Congestion : If the ligature is broad and soft, it can block the jugular veins, halting cerebral circulation. Combined Asphyxia and Venous Congestion : This is the most common cause of death in hanging cases. Cerebral Anemia : Occurs when a thin cord is used as a ligature, reducing blood flow to the brain. (Option A ruled out) Reflex Vagal Inhibition : This can result in sudden cardiac arrest. (Option D ruled out) Fracture/Dislocation of Cervical Vertebrae : Commonly seen in judicial hangings . (Option Bruled out) Delayed Deaths : Rarely, delayed deaths may result from: Aspiration pneumonia Edema of the lungs or larynx Infections Brain infarction Hypoxic encephalopathy Brain abscess

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 163

↑ *Back to this question in Part A*

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Q12: The body of a person who died due to suicidal hanging was examined during autopsy. Which of the following findings related to the ligature mark is least likely to be seen? (Q884241)

A. The ligature mark completely encircles the neck

B. The discontinuity in the ligature mark corresponds to the knot position

C. The ligature mark is located above the hyoid bone

D. The ligature mark becomes dry and parchment-like after death

Correct Answer: A. The ligature mark completely encircles the neck

Explanation: In suicidal hanging , the ligature mark is typically incomplete , as the knot or point of suspension prevents the mark from fully encircling the neck. A complete circumferential mark is more characteristic of ligature strangulation , not hanging. Ligature mark ('furrow') Hanging Strangulation Direction Continuity Level in the neck Base Oblique Noncontinuous Above thyroid Pale, hard, parchment-like Transverse Continuous Below thyroid Soft and reddish Ligature Marks in Hanging Ligature mark (also called furrow) is a characteristic external finding in hanging. It is usually located above the hyoid bone . (Option C ruled out) The highest point corresponds to the position of the knot, which interrupts the continuity of the ligature mark and indicates the point of suspension. (Option B ruled out) The ligature mark is: Pale initially Later becomes yellowish-brown Appears dry, hard, and parchment-like (Option D ruled out) Post-mortem blisters may develop on the skin near the ligature mark. Neck veins above the ligature mark may be distended due to impaired venous return. The neck appears elongated and slender due to suspension. The neck is often flexed to the side opposite the knot . Associated vital reaction : Dribbling of saliva from the angle of the mouth (surest sign of antemortem hanging). In suicidal hanging: The ligature mark is oblique , running upwards toward the knot . Incomplete (non-continuous) around the neck because the body weight is supported at the point of suspension. No signs of struggle are usually present around the ligature mark. In judicial hanging : Ligature marks are distinct Typically located below the chin or near the ear , depending on knot placement In sexual (autoerotic) asphyxia : Ligature marks may be less prominent Often padded or indistinct to avoid fatal injury Presence of a ligature mark indicates constriction , but does not by itself explain internal vascular injuries (e.g., carotid tear → Amussat's sign).

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Pages 164- 170, 184, 185

The Essentials of Forensic Medicine, KS Narayan Reddy, 35th Edition, Pages 265, 266

↑ *Back to this question in Part A*

Q13: During autopsy of a person who died by suicidal hanging, which of the following findings is least likely to be present? (Q884242)

A. Absence of dribbling of saliva

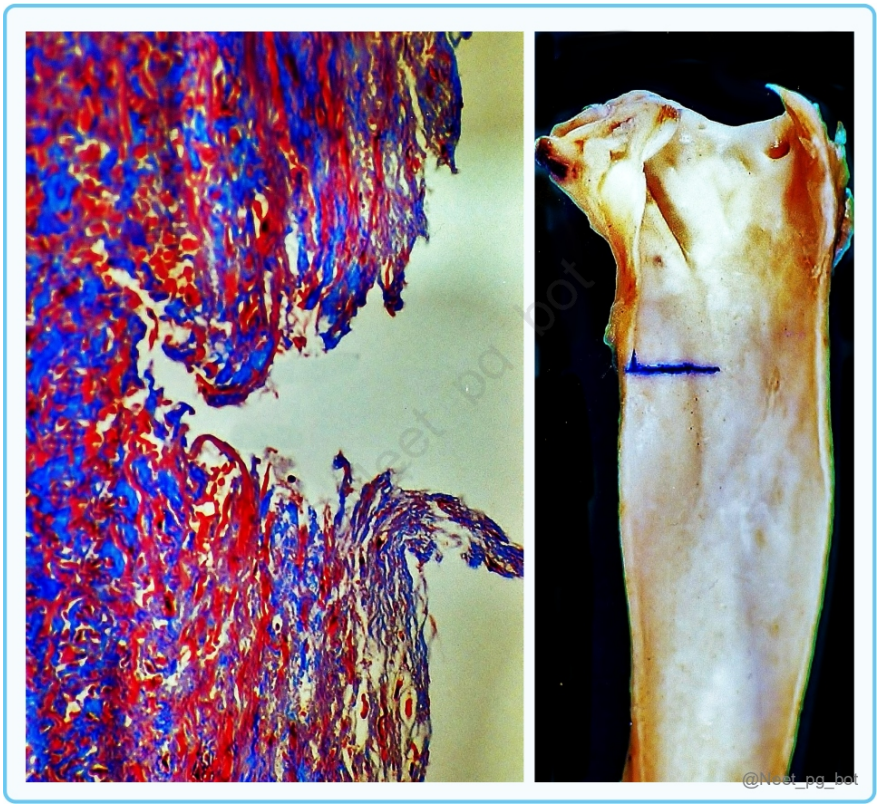
B. Dependent post-mortem lividity in the limbs

C. Transverse tear of the carotid artery

D. Ligature mark situated above the hyoid bone

Correct Answer: C. Transverse tear of the carotid artery

Explanation: Amussat's sign refers to a transverse intimal tear of the carotid artery produced by stretching of the vessel during hanging. It is a supportive internal sign of antemortem hanging, seen more often in forceful suspension such as long-drop hanging, but it is not a constant finding in routine suicidal hanging. Absence of dribbling of saliva (Option A): Dribbling of saliva is a sure sign of antemortem hanging, but it may be absent in some cases depending on ligature type and duration; therefore, this can be seen. Dependent post-mortem lividity in the limbs (Option B): Post-mortem hypostasis commonly involves the hands and feet in hanging due to gravity (glove and stocking pattern); this is a typical finding. Ligature mark situated above the hyoid bone (Option D): In hanging, the ligature mark is classically located high up on the neck ,above the hyoid bone



References:

The Essentials of Forensic Medicine, KS Narayan Reddy, 35th Edition, Pages 265, 266

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Pages 164- 166

↑ *Back to this question in Part A*

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Q14: During autopsy of a middle-aged man who died due to neck compression, careful dissection of the laryngeal framework is performed. Which of the following statements about laryngeal and hyoid bone injuries in strangulation is incorrect? (Q884230)

A. Fracture of the superior horns of the thyroid cartilage is common in manual strangulation

B. Laryngeal injury is lesser in manual strangulation than ligature strangulation

C. Medial displacement of the hyoid bone indicates antemortem strangulation

D. No surrounding haemorrhage suggests a postmortem fracture

Correct Answer: B. Laryngeal injury is lesser in manual strangulation than ligature strangulation

Explanation: In strangulation, the pattern of internal neck injury depends on the type of force applied. Manual strangulation (throttling) usually causes more severe deep neck injury than ligature strangulation because the compressive force is more localised and directly applied by the fingers In throttling, there may be extravasation of blood in subcutaneous tissues, tear of neck muscles, inward compression fracture of the hyoid bone, and common fracture of the superior horns of the thyroid cartilage . Feature Manual Strangulation (Throttling) Ligature Strangulation Method Hands Ligature (rope, cord, dupatta, wire) Ligature mark Absent Present (well-defined groove) Neck injuries Bruises, abrasions, fingernail marks Furrow with ecchymosed margins Direction of mark - Usually horizontal, continuous Level on neck - Usually below thyroid cartilage Mechanism of death Asphyxia, cerebral anoxia, vagal inhibition Asphyxia, cerebral anoxia, vagal inhibition Time required ~2 minutes pressure Variable Hyoid bone fracture Common Uncommon Thyroid cartilage fracture Common Common Internal neck injury Muscle tears and haemorrhage Contusion and haemorrhage Signs of struggle Usually present Usually present Manner of death Homicidal Usually homicidal Suicidal possibility Impossible Rare Fracture of the superior horns of the thyroid cartilage is common in manual strangulation (Option A): Fracture of the superior horns of the thyroid cartilage is common, though both horns do not usually fracture simultaneously. Medial displacement of the hyoid bone indicates antemortem strangulation (Option C): Inward compression of the hyoid, especially when associated with surrounding soft tissue haemorrhage, supports force applied during life and is a classic internal sign of throttling. No surrounding haemorrhage suggests a postmortem fracture (Option D): Absence of haemorrhage indicates lack of circulation at the time of injury, favoring a postmortem break rather than a vital antemortem fracture.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Pages 168-173

↑ *Back to this question in Part A*

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Q15: During autopsy of a deceased who died by hanging, small haemorrhages were noted within the intervertebral discs of the lower spine. This characteristic finding is known as which of the following? (Q884244)

A. Robert’s haemorrhage

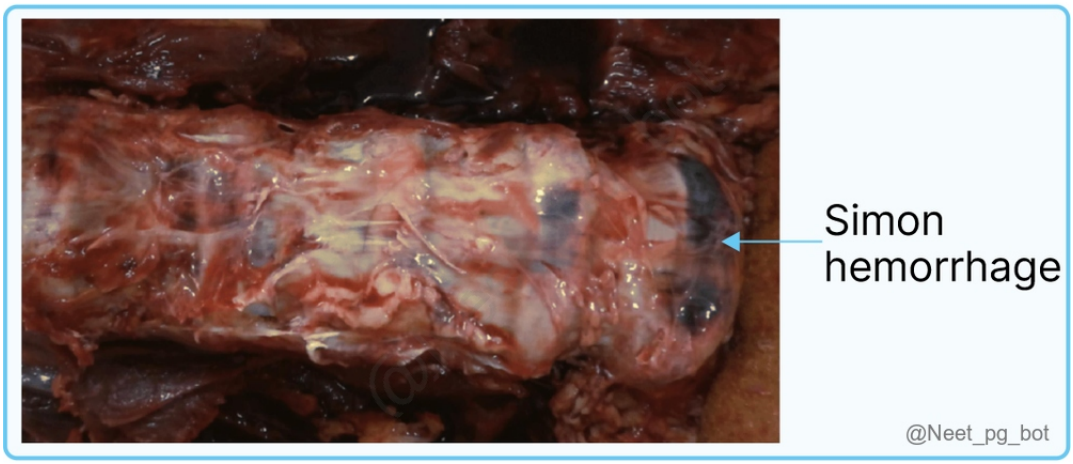
B. Carl’s haemorrhage

C. Victor’s haemorrhage

D. Simon’s haemorrhage

Correct Answer: D. Simon’s haemorrhage

Explanation: Simon’s haemorrhage refers to haemorrhages on the ventral surface of the intervertebral discs beneath the anterior longitudinal ligament , usually in the lumbar spine , seen in hanging. It is considered a vital sign of hanging and is attributed to the traction and stretching of the spinal column during suspension. Although classically associated with hanging, Simon’s haemorrhage may also be seen in other conditions causing traumatic elongation or overextension of the spine, so it is supportive but not absolutely specific . Robert’s haemorrhage (Option A): Not a recognized post-mortem finding in hanging. Carl’s haemorrhage (Option B): Has no established association with hanging or spinal injuries. Victor’s haemorrhage (Option C): Not associated with hanging and has no forensic relevance in spinal traction injuries.



References:

https://pubmed.ncbi.nlm.nih.gov/19259025/

https://pubmed.ncbi.nlm.nih.gov/20141552/

↑ *Back to this question in Part A*

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Q16: During autopsy of a male deceased, seminal discharge was noted on the thighs near the genital region. This finding, by itself, is an absolute indicator of which of the following? (Q884254)

A. Autoerotic asphyxia

B. Death due to any form of asphyxia

C. Homicide associated with sexual assault

D. None of the above

Correct Answer: D. None of the above

Explanation: Seminal discharge by itself is not an absolute indicator of any specific cause or manner of death. In forensic practice, semen may be seen in some asphyxial deaths, including hanging, due to genital congestion and involuntary emission, but it is neither constant nor specific . In addition, postmortem seminal discharge may occur because of rigor of the dartos muscle , so it can be wrongly interpreted as evidence of sexual activity just before death. Therefore, seminal staining alone has no definitive diagnostic value and must always be correlated with autopsy findings, injuries, scene evidence, and laboratory examination. Autoerotic asphyxia (Option A): Although seminal emission may be seen, it is not diagnostic and cannot confirm autoerotic asphyxia without supportive scene findings. Death due to any form of asphyxia (Option B): Seminal emission can occur in asphyxial deaths but is not consistently present and hence not absolute. Homicide associated with sexual assault (Option C): Seminal stains alone do not prove sexual activity or assault and must be correlated with injuries and scene evidence.

References:

https://www.ncbi.nlm.nih.gov/books/NBK539741/

https://pmc.ncbi.nlm.nih.gov/articles/PMC12632010/

https://www.ijsat.org/research-paper.php?id=4118

↑ *Back to this question in Part A*

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Q17: During autopsy of a body recovered after neck compression, certain findings may represent spurious (post-mortem or artefactual) lesions rather than true antemortem injuries. Which of the following is not considered a spurious neck lesion? (Q884257)

A. Haemorrhage over the posterior surface of the oesophagus

B. Haemorrhage involving the anterior longitudinal ligament

C. Pale transverse bands seen on the oesophageal mucosa

D. True intramuscular haemorrhage of the strap muscles

Correct Answer: D. True intramuscular haemorrhage of the strap muscles

Explanation: True intramuscular haemorrhage of the strap muscles indicates a vital reaction , meaning the injury occurred while circulation was active . Blood infiltrates deep into the muscle fibres , which cannot occur after death due to the absence of blood pressure. It reflects direct antemortem neck trauma , commonly seen in strangulation or forceful neck compression. Such haemorrhage persists despite careful dissection and is not produced by handling or autopsy procedures . Hence, it is not a spurious (artefactual) lesion . Haemorrhage over the posterior surface of the oesophagus (Option A): This may occur due to post-mortem handling or dissection artefact and is considered spurious. Haemorrhage involving the anterior longitudinal ligament (Option B): Often results from rough manipulation during autopsy or spinal movement after death and lacks vital reaction. Pale transverse bands on the oesophageal mucosa (Option C): These are due to post-mortem drying and compression , producing false band-like appearances and are spurious.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Pages 164-166

https://pmc.ncbi.nlm.nih.gov/articles/PMC6474509/

↑ *Back to this question in Part A*

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Q18: During a physical altercation, an assailant pins the victim to the ground by sitting on the chest while simultaneously blocking the nose and mouth with a cloth, leading to death due to asphyxia. This method of killing is known as: (Q884259)

A. Burking

B. Wedging

C. Traumatic asphyxia

D. Overlaying

Correct Answer: A. Burking

Explanation: Burking is a form of homicidal asphyxia caused by a combination of smothering and traumatic asphyxia . The assailant obstructs the victim's nose and mouth while compressing the chest , preventing both air entry and chest expansion, resulting in rapid hypoxia. Overlaying Burking Wedging Definition : Compression suffocation due to the weight of an adult (e.g., mother) on an infant during sleep. (Option D ruled out) Mechanism : Limits thoracic movements, reducing or preventing respiratory exchange. Commonly occurs when the adult is under the influence of alcohol. Findings : May show flattening of the nose and face. The pale appearance of the affected areas; nostrils may be filled with frothy, possibly blood-stained fluid. Typical signs of asphyxia. Cause of Death : May result from neurogenic cardiac arrest Definition : A method of homicidal smothering and traumatic asphyxia. Historical Context : Named after William Burke and William Hare, who killed 16 people in the late 1820s in Edinburgh for anatomical dissection. Method : Victims were lured, given alcohol, and then subdued by kneeling or sitting on their chests to close their mouths and noses. Definition : Suffocation caused by the body being compressed between two firm surfaces. (Option B ruled out) Common Observations : Often seen in children. Mechanism : Prevents normal breathing due to the physical pressure from both sides. Traumatic Asphyxia (Option C) : This results from compression of the chest or abdomen preventing respiratory movements, but does not by itself include simultaneous obstruction of the nose and mouth.





References:

The Essentials of Forensic Medicine, KS Narayan Reddy, 35th Edition, Pages 281-283

https://www.pathologyoutlines.com/topic/forensicsasphyxia.html

↑ *Back to this question in Part A*

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Q19: A 28-year-old swimmer was recovered unconscious from a river and declared dead on arrival. Autopsy examination showed marked over-inflation of the lungs with frothy fluid in the airways. What is the most likely cause of death? (Q884260)

A. Wet drowning

B. Shallow-water drowning

C. Immersion syndrome

D. Secondary drowning

Correct Answer: A. Wet drowning

Explanation: Wet drowning occurs when the victim actively inhales water during respiratory efforts. This leads to over-distension of alveoli , producing emphysema aquosum , a classic autopsy finding. The 2 types of Wet drowning are Features Freshwater Drowning Seawater Drowning Pathophysiology Haemodilution : Inhalation increases blood volume by 50%, causing anaemia, hemolysis, and myocardial hypoxia. Electrolyte Changes : Marked hyponatremia and hyperkalemia; calcium decrease leads to arrhythmias. Surfactant Dysfunction : Freshwater denatures the surfactant which causes alveolar collapse and pulmonary oedema. Cardiac Load : Increased pulmonary oedema and electrolyte imbalances decrease cardiac output and cause hypotension. Haemoconcentration : High salinity (≥3% NaCl) draws water into the lungs, causing severe pulmonary oedema and elevated plasma sodium. Electrolyte Changes : Increased blood viscosity leads to bradycardia and myocardial failure; altered potassium and sodium levels(hypernatremia) Red Cell Changes : Crenation of red blood cells impairs oxygen transport. Myocardial Anoxia : Asphyxia from pulmonary oedema and cardiac stress results in hypoxia and potential arrest. Lung characteristics Size : Ballooned but light; pale pink colour; emphysematous consistency. Shape after Removal : Retained, no collapse; crepitus with little froth and no fluid. Size : Ballooned and heavy; purplish or bluish colour; soft, jelly-like consistency. Shape after Removal : Flattened; no crepitus; copious fluid and froth. Fatal period Death typically occurs within 4-5 minutes Death may take 8-10 minutes. Shallow-water drowning (Option B): Death due to laryngeal spasm or vagal inhibition , with minimal or no water aspiration. Immersion syndrome (Option C): Sudden cardiac arrest caused by cold water shock , without pulmonary changes. Secondary drowning (Option D): A delayed complication after survival, due to aspiration-induced pneumonitis, not an immediate cause of death.

References:

The Essentials of Forensic Medicine, KS Narayan Reddy, 35th Edition, Pages 284- 288

↑ *Back to this question in Part A*

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Q20: During autopsy of a drowning victim, heavy stones were found firmly tied to the waist and ankles. What does this finding most strongly indicate? (Q884271)

A. Accidental or homicidal drowning

B. Homicidal drowning only

C. Suicidal drowning only

D. Homicidal or suicidal drowning

Correct Answer: D. Homicidal or suicidal drowning

Explanation: Weights tied to the body indicate a deliberate attempt to keep the victim submerged . This can be done by the victim in suicidal drowning to prevent floating. It may also be done by an assailant in homicidal drowning to conceal the body. Such preparation is not seen in accidental drowning , where no planning is involved. Feature Accidental Drowning Suicidal Drowning Homicidal Drowning Frequency Most common Fairly common in India Least common Typical victims Children, bathers, fishermen, dockworkers, intoxicated,

epileptics More common in females Common in infanticide, rare in adults Circumstances Fall into water during routine activity Planned act Victim forcibly drowned or body disposed in water Swimming ability Often non-swimmer May or may not know swimming Victim often non-swimmer or intoxicated Clothing pattern Disordered Clothes often neatly tied, private parts covered Disarranged, torn, or inconsistent Preparation Absent Present (weights tied, limbs bound, poison taken) May be absent or weights added to conceal body Weights attached Never (Option A ruled out) May be present May be present Associated injuries Usually absent or accidental Possible self-inflicted injuries May show struggle injuries or none Shallow water drowning Rare Suggests suicide in adults Possible but uncommon Personal effects Found scattered Often stacked neatly near water Usually absent History Seizures, alcohol, exhaustion, cardiac disease Depression, terminal illness, suicidal ideation Conflict, assault, witnesses Body placed after death No No Possible

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Pages 183, 184

↑ *Back to this question in Part A*

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Q21: A man is rescued from deep water after prolonged submersion and is declared dead on arrival. Autopsy reveals water in the airways and heavy, water-logged lungs. What is the primary mechanism leading to death in this condition? (Q884272)

A. Reflex closure of the larynx

B. Primary cerebral edema

C. Sudden vagal cardiac arrest

D. Pulmonary edema with resultant cardiac failure

Correct Answer: D. Pulmonary edema with resultant cardiac failure

Explanation: In typical (wet) drowning , the victim aspirates water into the airways and alveoli, producing heavy, water-logged lungs and pulmonary edema This causes marked impairment of gas exchange, leading to severe hypoxia/asphyxia , which is the primary lethal process. The resulting oxygen deprivation then leads to terminal myocardial dysfunction, arrhythmia, and cardiac arrest . Thus, pulmonary edema is the key pathological change, while cardiac failure or arrest is the final event. Laryngeal spasm (Option A): Seen in dry or atypical drowning , not typical wet drowning. Cerebral edema (Option B): A secondary consequence of hypoxia, not the primary mechanism. Vagal inhibition (Option C): Seen in immersion syndrome or sudden cold-water exposure.

References:

The Essentials of Forensic Medicine, KS Narayan Reddy, 35th Edition, Pages 284- 288

↑ *Back to this question in Part A*

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Q22: A 42-year-old tourist accidentally slips from the deck of a ship during a polar expedition and enters the icy sea abruptly in a flat, horizontal position. He is retrieved within minutes but is declared dead on arrival. Autopsy reveals no significant water in the lungs and no marked pulmonary edema. What is the most probable cause of death in this case? (Q884273)

A. Cerebral edema

B. Vasovagal inhibition

C. Pulmonary edema with cardiac failure

D. Laryngeal spasm

Correct Answer: B. Vasovagal inhibition

Explanation: This is a classic case of immersion syndrome (hydrocution) . It occurs on sudden contact with water that is at least 5°C lower than body temperature . Cold stimulation of the skin, epigastrium, and upper airway mucosa triggers a powerful vagal reflex , which may lead to asystole (diving reflex) or ventricular fibrillation due to catecholamine surge , resulting in sudden cardiac arrest. Common triggers include cold water impact on the body , especially the epigastrium , and stimulation of the ear, nasal passages, pharynx, and larynx . Loss of consciousness may lead to secondary drowning . Typical features of drowning are absent , as significant aspiration of water does not occur , explaining the absence of pulmonary edema in this case. Cerebral edema (Option A): A late consequence of prolonged hypoxia; it is not the immediate mechanism of death in sudden cold-water immersion. Pulmonary edema with cardiac failure (Option C): Characteristic of typical (wet) drowning with water aspiration; absent when death occurs rapidly due to reflex cardiac arrest. Laryngeal spasm (Option D): Seen in dry or atypical drowning with minimal water entry, but does not explain sudden death associated with cold shock and vagal inhibition.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Pages 178, 179

The Essentials of Forensic Medicine, KS Narayan Reddy, 35th Edition, Pages 284-288

↑ *Back to this question in Part A*

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Q23: During medicolegal autopsy of a suspected drowning case, a biochemical test is performed comparing electrolyte levels between blood from the right and left sides of

the heart to help differentiate freshwater from seawater drowning. Which electrolyte is specifically assessed in this test? (Q884274)

A. Sodium

B. Potassium

C. Bicarbonate

D. Chloride

Correct Answer: D. Chloride

Explanation: Gettler's test is based on the estimation of chloride concentration in blood taken from the right and left chambers of the heart. In freshwater drowning , chloride levels are reduced due to hemodilution, whereas in seawater drowning , chloride levels are elevated because of hypertonic fluid aspiration. This chloride difference helps support the diagnosis of drowning type. Aspect Gettler Test Features Normal Chloride Levels: The chloride content in the right and left sides of the heart is typically similar, around 600 mg/100 ml. A 25 mg% or more difference in chloride levels between the two sides suggests antemortem drowning. Interpretation Freshwater Drowning: The chloride content in the left heart is lower than in the right heart due to dilution from the water. Saltwater Drowning: In saltwater drowning, the chloride content in the left heart is higher than in the right heart due to hemoconcentration and mixing with saltwater. No Change in Chloride Content: Observed in deaths from laryngeal spasm, vagal inhibition, putrefaction, patent foramen ovale, or when the saline content of the drowning medium is similar to that of blood. Sodium (Option A): Although sodium levels change in drowning, sodium is not the electrolyte measured in Gettler's test. Potassium (Option B): Potassium alterations may occur secondary to hemolysis, but it has no role in Gettler's test interpretation. Bicarbonate (Option): Bicarbonate reflects acid–base status and is unrelated to the principle of Gettler's test.

References:

The Essentials of Forensic Medicine, KS Narayan Reddy, 35th Edition, Page 289

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Pages 181-183

↑ *Back to this question in Part A*

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Q24: During the autopsy of a suspected suicidal drowning case, the skin over the palms and soles appears pale, wrinkled, and sodden. Which of the following statements regarding this finding is correct? (Q884275)

A. It confirms that death occurred only a few hours earlier

B. Correct Answer: B) The timing of development varies with environmental conditions

C. The change is first noticed over the dorsum of the hand

D. It is synonymous with gooseflesh of the skin



Correct Answer: B. Correct Answer: B) The timing of development varies with environmental conditions

Explanation: The described finding is the washerwoman's skin , a wrinkled, sodden, bleached appearance of the palms and soles due to imbibition of water into the outer layers of the skin during immersion. It is first seen over the fingertips (about 3–4 hours) and progresses to involve the entire hand by around 24 hours . Similar changes occur in the feet, though more slowly if shoes are worn. The rate of development varies with environmental conditions , and therefore, it is not reliable for accurate estimation of time since death. It confirms that death occurred only a few hours earlier (Option A): Washerwoman's skin indicates immersion but cannot be used to accurately estimate time since death. The change is first noticed over the dorsum of the hand (Option C): The earliest changes are seen in the fingertips , not the dorsum of the hand. It is synonymous with gooseflesh of the skin (Option D): Gooseflesh (cutis anserina) is due to contraction of erector pili muscles , not due to immersion.

References:

The Essentials of Forensic Medicine, KS Narayan Reddy, 35th Edition, Pages 285-289

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Pages 179-182

↑ *Back to this question in Part A*

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Q25: The body of a young woman is recovered from a water-filled underground pit. While examining the body, which of the following findings would most convincingly indicate that drowning occurred during life? (Q884276)

A. Cadaveric spasm

B. Petechial hemorrhages in the eyes

C. Cutis anserina

D. Skin maceration

Correct Answer: A. Cadaveric spasm

Explanation: Cadaveric spasm is an immediate and involuntary stiffening of a group of muscles at the moment of death. It occurs at the moment of death and indicates that the person was alive at that time. In cases of drowning, it is classically seen as the deceased tightly clutching weeds, grass, mud, or other objects from the water body, reflecting a terminal vital struggle . This makes it one of the strongest indicators of antemortem drowning . Petechial hemorrhages in the eyes (Option B): Petechiae are nonspecific signs of asphyxia and may be seen in various forms of hypoxic death; they are not conclusive for drowning. Cutis anserina (Option C): Also known as gooseflesh, it can occur after death due to cold exposure or immersion and does not indicate that drowning occurred during life. Skin maceration (Option D): Maceration (washerwoman's skin) signifies prolonged immersion in water but cannot differentiate between antemortem and postmortem submersion.

References:

The Essentials of Forensic Medicine, KS Narayan Reddy, 35th Edition, Pages 285-289

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Pages 179-182

↑ *Back to this question in Part A*

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Q26: A 38-year-old male with a history of substance abuse is found dead in a water-filled trench. During postmortem examination, which of the following findings can be regarded as definitive proof that death occurred due to drowning? (Q884277)

A. Water present within the paranasal sinuses

B. Engorgement of the right chambers of the heart and major veins

C. Detection of diatoms in internal organs

D. No single finding is absolutely conclusive

Correct Answer: D. No single finding is absolutely conclusive

Explanation: Drowning is a diagnosis of exclusion , and no single postmortem finding is pathognomonic. Most features seen at autopsy are either nonspecific signs of asphyxia or changes due to immersion , which can occur even if the body is placed in water after death. Therefore, diagnosis depends on a combination of findings, along with scene investigation and history. Even a dead body submerged in water will develop signs of immersion; hence findings are not specific . Some classical features (e.g., froth, emphysema aquosum) support drowning but are not always present , especially in decomposition or atypical cases. Diatom test , though considered the 'gold standard' , is only supportive and requires correlation with the drowning medium; contamination is possible and absence does not exclude drowning. Water in stomach or intestines and foreign material in airways support drowning but are not definitive . Water present within the paranasal sinuses (Option A): This finding suggests immersion but can also occur from postmortem submersion and is not specific for drowning. Engorgement of the right chambers of the heart and major veins (Option B): Right-sided cardiac dilation is a nonspecific sign of asphyxia and may be seen in various causes of death. Detection of diatoms in internal organs (Option C): Although supportive, diatoms may enter the body through other routes or contaminate samples; hence, they are not absolutely definitive evidence of drowning.

References:

The Essentials of Forensic Medicine, KS Narayan Reddy, 35th Edition, Pages 285-289

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Pages 179-182

↑ *Back to this question in Part A*

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Q27: A 25 y/o man is found dead near a water body after being submerged for an unknown period. Autopsy reveals ballooned, pale pink lungs that retain their shape and do not collapse after removal. Blood tests show significant hyponatremia and hyperkalemia. Which of the following best describes his condition? (Q847017)

A. Dry drowning

B. Seawater drowning

C. Freshwater drowning

D. Hydrocution

Correct Answer: C. Freshwater drowning

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The scenario suggests Freshwater drowning which is characterized by pale, ballooned lungs that retain their shape and electrolyte disturbances like hyponatremia and hyperkalemia due to haemodilution.

Drowning is asphyxia resulting from fluid aspiration into air passages, leading to death from submersion. Types of Drowning- Wet Drowning : asphyxia due to aspiration of water Dry Drowning : This happens due to laryngospasm without water entering the lungs. Near/Delayed/Secondary Drowning : Symptoms occur after initial recovery. Hydrocution/Immersion Syndrome : Physiological responses due to sudden immersion in cold water. The 2 types of Wet drowning are- Features Freshwater Drowning Seawater Drowning (Option B ruled out) Pathophysiology Haemodilution : Inhalation increases blood volume by 50%, causing anemia, hemolysis, and myocardial hypoxia. Electrolyte Changes : Marked hyponatremia and hyperkalemia; calcium decrease leads to arrhythmias. Surfactant Dysfunction : Freshwater denatures the surfactant which causes alveolar collapse and pulmonary oedema present , but frothy, not massive Cardiac Load : Increased pulmonary oedema and electrolyte imbalances decrease cardiac output and cause hypotension. Haemoconcentration : High salinity (≥3% NaCl) draws water into the lungs, causing severe pulmonary oedema and elevated plasma sodium. Electrolyte Changes : Increased blood viscosity leads to bradycardia and myocardial failure; altered potassium and sodium levels(hypernatremia) Red Cell Changes : Crenation of red blood cells impairs oxygen transport. Myocardial Anoxia : Asphyxia from massive pulmonary edema and cardiac stress results in hypoxia and potential arrest. Lung characteristics Size : Ballooned but light; pale pink colour; emphysematous consistency. Shape after Removal : Retained, no collapse; crepitus with little froth and no fluid. Size : Ballooned and heavy; purplish or bluish colour; soft, jelly-like consistency. Shape after Removal : Flattened; no crepitus ; copious fluid and froth. Fatal period Death typically occurs within 4-5 minutes Death may take 8-10 minutes. Dry drowning (Option A) : In dry drowning, water does not enter the lungs, so the autopsy finding of ballooned lungs filled with fluid does not match. Hydrocution (Option D) : Hydrocution involves sudden cardiac arrest upon immersion, without the lung findings or electrolyte imbalances seen in this case.

References:

The Essentials of Forensic Medicine, KS Narayan Reddy, 35th Edition, Page 284,285,287,288

↑ *Back to this question in Part A*

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Q28: In which type of hanging is the knot positioned at the nape of the neck? (Q846973)

A. Incomplete Hanging

B. Typical Hanging

C. Atypical Hanging

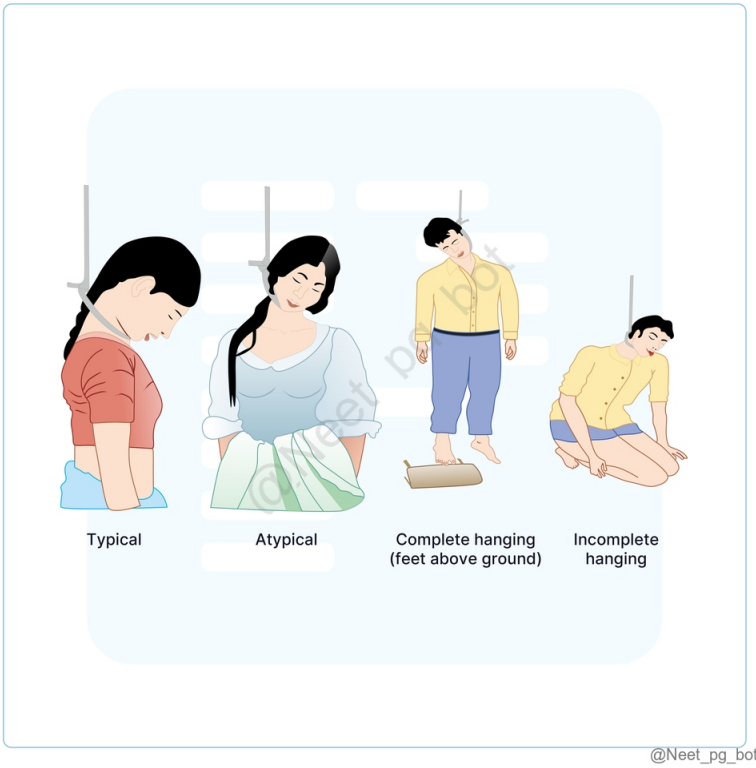
D. Near-Hanging

Correct Answer: B. Typical Hanging

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Typical hanging refers to cases where the knot is centrally positioned over the occiput, specifically at the nape of the neck. Hanging Hanging is a form of asphyxia resulting from the suspension of the body by a ligature around the neck, with the constricting force primarily being the body weight. Near-Hanging: Survivors of a hanging injury who reach the hospital are classified as near-hanging cases. (Option D ruled out) Types of Hanging: Based on Knot Position: Typical Hanging: The knot is positioned centrally over the occiput, at the nape of the neck. Atypical Hanging: The knot is located anywhere other than the occiput. (Option C ruled out) Judicial Hanging: The knot is placed under the angle of the jaw. Based on the Degree of Suspension: Complete Hanging: The body is fully suspended, with no part touching the ground, and the constricting force is the weight of the body. Incomplete (Partial) Hanging: A part of the body (toes, feet) is touching the ground, or the individual is in a sitting, kneeling, lying, or prone position, with the weight of the head acting as the constricting force. (Option A ruled out) Based on Intent: Suicidal Accidental Homicidal Autoerotic Judicial Types of Knots in Hanging Slip Knot (Running Noose): Created by attaching a rope to itself, forming a loop. The loop can be tightened to create a running noose. Binding Knot (Fixed Knot): The rope wraps around the neck at least once. Secured by tying the two ends of the rope together, forming a fixed noose.



References:

The Essentials of Forensic Medicine, KS Narayan Reddy, 35th Edition, Pages 176, 262

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 161, 162

↑ *Back to this question in Part A*

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Q29: Match the following neck structure compressed with their respective pressures needed to cause death in hanging. 1.Jugular Veins a) 10 kg 2.Carotid Arteries b) 30 kg 3.Trachea c) 2 kg 4.Vertebral Arteries d) 15 kg (Q846974)

A. 1-d, 2-a, 3-c, 4-b

B. 1-c, 2-b, 3-a, 4-d

C. 1-b, 2-c, 3-d, 4-a

D. 1-c, 2-a, 3-d, 4-b

Correct Answer: D. 1-c, 2-a, 3-d, 4-b

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Neck structure compressed Compression Pressure Result Jugular Veins 2 kg Venous congestion leading to cessation of cerebral circulation Carotid Arteries 2.5 - 10 kg Cerebral anemia/ anoxia Trachea 15 kg Asphyxia Vertebral Arteries 8 - 30 kg Cerebral anemia/ anoxia

References:

www.jebmh.com/articles/medicolegal-aspects-of-asphyxia-with-reference-to-hanging.pdf.pdf

emedicine.medscape.com/article/1988699-overview#a3

↑ *Back to this question in Part A*

@Neet_pg_bot

Q30: Which of the following is NOT a cause of early death in hanging? (Q846975)

A. Asphyxia

B. Brain Infarction

C. Venous Congestion

D. Reflex Vagal Inhibition

Correct Answer: B. Brain Infarction

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Brain infarction is associated with delayed deaths rather than early deaths by hanging. Early death typically results from immediate causes such as asphyxia, venous congestion, or reflex vagal inhibition. Brain infarction is a later complication that may occur due to reduced blood flow or other factors following the hanging incident. Death in Hanging The usual period for death is 3–5 minutes and this can extend to 5–8 minutes of suspension leading to death. Immediate Death: Occurs if cervical vertebrae are fractured. This can happen if there is inhibition of the heart. Rapid Death: Usually results from asphyxia. Least Rapid Death: If coma is the cause, death occurs more slowly. Causes of Death from Hanging Asphyxia : The constricting force of the ligature compresses the larynx and trachea, leading to asphyxia. (Option A ruled out) Venous Congestion : If the ligature is broad and soft, it can block the jugular veins, halting cerebral circulation. (Option C ruled out) Combined Asphyxia and Venous Congestion : This is the most common cause of death in hanging cases. Cerebral Anemia : Occurs when a thin cord is used as a ligature, reducing blood flow to the brain. Reflex Vagal Inhibition : This can result in sudden cardiac arrest. (Option D ruled out) Fracture/Dislocation of Cervical Vertebrae : Commonly seen in judicial hangings . Delayed Deaths Rarely, delayed deaths may result from: Aspiration pneumonia Edema of the lungs or larynx Infections Brain infarction (Option B) Hypoxic encephalopathy Brain abscess

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 163

↑ *Back to this question in Part A*

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Q31: A forensic team is called to investigate a case of judicial hanging in an obese individual. The victim was found suspended from a significant height with the knot positioned at the back of the neck. During the autopsy, a transverse tear in the carotid artery is observed, consistent with a long drop hanging. Which of the following findings is most likely associated with this case? (Q846976)

A. Dribbling of saliva

B. Ligature marks

C. Amussat's Sign

D. Simon's Sign

Correct Answer: C. Amussat's Sign

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The scenario describes the typical presentation of Amussat's Sign , which is characterized by transverse carotid artery tears, particularly in cases of long drop hangings with posteriorly placed knots, especially in obese victims. While dribbling of saliva (Option A ruled out) and ligature marks (Option B ruled out) are significant, Amussat's Sign specifically indicates carotid artery injuries in hanging. Simon's Sign indicates

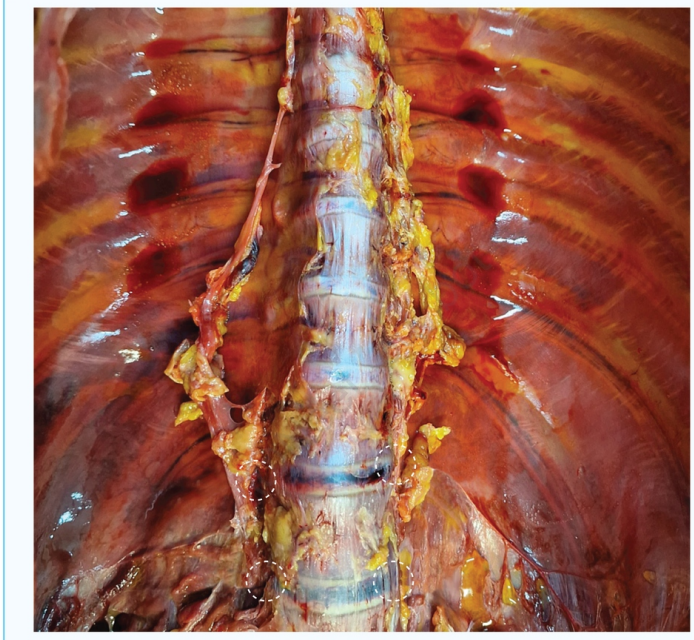
hemorrhages in the lumbar spine but is not directly linked to the mechanics of hanging. (Option D ruled out)



Amussat's sign

Minimal transversal intimal tear of the left common carotid artery - Amussat's sign.

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Simon's bleeding

Bleeding on the anterior aspects of the intervertebral discs of the lumbar region - Simon's bleeding.

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References:

The Essentials of Forensic Medicine, KS Narayan Reddy, 35th Edition, Page 265, 266

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 164-166

La Facies Sympathique

↑ *Back to this question in Part A*

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Q32: A 30 y/o male is brought to the emergency department after being found hanging from a ceiling fan. On physical examination, which of the following findings is most indicative of antemortem hanging? (Q846977)

A. Protrusion of the tongue

B. Dribbling of saliva

C. Subconjunctival hemorrhages

D. Blue lips and oral mucous membrane

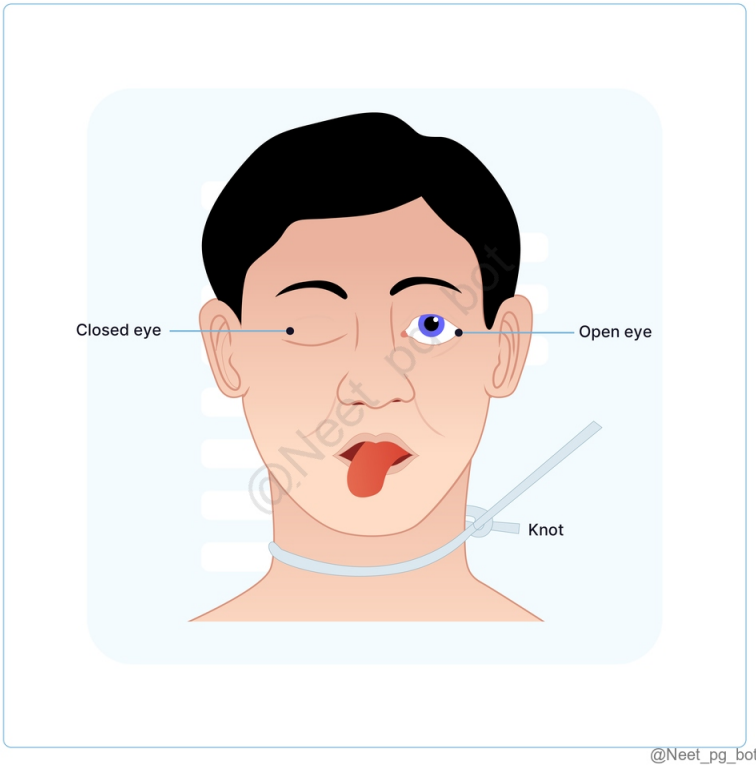
Correct Answer: B. Dribbling of saliva

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Dribbling of saliva occurs due to pressure and friction from the ligature on the submandibular glands during life, indicating antemortem hanging. Post-mortem Findings in Hanging: External Findings: Finding Description Face Swollen and cyanosed due to impaired venous return. Prominent eyeballs from increased pressure. Dilated pupils (indicative of antemortem hanging). Subconjunctival hemorrhages. Protrusion and swelling of the tongue may show bite marks and small hemorrhages. Bleeding from nose and/or ears. Blue lips and oral mucous membranes. Dribbling of saliva indicates excessive salivation from ligature pressure (indicative of antemortem hanging). (Option B) Neck Ligature mark ('furrow') typically above the hyoid bone; size/shape depends on ligature material. The skin at the ligature site is initially pale, later yellowish-brown, dry, and parchment-like. Postmortem blisters may appear on the skin near the furrow. Neck veins above the furrow may be distended. The neck becomes slender and elongated due to suspension. Flexed neck to the side opposite the knot. Other Body Parts Tardieu's spots on the forehead, eyelids, conjunctiva, and temples. Cyanosis of fingernails. Purple postmortem staining in lower limbs (glove and stocking pattern). Clenched hands. Penile turgidity and involuntary semen discharge in males. Involuntary fecal and urine discharge in both sexes. Signs of asphyxia may be absent in complete hanging. La Faciès Sympathique: Involves the sympathetic nervous system , which controls pupil dilation. Neck compression affects sympathetic pathways, leading to unilateral miosis (constriction of the pupil) on the side opposite the ligature. May also include ptosis (drooping of the eyelid) due to the same disruption in sympathetic innervation. Protrusion of the tongue (Option A) occurs due to ligature pressure but is not specific to antemortem conditions. Subconjunctival hemorrhages (Option C): This may occur post-mortem or due to other causes. Blue lips and oral mucous membrane (Option D): This finding is related to hypoxia and does not

specifically indicate antemortem conditions.



References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Pages 164-166

pubmed.ncbi.nlm.nih.gov/36892805/

↑ *Back to this question in Part A*

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Q33: Which of the following features is typically associated with sexual asphyxia and helps distinguish it from judicial hanging? (Q846978)

A. Intent to cause death

B. Use of elaborate setups and self-release mechanisms

C. Resulting cervical spine fracture

D. Presence of distinct ligature marks

Correct Answer: B. Use of elaborate setups and self-release mechanisms

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: This characteristic is typical of sexual asphyxia, where individuals may create complex arrangements to induce hypoxia while retaining a release method. Sexual Asphyxia vs. Judicial Hanging- Similarities Asphyxia Mechanism Both involve asphyxia caused by a ligature around the neck. External Findings May include a ligature mark, cyanosis, and petechiae. Differences: Intent to cause death (Option A): This characterizes judicial hanging (execution) or suicide. In sexual asphyxia, the intent is sexual gratification , and death is accidental . Aspect Sexual Asphyxia (Autoerotic Asphyxia) Judicial Hanging Intent (Option A ruled out) Achieve sexual gratification; death is accidental. Capital punishment; is intended to cause death. Execution Involves elaborate setups, bondage, and self-release mechanisms. (Option B) Highly controlled; specific knot placement (submental) and calculated drop height. Injuries Usually less severe; aims to induce hypoxia without fatal damage . Designed to cause rapid death through forceful cervical spine fracture (hangman‘s fracture-spondylolisthesis of C2 over C3). Ligature Mark (Option D ruled out) May be less prominent due to padding; often not distinctive. Typically distinct, located below the chin or ear. Cervical Spine Fracture (Option C ruled out) Rarely occurs. A hallmark feature. Scene Findings Evidence of sexual activity is often present. Takes place in a controlled environment; no signs of sexual activity.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 167, 184, 185

↑ *Back to this question in Part A*

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Q34: A 45 y/o man is found unconscious in an alley with marks around his neck suggesting strangulation. The police suspect the use of a ligature tightened rapidly with a lever. Which of the following types of strangulation best describes this scenario? (Q846979)

A. Throttling

B. Mugging

C. Bansdola

D. Garroting

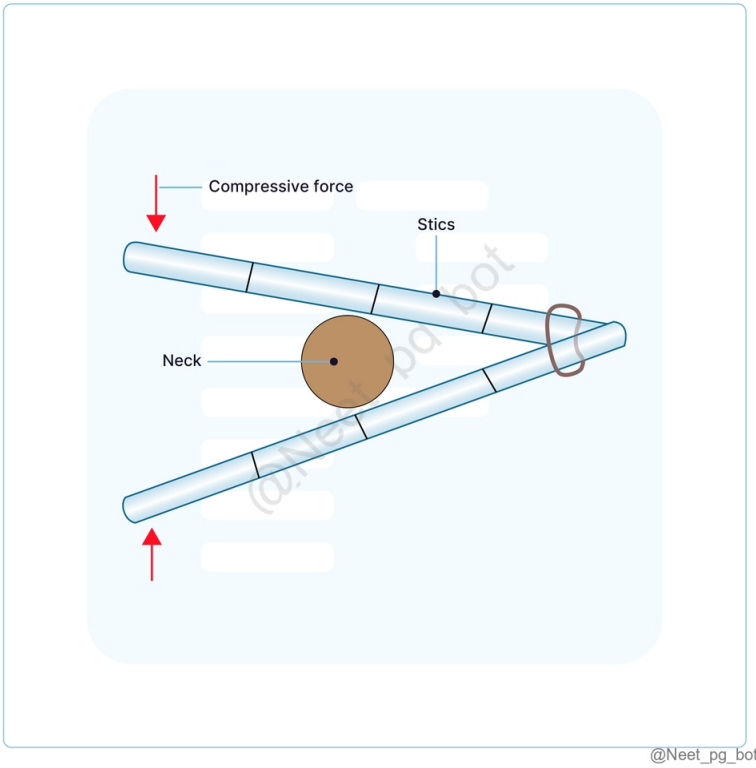
Correct Answer: D. Garroting

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: This method specifically involves using a ligature tightened rapidly by a lever, leading to a quick loss of consciousness. Types of Strangulation: Manual Strangulation (Throttling) (Option A ruled out) Involves compression of the victim's neck using fingers, palms, or hands. About 50% of deaths result from vagal inhibition

due to pressure on the carotid nerve plexus. Pressure needs to be applied for at least 2 minutes for death to occur. Mugging (Option B ruled out) Involves compressing the victim's neck using the bend of the elbow or knee. Typically a surprise attack from behind, often leaving minimal injury marks. Also known as a "chokehold," which is prohibited in wrestling due to its danger. Bansdola (Option C ruled out) A brutal method using a bamboo stick or similar object to crush the neck. Involves tying sticks across the neck or pressing a foot or knee against the throat while lying down. Leaves a distinct bruise across the trachea corresponding to the width of the object used. Garroting (Option D) Uses a ligature that is tightened by twisting with a lever (Spanish windlass). Causes rapid loss of consciousness and collapse. Historically, it has been used as a method of execution in countries like Spain, Portugal, and Turkey.





References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Pages 167, 168, 171

↑ *Back to this question in Part A*

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Q35: Which of the following findings is most characteristic of ligature strangulation? (Q846980)

A. Distinct bruising of subcutaneous tissues beneath the ligature

B. Presence of Tardieu's spots primarily on the chest and abdomen

C. Significant cervical vertebrae fracture

D. Absence of postmortem staining above the ligature

Correct Answer: A. Distinct bruising of subcutaneous tissues beneath the ligature

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: In ligature strangulation, the ligature compresses the neck, leading to trauma and bruising of the subcutaneous tissues and muscles underneath the ligature. This bruising is a direct result of the force applied by the ligature, which can cause small blood vessels to rupture, resulting in bleeding into the surrounding tissues. Causes of Death in Ligature Strangulation: Asphyxia Cerebral anoxia Vagal inhibition Cervical Vertebrae Fracture Postmortem Findings: External Examination: Finding Description Face Congested, swollen, and cyanosed. Tardieu's spots (petechiae) on the forehead, temples, eyelids, and conjunctiva. (Option B ruled out) Prominent eyes with congested conjunctiva, dilated pupils, and possible subconjunctival haemorrhages. Cyanosis of lips, fingernails, and earlobes. Postmortem staining above the ligature. (Option D ruled out) Swollen, dark-coloured, protruding tongue, possibly bitten. Bloodstained frothy fluid and mucus in mouth and nostrils. Neck Ligature mark ('furrow'): well-defined groove, typically the same width as the ligature, often horizontal. More prominent on the front and sides of the neck. Red base with congested or ecchymosed margins; imprint pattern may be present. Can be indistinct if the ligature is soft; it may appear as a deep groove with a narrow cord ('cheese cutter method'). May show an oblique appearance if the victim was dragged post-strangulation. Other Body Parts Deep, prominent postmortem staining. Involuntary discharge of urine and faecal matter; less common seminal ejaculation. Clenched hands; possible genital turgidity. Possible abrasions, fingernail marks, and contusions on face, and arms, indicating struggle. Horizontal, irregular abrasions on the neck may indicate attempts to remove ligature. Internal Examination: On dissection- Contusion and haemorrhage- of tissue, muscles of the neck, tonsils and glands. Fracture of the thyroid cartilage is commonly seen. Fracture of the hyoid bone is not very common as it is usually at or below the level of the thyroid. Feature Hanging Strangulation Face Usually, pale, petechiae are less common Congested, livid with petechiae Tongue swelling and protrusion Less marked More marked Bleeding from nose, ears, mouth Less common More common Ligature mark ('furrow') Direction Continuity Level in the neck Base Oblique Noncontinuous Above thyroid Pale, hard, parchment-like Transverse Continuous Below thyroid Soft and reddish Abrasions and ecchymoses about the edges of the mark Not common Common Involuntary discharge of feces and urine Less common More common Involuntary discharge of seminal fluid More common Less common Bruising of neck muscles Less common More common Subcutaneous tissue under the mark White, hard, glistening Ecchymosed Hyoid bone fracture May occur Uncommon Thyroid fracture Unlikely More common Larynx and trachea fracture Unlikely May be found Emphysematous bullae on lungs Sometimes present Very common Carotid arteries Damage may be seen in the intima Rare Design History of previous unsuccessful attempts of suicide may be available No such history is available Signs of struggle Absent Always present, unless taken unaware Significant cervical vertebrae fracture (Option C): This is more characteristic of manual strangulation or hanging , where greater force is applied. Ligature strangulation typically does not cause vertebral fractures.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 168, 169, 170

↑ *Back to this question in Part A*

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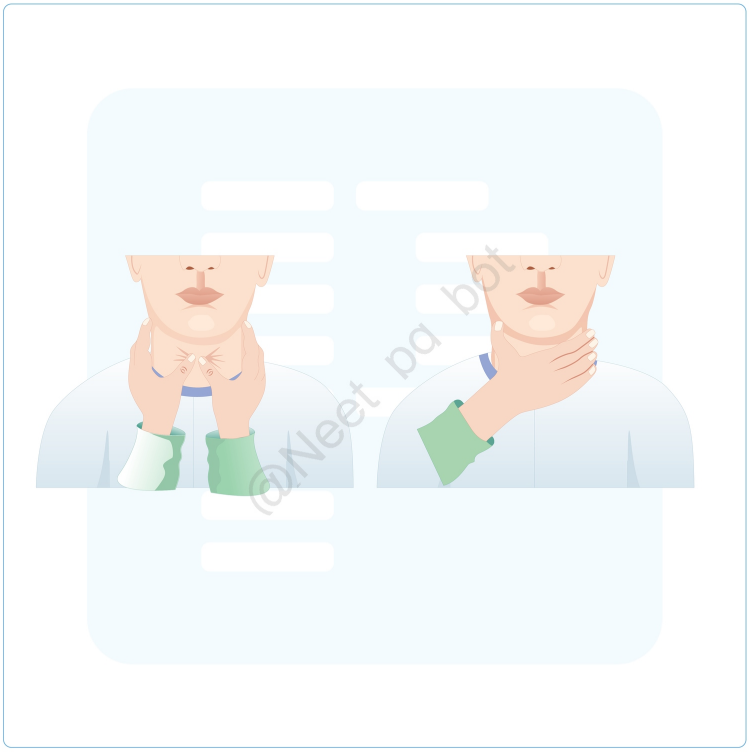
Q36: Which of the following statements regarding the given image is correct? (Q846981)

A. It can cause death through asphyxia and vagal inhibition, requiring at least 2 minutes of pressure

B. Results in minimal visible injuries on the neck

C. Key postmortem findings include only superficial bruises and no internal injuries

D. Suicidal death is a possibility



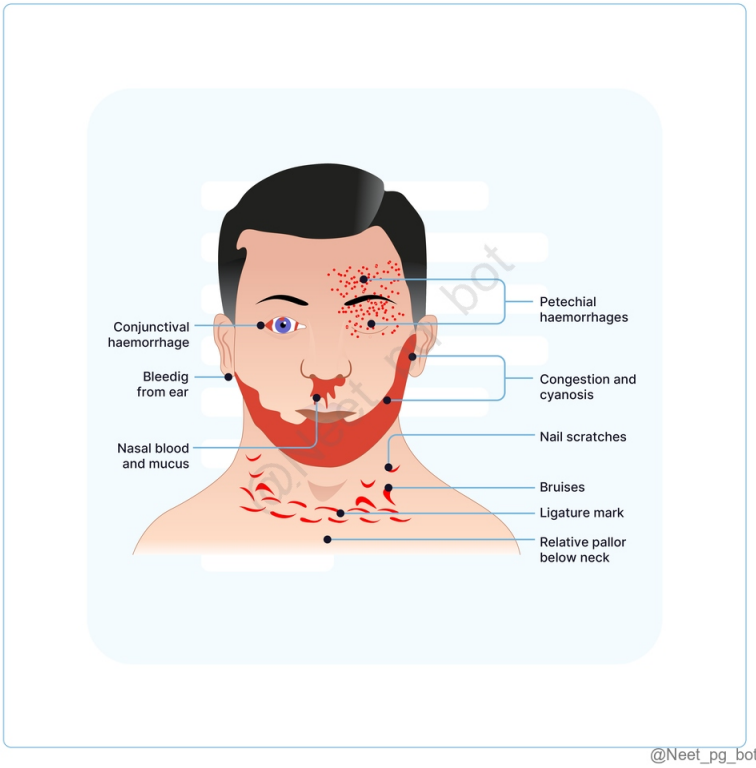
Correct Answer: A. It can cause death through asphyxia and vagal inhibition, requiring at least 2 minutes of pressure

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The given image describes Throttling (manual strangulation) . Throttling results in death through mechanisms like asphyxia (obstruction of the airway) and vagal inhibition (pressure on the carotid sinus leading to a drop in heart rate and blood pressure). The requirement of applying pressure for a minimum of 2 minutes to cause death is consistent with the physiological effects of throttling. Throttling (Manual Strangulation): Definition : A method of strangulation where the assailant compresses the victim's neck with their hands. Mechanisms of Death : Asphyxia : Obstruction of the airway due to neck pressure. Cerebral Anoxia : Restricted blood flow to the brain due to pressure on blood vessels, leading to potential brain damage. Vagal Inhibition : Stimulation of the vagus nerve can cause a sudden drop in heart rate and blood pressure, potentially resulting in cardiac arrest. Fatality Requirement : Sustained pressure for at least 2 minutes is typically required for lethality. Postmortem Findings: Examination Type Findings External Examination (Option B ruled out) Bruises and Abrasions: On the front and sides of the neck. Signs of Asphyxia: Cyanosis, facial swelling, Tardieu's spots, bleeding from nose and ears. Injuries on Other Body Parts: Additional signs of violence (abrasions, bruises, scratches). Internal Examination (Option C ruled out) Haemorrhages: In subcutaneous tissues under bruises. Muscle Damage: Tears or lacerations in neck muscles. Hyoid Bone Fracture: Significant diagnostic indicator, typically from inward

compression. Laryngeal and Tracheal Damage: Fractures of thyroid and potentially cricoid cartilages. Haemorrhages in Mouth/Throat: Bruising and lacerations on the tongue, haemorrhages in mucous membranes. Medico-legal Questions: Determining Manner of Death : Suicidal Throttling : Considered impossible; hands would relax upon unconsciousness. (Option D ruled out) Homicidal Throttling : Presumed unless proven otherwise; common in homicides, especially involving vulnerable victims. Accidental Throttling : Rare, may occur during playful or affectionate contact.



References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Pages 171-173

↑ *Back to this question in Part A*

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Q37: Which of the following methods of suffocation is most commonly associated with a reflex vagal inhibition that can lead to sudden cardiac arrest? (Q847013)

A. Smothering

B. Gagging

C. Choking

D. Café Coronary

Correct Answer: D. Café Coronary

- *Listen (English)*
- *Listen (Hindi)*

Explanation: Café Coronary is a condition characterized by sudden collapse and death while eating, often in intoxicated individuals. The high blood alcohol content anesthetizes the gag reflex, and reflex vagal inhibition can lead to a sudden cardiac arrest. Suffocation Definition : Asphyxia where air entry to the lungs is prevented by means other than pressure on the neck or drowning. Caused by breathing in a vitiated atmosphere (deficient in oxygen). Methods of Suffocation Features Smothering (Option A ruled out) Definition : Closing the nose and mouth using hands or foreign substances (e.g., mud, cloth). Autopsy Findings : External : Pallor may be present around the mouth/nose, pressure marks, distinct nail marks, petechiae, contusion on the inner lip, and stains on the bedding. Internal : Potential internal organ haemorrhages. Gagging (Option B ruled out) Definition : Asphyxia caused by a cloth or material obstructing the mouth and nose. Mechanism : A gag can block the pharynx, initially allowing nasal airflow. Obstruction worsens due to saliva and mucus, leading to complete airway blockage. Symptoms : Facial congestion. Fine petechiae on the face, sclerae, and conjunctivae. Intent : Always homicidal. Choking (Option C ruled out) Definition : Airway obstruction due to an object lodged in the hypopharynx. Accidental Choking : Often occurs during meals, especially while laughing or crying; vomited matter may be inhaled under intoxication or unconsciousness. Immediate Symptoms : Acute respiratory distress; complications may develop later. Autopsy Findings : Thickened epiglottis and folds Mucus accumulation in the throat. Lungs exhibit interalveolar oedema, congestion, and haemorrhages. Café Coronary Definition : Sudden collapse and death while eating, often in intoxicated individuals. Symptoms : Cyanosis and violent coughing. Collapse without significant distress. Cause of Death : Reflex vagal inhibition leading to sudden cardiac arrest; high blood alcohol content anaesthetises the gag reflex. A poorly chewed food bolus may obstruct the larynx. Autopsy Findings : Obstruction may be found in the mouth, larynx, or trachea, with food particles in mucus in the trachea/bronchi, differentiating from cases of post-mortem oesophagal food forcing. Signs of asphyxia may be absent. Treatment: Heimlich Maneuver : Stand behind the patient, interlock fingers, and apply pressure to the stomach.



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References:

The Essentials of Forensic Medicine, KS Narayan Reddy, 35th Edition, Page 279-282

↑ *Back to this question in Part A*

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Q38: A 28 y/o construction worker is trapped under a heavy beam and found unresponsive. He has deep purple discolouration above the compression point, pale skin below, and petechiae on his face and neck. He is pronounced dead at the scene. What type of asphyxia is most likely? (Q847015)

A. Traumatic Asphyxia

B. Positional Asphyxia

C. Drowning

D. Gagging

Correct Answer: A. Traumatic Asphyxia

■ *Listen (English)*

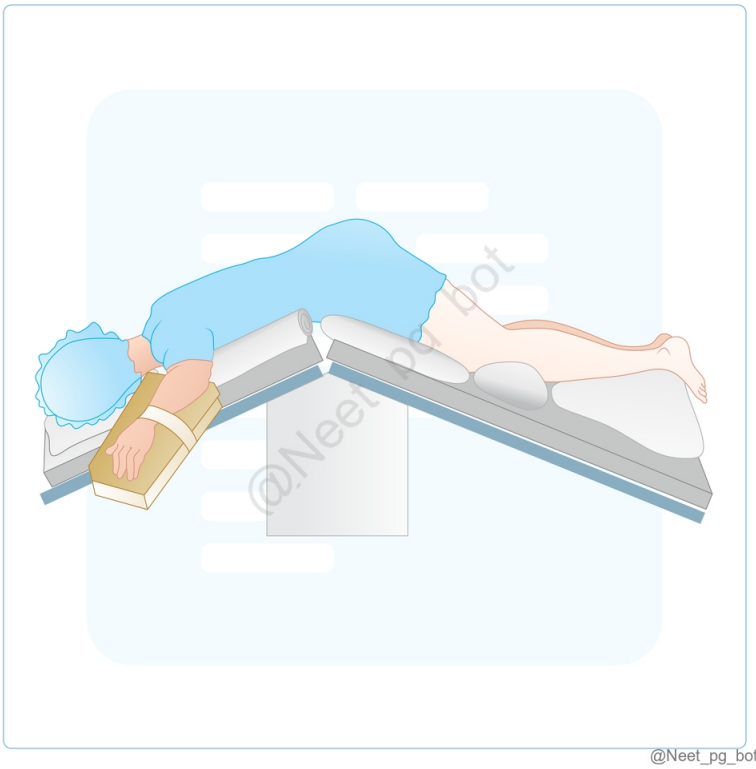
■ *Listen (Hindi)*

Explanation: The scenario describes respiratory arrest due to mechanical fixation from the heavy beam, leading to marked congestion and discoloration above the compression level (purple skin), along with petechiae, which are classic indicators of traumatic asphyxia. Features Traumatic Asphyxia Positional Asphyxia (Option B ruled out) Definition Respiratory arrest due to mechanical fixation of the chest by unyielding substances or external pressure. (Perthe's syndrome) Asphyxia results from the body being in a position that impairs breathing, often due to neck twisting or compression of the trachea. Mechanism Prevents normal chest wall movements, leading to respiratory failure. Often associated with significant compression of the chest and abdomen Abdominal weight compresses the diaphragm, hindering thoracic organ function and respiratory movement. Impaired venous return to the heart can contribute to asphyxia. Common Causes Crowded situations leading to trampling Crushing accidents (e.g., falls of earth/stones in mines, building collapses). Heavy objects (e.g., vehicles or machinery) pressing on the body. Physical restraint in a prone position (face down). Falling and wedging in a well or narrow space. Indirect compression (jack-knife position) where thighs and knees push against the chest. Postmortem Findings Intense congestion and petechial hemorrhages in the head, neck, and upper chest. Skin colour above the compression level: deep purple or purple-red; below this level: pale or mildly cyanosed.- Masque ecchymotique Swelling, congestion, and petechiae on the face, lips, and scalp. Marked congestion and cyanosis in the face and neck. Presence of petechiae on the face. Choking (Option C) : While choking involves airway obstruction, the details of the scenario do not suggest that the patient is choking on an object, as the cause of death is related to external pressure from the heavy beam. Gagging (Option D) involves airway obstruction due to something blocking the throat or mouth, but in this case, the cause of death is due to external chest compression from the heavy beam.



Diffuse petechiae and ecchymoses on the neck and face

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References:

The Essentials of Forensic Medicine, KS Narayan Reddy, 35th Edition, Page 282-284

Perthes syndrome

Masque ecchymotique

↑ *Back to this question in Part A*

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Q39: A 3-month-old infant is found unresponsive in bed next to a sleeping adult who has a strong odor of alcohol. The infant's nose appears flattened, and there are pale areas around the face. Which type of suffocation is most likely responsible for the infant's death? (Q847016)

A. Burking

B. Overlaying

C. Traumatic Asphyxia

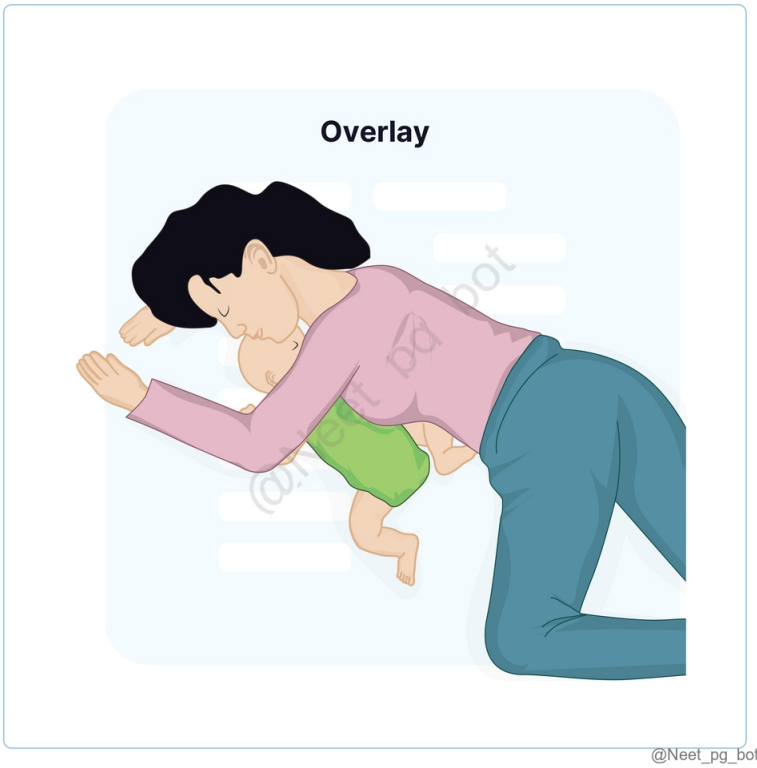
D. Positional Asphyxia

Correct Answer: B. Overlaying

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Overlaying correctly describes the scenario where the infant is suffocated due to the weight of the adult sleeping beside them. The signs of flattened facial features and pale appearance further support this diagnosis. Overlaying Definition : Compression suffocation due to the weight of an adult (e.g., mother) on an infant during sleep. Mechanism : Limits thoracic movements, reducing or preventing respiratory exchange. Commonly occurs when the adult is under the influence of alcohol. Findings : May show flattening of the nose and face. The pale appearance of the affected areas; nostrils may be filled with frothy, possibly blood-stained fluid. Typical signs of asphyxia. Cause of Death : May result from neurogenic cardiac arrest Burking (Option A) is a method of homicidal smothering and traumatic asphyxia. One accomplice would drag the victim's body, aiding in concealment. Traumatic Asphyxia (Option C) : This is generally associated with external pressure from heavy objects rather than the body weight of a person. Positional Asphyxia (Option D) : This involves impaired breathing due to body position, but the scenario suggests external compression from an adult, making overlaying more likely.



References:

The Essentials of Forensic Medicine, KS Narayan Reddy, 35th Edition, Page 281-283

Wedging

↑ *Back to this question in Part A*

@Neet_pg_bot

Q40: A 35 y/o man is found unresponsive in his apartment. The scene suggests possible asphyxia due to a hanging. Upon examination, the forensic team notes several physical findings. Which of the following findings would most likely not be observed in this case of asphyxial death? (Q846972)

A. Tardieu spots

B. Bright red discolouration of the skin

C. Cyanosis

D. Congestion of viscera

Correct Answer: B. Bright red discolouration of the skin

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Bright red discolouration of the skin is not a typical feature of asphyxia; instead, asphyxia often leads to cyanosis (bluish discolouration). Asphyxia: Asphyxia is a condition resulting from insufficient oxygen reaching the tissues, leading to hypoxia and potentially death. Signs of Asphyxial Death: Tardieu Spots (Tardieu's or Bayard's Ecchymoses): (Option A ruled out) Small, round, dark-red spots (pin-head sized). Typically found in areas with less support for capillaries: conjunctiva, face, epiglottis, subpleural lung surfaces, heart, meninges, and thymus. More visible in fair-skinned individuals and fresh bodies; fades with putrefaction. Not exclusive to asphyxia; can occur in other conditions such as electrocution, poisoning, coronary thrombosis, and bleeding disorders. Cyanosis: (Option C ruled out) Characterized by a bluish discolouration due to decreased oxygen tension in blood and increased reduced haemoglobin (≥ 5 g/dL). Commonly observed in the lips, nose, ear lobules, and internally in lungs, meninges, liver, spleen, and kidneys. Congestion of viscera (Option D ruled out) Edema of face Protrusion of tongue Bleeding from nose, mouth, or ears Dilated pupils Froth at mouth and nostrils Dribbling of saliva



References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Pages 160-162

↑ *Back to this question in Part A*

@Neet_pg_bot

Q41: A 30 y/o man is found dead after an incident where he fell into cold water. Witnesses report that he surfaced briefly, then collapsed and became unresponsive. No significant water is found in his lungs upon autopsy, but signs of cardiac arrest are evident. Which of the following is the most likely cause of death? (Q847018)

A. Wet drowning

B. Hydrocution

C. Dry drowning

D. Near drowning

Correct Answer: B. Hydrocution

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Hydrocution (immersion syndrome) occurs when sudden exposure to cold water triggers vagal inhibition, leading to cardiac arrest without significant water aspiration. This fits the clinical scenario where the man collapsed shortly after cold water immersion. Type of Drowning Features Dry Drowning (Option C ruled out) Death from laryngeal spasm with minimal water entering the lungs. Mechanism : Asphyxia occurs without significant water inhalation. Diagnosis is made by inference and exclusion, as no anatomical evidence is present Hydrocution (Immersion Syndrome) Sudden death due to cardiac arrest from vagal inhibition caused by cold water exposure. Mechanism : Cold water stimulates nerve endings on the skin. Water impact on the epigastrium can trigger the vagal reflex. Cold water in the ear, nasal passages, pharynx, and larynx stimulates mucosal nerve endings. Near/Post Immersion Syndrome (Secondary Drowning) (Option D ruled out) Refers to a submersion victim resuscitated and surviving for 24 hours Wet drowning (Option A) : In wet drowning, water would enter the lungs, but in this scenario, no significant amount of water was found in the lungs.

References:

The Essentials of Forensic Medicine, KS Narayan Reddy, 35th Edition, Page 284,288

↑ *Back to this question in Part A*

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Q42: A forensic pathologist is conducting an autopsy on a body recovered from a body of water. During the examination, several findings are noted. Based on the following statements regarding postmortem findings in drowning, which of the following is true? Frothy fluid, resulting from the churning of water, mucus, and air, is present at the mouth and nostrils, indicating drowning. Cutis anserina indicates prolonged

immersion in warm water. Washerwoman’s hand appears as wrinkled and sodden skin due to prolonged submersion. A cadaveric spasm is the immediate stiffening of muscles holding debris, indicating drowning. Paltauf’s hemorrhage is a postmortem finding not associated with drowning. Water and bleeding in the middle ear confirm antemortem drowning. The heart shows equal amounts of blood on both sides in drowning victims. (Q847019)

A. 2, 5, 6, 7

B. 1, 3, 4, 6

C. 1, 4, 5, 6

D. 2, 3, 5, 7

Correct Answer: B. 1, 3, 4, 6

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Findings in Drowning External Findings Internal Findings Pale & cyanosed face from putrefaction. Eyes half-open/closed, suffused conjunctiva, dilated pupils, subconjunctival hemorrhages (Antemortem drowning). Froth : Fine, copious, tenacious, lathery froth at mouth and nostrils is characteristic of antemortem drowning, and reappears after wiping or chest pressure. Mechanism: The churning of water, mucus, and retained air in airways creates froth. (Statement 1) In other conditions like strangulation, and electric shock, the froth is not as fine or tenacious. Cutis anserina (goose flesh): The puckered appearance of skin due to the contraction of erector muscles in cold water , occurs immediately after antemortem submersion or by rigor mortis. (Statement 2) Washerwomen’s hand : Wrinkled, sodden, and bleached appearance of hands and feet due to prolonged submersion, occurring postmortem in 3–4 hours and fully affecting the hands by 24 hours. (Statement 3) Cadaveric spasm : Immediate stiffening of muscles holding grass, sand, or debris in clenched hands— antemortem proof of drowning. (Statement 4) Rigor mortis appears early after a violent struggle (Antemortem drowning). Lungs : Ballooning with frothy fluid, rib indentations, heavy and waterlogged. Paltauf's hemorrhage : Red-gray mottling with areas of hemorrhage due to effusion of blood along interlobular septa. (Statement 5) Heart : Right side full of dark venous blood, left side empty (a sign of asphyxia). (Statement 7) Gettler test: Measures chloride content to differentiate antemortem drowning. Freshwater: Lower chloride in the left heart. Saltwater: Higher chloride in the left heart. Stomach : Water is present in 70% of cases, indicating antemortem drowning if liquid was not swallowed voluntarily. Brain : Congested with softened grey-white junction (Antemortem). Middle ear : The presence of water and bleeding in the middle ear confirms antemortem drowning. (Statement 6) Diatom test : The presence of diatoms in lungs and bone marrow suggests antemortem drowning.

References:

The Essentials of Forensic Medicine, KS Narayan Reddy, 35th Edition, Pages 285- 289

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Pages 179- 182

↑ *Back to this question in Part A*

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Q43: Match the following signs of drowning. 1. Sehrt's Sign a) Free liquid in the paranasal sinus. 2. Sveshnikov's sign b) Water in the middle ear due to violent respiratory efforts while drowning. 3. Sabinsky's Sign c) Micro rupture in gastric mucosa due to stretching. 4. Ueno's Sign d) Small and anaemic spleen due to vasoconstriction. (Q847020)

A. 1-d, 2-b, 3-a, 4-c

B. 1-c, 2-a, 3-d, 4-b

C. 1-a, 2-c, 3-b, 4-d

D. 1-b, 2,c, 3-d, 4-a

Correct Answer: B. 1-c, 2-a, 3-d, 4-b

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Signs of Drowning Sehrt's Sign Micro rupture in gastric mucosa due to over-stretching on ingestion of fluid. Sveshnikov's sign Free liquid in the paranasal sinus. Sabinsky's Sign Small and anemic spleen due to vasoconstriction. Ueno's Sign Water in the middle ear due to violent respiratory efforts while drowning. Wydler's Sign Gastric content in a container with three layers (Foam- top, liquid- middle, solid- bottom). Drowning Index Weight of both lungs + weight of pleural effusion / Weight of spleen If > 14.1%, it suggests AM drowning.

References:

The Essentials of Forensic Medicine, KS Narayan Reddy, 35th Edition, Page 288, 289

↑ *Back to this question in Part A*

@Neet_pg_bot

Q44: A forensic pathologist examines a drowning victim’s dead body and conducts tests for diatoms and chloride levels in the heart. The victim was found in a lake, and a water sample from the scene was collected for analysis. Which of the following statements is false ? (Q847021)

A. In freshwater drowning, chloride levels in the left heart are lower.

B. In saltwater drowning, chloride levels in the left heart are higher.

C. Finding diatoms in bone marrow indicates that the individual ingested water while alive.

D. The absence of diatoms in tissues can definitively rule out drowning.

Correct Answer: D. The absence of diatoms in tissues can definitively rule out drowning.

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The absence of diatoms does not definitively exclude drowning; other factors may contribute to their presence in the body. Aspect Diatom Test Gettler Test Features Diatoms are microscopic unicellular algae with silicon skeletons that are chemically inert and resistant to strong acids. In antemortem drowning, diatoms enter the bloodstream through ruptured alveolar walls, reaching organs like the lungs, heart, brain, liver, and bone marrow. Diatoms resist putrefaction, making the test useful even in decomposed bodies. A 50g tissue sample is treated with nitric acid and examined for diatoms. A water sample from the drowning site is collected for comparison of diatom species and proportions. Limitations : Possible contamination from food, air, or environment. The test cannot rule out contamination, but it is still the "gold standard" for diagnosing typical drowning. Normal Chloride Levels: The chloride content in the right and left sides of the heart is typically similar, around 600 mg/100 ml. A 25 mg% or more difference in chloride levels between the two sides suggests antemortem drowning. Interpretation Presence: Finding diatoms in tissues (bone marrow , blood, etc.) strongly indicates antemortem drowning, suggesting the individual inhales diatom-rich water. Detection in multiple tissues enhances reliability, indicating systemic absorption and confirming drowning. (Option C ruled out) Absence: While the absence of diatoms does not rule out drowning, it raises questions about the death's circumstances. Prior water ingestion or contact with diatom-rich environments could allow diatoms to enter circulation without drowning. Freshwater Drowning: The chloride content in the left heart is lower than in the right heart due to dilution from the water. (Option A ruled out) Saltwater Drowning: In saltwater drowning, the chloride content in the left heart is higher than in the right heart due to hemoconcentration and mixing with saltwater. (Option B ruled out) No Change in Chloride Content: Observed in deaths from laryngeal spasm, vagal inhibition, putrefaction, patent foramen ovale, or when the saline content of the drowning medium is similar to that of blood.

References:

The Essentials of Forensic Medicine, KS Narayan Reddy, 35th Edition, Page 289

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Pages 181- 183

↑ *Back to this question in Part A*

@Neet_pg_bot

Q45: A 35-year-old man is found dead in his kitchen. Autopsy reveals the trachea and bronchi packed with semi-digested rice and vegetable fragments without external neck injuries. Under which category of mechanical asphyxia does this finding best fall? (Q884214)

A. Throttling

B. Gagging

C. Choking

D. Traumatic asphyxia

Correct Answer: C. Choking

Explanation: Choking is a form of mechanical asphyxia that results from internal obstruction of the airway due to a foreign body lodged anywhere from the pharynx down to the bronchi. The clinical scenario explicitly describes the trachea and bronchi being packed with semi-digested food fragments, indicating a blockage from within the respiratory passages. This is the classic presentation of death due to choking on a food bolus, leading to rapid and fatal asphyxia. Throttling (Option A) involves manual compression of the neck with external injuries and neck findings, not airway blockage by food. Gagging (Option B) refers to obstruction by a cloth or object placed in the mouth externally, not impacted food. Traumatic asphyxia (Option D) results from heavy compression of the chest/abdomen, causing venous congestion, not intraluminal blockage.

References:

Reddy KSN, The Essentials of Forensic Medicine and Toxicology, 35th Edition, Page 281-282.

↑ *Back to this question in Part A*

@Neet_pg_bot

Q46: During the autopsy of a 60-year-old male with suspected asphyxial death, numerous pinpoint hemorrhages are seen scattered over the pleural surfaces of both lungs. Which statement regarding this finding is incorrect? (Q884215)

A. Expression of E-selectin can distinguish antemortem and postmortem cases

B. Uncommon in the dependent position

C. Caused by rupture of capillaries

D. Unreliable indicator of asphyxial death



Correct Answer: B. Uncommon in the dependent position

Explanation: The finding described is Petechial Hemorrhages (Tardieu Spots), which are small, pinpoint hemorrhages caused by the rupture of capillaries and small venules due to a sudden and pronounced increase in venous pressure, particularly in the head and neck. More common in areas of the body that are dependent (lower) at the time of death due to the effect of gravity, enhancing venous congestion. Caused by rupture of capillaries (Option A): Petechial hemorrhages are produced by rupture of small venules and capillaries due to raised venous pressure in asphyxia. These spots are an unreliable indicator of asphyxial death (Option B): Petechiae are nonspecific and may be seen in strangulation, smothering, choking, cardiac deaths, and even resuscitation. Expression of E-selectin can distinguish antemortem and postmortem cases (Option C): Immunohistochemical markers like E-selectin help differentiate antemortem capillary injury from postmortem artefacts.

References:

Parikh CK, Textbook of Medical Jurisprudence, Forensic Medicine and Toxicology, 8th Edition, Page 176-177.

↑ *Back to this question in Part A*

@Neet_pg_bot

Q47: Identify the type of homicidal asphyxia shown below: (Q884225)

A. Throttling

B. Traumatic asphyxia

C. Gagging

D. Smothering



Correct Answer: C. Gagging

Explanation: Gagging is a form of suffocation in which the airway is obstructed by the placement of a foreign object, such as cloth, paper, or a sponge, inside the mouth, preventing air entry. It is commonly seen in homicidal cases, intoxicated individuals, or helpless victims and may occur without external neck injuries. Throttling (Option A) involves manual compression of the neck with associated neck injuries and finger marks. Traumatic asphyxia (Option B) is caused by heavy compression of the chest or abdomen, leading to intense facial congestion and cyanosis. Smothering (Option D) results from external closure of nostrils and mouth by hand, pillow, or soft object placed over the face, not inside the mouth.

References:

Parikh CK, Textbook of Medical Jurisprudence, Forensic Medicine and Toxicology, 8th Edition, Page 197.

↑ *Back to this question in Part A*

@Neet_pg_bot

Q48: Which of the following external findings is considered the most suggestive of homicidal method shown below? (Q884226)

A. Generalised cyanosis of the lips

B. Multiple nail scratch abrasions around the nose and mouth

C. Facial congestion alone

D. Petechiae over the conjunctiva only



Correct Answer: B. Multiple nail scratch abrasions around the nose and mouth

Explanation: The method depicted in the image is homicidal smothering, which involves the forceful manual occlusion of the victim's mouth and nose, resulting in rapid mechanical asphyxia. The most suggestive external finding is the presence of multiple nail scratch abrasions (crescentic marks) or minor bruises found around the nose, mouth, and chin. These injuries are a result of the victim's struggle to provide crucial evidence of the specific mechanism. Generalised cyanosis of the lips (Option A) is a nonspecific sign seen in all forms of asphyxial deaths. Facial congestion alone (Option C) is common in many types of asphyxia and not diagnostic of smothering. Conjunctival petechiae (Option D) are seen in various asphyxial deaths and are not specific for smothering.

References:

Parikh CK, Textbook of Medical Jurisprudence, Forensic Medicine and Toxicology, 8th Edition, Page 195.

↑ *Back to this question in Part A*

@Neet_pg_bot

Q49: A victim is found dead with evidence of manual compression of the chest and obstruction of the nostrils and mouth. This combination of mechanisms is classically termed as: (Q884227)

A. Throttling

B. Burking

C. Mugging

D. Gagging

Correct Answer: B. Burking

Explanation: Burking is a dual mechanism of asphyxia involving the occlusion of the airway orifices (smothering) combined with the forceful manual compression of the chest or abdomen (traumatic asphyxia). This method, often homicidal, ensures rapid death by simultaneously preventing air entry into the lungs while mechanically inhibiting the movements necessary for respiration. Throttling (Option A) involves compression of the neck only, not chest pressure. Mugging (Option C) refers to smothering alone without associated chest compression. Gagging (Option D) involves obstruction by a cloth or an object placed in the mouth, not chest compression.



References:

Parikh CK, Textbook of Medical Jurisprudence, Forensic Medicine and Toxicology, 8th Edition, Page 196.

↑ *Back to this question in Part A*

@Neet_pg_bot

Q50: A middle-aged man collapses suddenly while eating meat at a wedding feast and is brought dead to the hospital. Autopsy reveals a large bolus of food impacted at the level of the laryngeal inlet. Which statement regarding this condition is correct? (Q884228)

A. Death is usually due to vagal inhibition alone

B. The obstruction is typically found in the esophagus

C. It is commonly associated with alcohol intake

D. External injuries to the neck are always present

Correct Answer: C. It is commonly associated with alcohol intake

Explanation: The clinical scenario and autopsy findings confirm death due to choking (Café Coronary) , which is mechanical asphyxia from internal airway obstruction by a foreign body (food bolus) lodged at the laryngeal inlet. (Option B ruled out) Consumption of alcohol is a major predisposing factor for this condition because alcohol depresses the protective upper airway reflexes (like the cough and swallow reflexes) and impairs neuromuscular coordination, significantly increasing the risk of aspiration and subsequent fatal laryngeal obstruction by a large, poorly chewed food bolus. Death is usually due to vagal inhibition alone (Option A): The primary and most lethal mechanism of death in choking is the mechanical obstruction of the airway, leading to acute hypoxia and respiratory failure. External injuries to the neck are always present (Option D): Accidental choking on a food bolus is an internal obstruction and does not involve external force to the neck; therefore, external neck injuries are characteristically absent.

References:

Parikh CK, Textbook of Medical Jurisprudence, Forensic Medicine and Toxicology, 8th Edition, Page 197.

↑ *Back to this question in Part A*

@Neet_pg_bot

Q51: A 31-year-old woman is brought for medicolegal autopsy after being found unconscious at home with a tight nylon cord encircling her neck. On external examination, a continuous horizontal ligature mark is noted below the level of the

thyroid cartilage. Which of the following additional findings most strongly supports death due to ligature strangulation rather than hanging? (Q884229)

A. Elongated neck with an oblique ligature mark

B. Carotid arteries' intimal layer damage

C. Congested, cyanotic face with petechial haemorrhages

D. Fracture of the hyoid bone in an elderly individual

Correct Answer: C. Congested, cyanotic face with petechial haemorrhages

Explanation: Ligature strangulation is caused by compression of the neck with a ligature without suspension of the body . In ligature strangulation, venous return from the head and neck is obstructed , while some arterial inflow may continue for a time, producing marked venous congestion , facial cyanosis , and petechial haemorrhages over the face, conjunctiva, and eyelids. These asphyxial features are typically more prominent in strangulation than in hanging . Feature Hanging Strangulation Face Usually, pale, petechiae are less common Congested, livid with petechiae Tongue swelling and protrusion Less marked More marked Bleeding from the nose, ears, and mouth Less common More common Ligature mark ('furrow') Direction Continuity Level in the neck Base Oblique (Option A ruled out) Noncontinuous Above thyroid Pale, hard, parchment-like Transverse Continuous Below thyroid Soft and reddish Abrasions and ecchymoses around the edges of the mark Not common Common Involuntary discharge of faeces and urine Less common More common Involuntary discharge of seminal fluid More common Less common Bruising of neck muscles Less common More common Subcutaneous tissue under the mark White, hard, glistening Ecchymosed Hyoid bone fracture May occur (Option D ruled out) Uncommon Thyroid fracture Unlikely More common Larynx and trachea fracture Unlikely May be found Emphysematous bullae on the lungs Sometimes present Very common Carotid arteries Damage may be seen in the intima (Option B ruled out) Rare Design History of previous unsuccessful attempts at suicide may be available No such history is available Signs of struggle Absent Always present, unless taken unaware

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Pages 168, 169, 170

↑ *Back to this question in Part A*

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• [06_Asphyxial Deaths] 015 Previous Year Questions

« Back to Folder Directory

[06_Asphyxial Deaths] 015 Previous Year Questions — Quick Jump

Q1 (p. 888) *Q2 (p. 889)* *Q3 (p. 890)* *Q4 (p. 891)* *Q5 (p. 892)* *Q6 (p. 893)*
Q7 (p. 894) *Q8 (p. 896)* *Q9 (p. 897)*

Q1: A person was found dead in a swimming pool. On autopsy, his stomach and lungs were filled with water, and there was evidence of mucoid froth at the nose and mouth. What is the most likely mode of death? (Q866693)

A. Dry drowning

B. Wet drowning

C. Near drowning

D. Cardiac arrest

Correct Answer: B. Wet drowning

Explanation: Wet drowning occurs when water enters the airways and lungs during the drowning process, leading to asphyxia. Autopsy findings typically show water in the lungs and stomach, and mucoid froth at the nose and mouth is a classical sign due to mixing of water, air, and surfactant. In wet drowning, inhaled water reaches the alveoli, causing washout of surfactant, alveolar collapse, and hypoxemia. It accounts for the majority of drowning deaths (about 90%). The frothy fluid seen at the mouth and nostrils is often copious and persistent, even after wiping. The stomach may also contain swallowed water. Common causes include accidental submersion, suicidal drowning, and occasionally homicidal drowning. Specific signs of antemortem drowning Fine white froth at mouth & nostrils — increases on chest compression Overdistended (“ballooned”) lungs — heavy, edematous, exuding watery froth on section Paltauf’s hemorrhages — subpleural bluish-red patches due to rupture of alveolar septa Emphysema aquosum — overinflated, water-filled lungs without putrefactive gases Diatoms in organs (bone marrow, brain) — confirms aspiration of water before death Water in the stomach & small intestine — due to swallowing during the struggle Washerwoman’s hands/feet — wrinkling of skin from immersion (early in both antemortem & postmortem, but more marked in prolonged immersion) Cutis anserina (gooseflesh) — due to contraction of arrector pili muscles Cadaveric spasm: Surest sign of antemortem drowning Feature Wet drowning Dry drowning Mechanism Aspiration of water into the lungs Reflex laryngospasm → asphyxia, minimal/no water in lungs Froth Profuse, fine, persistent Minimal or absent Lungs Heavy, water-logged, edematous Normal or slightly edematous Stomach contents Water usually present Usually absent Proportion Most cases (~75–80%) Fewer cases (~10–20%) Cause of death Asphyxia + hemodilution + electrolyte disturbance Asphyxia due to laryngospasm Incorrect Options: Dry drowning (Option A): Occurs due to laryngeal spasm preventing water entry into the lungs; lungs remain dry. Near drowning (Option C): Refers to survival after submersion for at least 24 hours before death; not applicable here. Cardiac arrest (Option D): This is the terminal event in many deaths, but it

is not the specific mode of death in this case.



References:

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↑ *Back to this question in Part A*

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Q2: An autopsy was conducted on a male with a history of drowning. No water was found in his lungs, and he was labeled a case of dry drowning. What is the cause of death? (Q857395)

A. Asphyxia

B. Vagal inhibition

C. Laryngospasm

D. Ventricular fibrillation

Correct Answer: C. Laryngospasm

Explanation: Dry drowning occurs when water triggers a reflex laryngospasm, causing the airway to close. This prevents water from entering the lungs but also obstructs airflow, leading to hypoxia and death. This is the most accurate

References:

The Essentials of Forensic Medicine & Toxicology by Narayan Reddy and OP Murty, 35th Edition, Page 284-285

Review of Forensic Medicine and Toxicology by Gautam Biswas, 3rd Edition, Page 177-181

↑ *Back to this question in Part A*

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Q3: A girl was found deceased in a lake, and her body was retrieved. Which of the following is false regarding ante-mortem drowning? (Q857396)

A. Water in the stomach

B. Froth on nose and mouth

C. No mud and vegetation in the respiratory tract

D. Cadaveric spasm in hand muscle

Correct Answer: C. No mud and vegetation in the respiratory tract

Explanation: In ante-mortem drowning, mud, vegetation, or other debris from the drowning medium may be aspirated into the respiratory tract during the victim's struggle to breathe. The presence of these elements can confirm ante-mortem drowning. Signs of Antemortem Drowning: External Signs: Foam at the mouth/nose, Washerwoman skin, Cyanosis. Internal Signs: Lungs: Over-distended, heavy, and waterlogged, Mucus: Sticky mucus in airways due to fluid inhalation. Diatoms : Microscopic algae in internal organs (bone marrow), indicating water inhalation. Paltauf's spots: Subpleural hemorrhages caused by lung over-expansion. Water in the stomach (Option A): In cases of ante-mortem drowning, water may be swallowed and found in the stomach as a result of reflexive actions during the drowning process. Froth on nose and mouth (Option B): Froth is a characteristic feature of ante-mortem drowning, caused by the mixing of water, air, and mucus during respiratory efforts. Cadaveric spasm in hand muscle (Option D): Cadaveric spasm, particularly in the hand muscles (e.g., tightly holding grass or weeds), is often seen in drowning cases as a sign of intense physical and emotional struggle before death.

References:

The Essentials of Forensic Medicine & Toxicology by Narayan Reddy and OP Murty, 35th Edition, Page 284-285

Review of Forensic Medicine and Toxicology by Gautam Biswas, 3rd Edition, Page 177-181

↑ *Back to this question in Part A*

Q4: Identify the type of homicide: (Q857949)

A. Mugging

B. Burking

C. Garrotting

D. Bansdola



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Correct Answer: B. Burking

Explanation: urking is a type of homicide caused by smothering and traumatic asphyxia. In this method, the attacker kneels or sits on the chest of the victim and closes the victim's mouth and nose with his or her hands. Traumatic asphyxia occurs due to respiratory arrest due to mechanical fixation of the chest. This prevents normal respiratory movements from happening. {{caption_text}} There are a few types of homicide that involve similar methods or characteristics to burking. Suffocation : Suffocation involves depriving a person of oxygen by covering their airways, often by using a hand, pillow, plastic bag, or other objects. Smothering : Smothering is a type of suffocation where the perpetrator covers the victim's nose and mouth, blocking their ability to breathe. Strangulation : Although not exactly the same as burking, strangulation involves applying pressure to the neck, either manually or using a ligature Choking : Choking occurs when an object or material obstructs the airway, preventing the person from breathing properly. Mugging (Option A): is a method of strangulation caused by holding the neck of the victim in the bend of the elbow. The attacker usually attacks from behind. Garrotting

(Option C): is a method of strangulation caused by a ligature being thrown around the neck and quickly tightening it. Bansdola (Option D): is a method of strangulation that uses two bamboo sticks.



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References:

Traumatic asphyxia

↑ *Back to this question in Part A*

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Q5: What is this finding suggestive of? (Q855200)

A. Drowning after organophosphate poisoning

B. Antemortem drowning

C. Drowning after arsenic poisoning

D. None of the above



Correct Answer: B. Antemortem drowning

Explanation: Antemortem Drowning features include the presence of froth in the mouth and nostrils, water in the lungs, hyperinflated lungs, and diatoms in internal organs.These findings indicate that the individual was alive at the time of submersion and inhaled water, leading to drowning. Signs of Antemortem Drowning: External Signs: Foam at the mouth/nose, Washerwoman skin, Cyanosis. Internal Signs: Lungs: Over-distended, heavy, and waterlogged, Mucus: Sticky mucus in airways due to fluid inhalation. Diatoms : Microscopic algae in internal organs (bone marrow), indicating water inhalation. Paltauf's spots: Subpleural hemorrhages caused by lung over-expansion. Drowning after organophosphate poisoning (Option A): Incorrect because organophosphates may cause respiratory depression or paralysis, but they do not cause typical signs like frothy fluid due to struggle during drowning. Drowning after arsenic poisoning (Option C): Incorrect because arsenic causes gastrointestinal symptoms and circulatory collapse but does not produce the classic drowning features like froth or emphysema aquosum. None of the above (Option D): Incorrect because antemortem drowning is the correct diagnosis based on classic forensic findings.

References:

The Essentials of Forensic Medicine & Toxicology by Narayan Reddy and OP Murty, 35th Edition, Page 284-285

Review of Forensic Medicine and Toxicology by Gautam Biswas, 3rd Edition, Page 177-181

↑ *Back to this question in Part A*

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Q6: Which of the following features are commonly observed in freshwater drowning? A. Haemodilution B. Hypokalemia C. Hyponatremia D. Arrhythmia (Q856873)

A. A, B, C & D

B. A, B & C

C. B, C & D

D. A, C & D

Correct Answer: D. A, C & D

Explanation: Features Freshwater Drowning Seawater Drowning Pathophysiology Haemodilution (Statement A) : Inhalation increases blood volume by 50%, causing anemia, hemolysis, and myocardial hypoxia. Electrolyte Changes : Marked hyponatremia (Statement C) and hyperkalemia (Statement B ruled out) ; calcium decrease leads to arrhythmias. (Statement D) Surfactant Dysfunction : Freshwater denatures the surfactant which causes alveolar collapse and pulmonary oedema. Cardiac Load : Increased pulmonary oedema and electrolyte imbalances decrease cardiac output and cause hypotension. Haemoconcentration : High salinity (≥3% NaCl) draws water into the lungs, causing severe pulmonary oedema and elevated plasma sodium. Electrolyte Changes : Increased blood viscosity leads to bradycardia and myocardial failure; altered potassium and sodium levels(hypernatremia) Red Cell Changes : Crenation of red blood cells impairs oxygen transport. Myocardial Anoxia : Asphyxia from pulmonary oedema and cardiac stress results in hypoxia and potential arrest. Lung characteristics Size : Ballooned but light; pale pink colour; emphysematous consistency. Shape after Removal : Retained, no collapse; crepitus with little froth and no fluid. Size : Ballooned and heavy; purplish or bluish colour; soft, jelly-like consistency. Shape after Removal : Flattened; no crepitus; copious fluid and froth. Fatal period Death typically occurs within 4-5 minutes Death may take 8-10 minutes.

References:

The Essentials of Forensic Medicine, KS Narayan Reddy, 35th Edition, Page 284,285,287,288

↑ *Back to this question in Part A*

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Q7: You are posted as an intern in casualty when an MLC (Medico-Legal Case) is brought by the police. The deceased has the following appearance and was declared brought dead. What is the likely cause of death before sending the body for postmortem? (Q856350)

A. Drowning

B. Hanging

C. Strangulation

D. Traumatic asphyxia



Correct Answer: A. Drowning

Explanation: The image is suggestive of Drowning. Key findings in drowning cases are as follows; Signs of Antemortem Drowning: External Signs: Foam at the mouth/nose, Washerwoman skin, Cyanosis. Internal Signs: Lungs: Over-distended, heavy, and waterlogged, Mucus: Sticky mucus in airways due to fluid inhalation. Diatoms : Microscopic algae in internal organs (bone marrow), indicating water inhalation. Paltauf's spots: Subpleural hemorrhages caused by lung over-expansion. Incorrect Options: Hanging (Option B): Hanging typically shows signs like: Ligature marks on the neck, running obliquely and above the thyroid cartilage. Petechial hemorrhages in the conjunctiva. Absence of water-related findings like froth or washerwoman's hands. Strangulation (Option C): Strangulation presents with: Horizontal ligature marks. Extensive neck bruising and petechiae. No water-related findings. Traumatic asphyxia (Option D): Traumatic asphyxia is caused by severe compression of the chest, leading to cyanosis and petechial hemorrhages, without water-related findings.

References:

The Essentials of Forensic Medicine & Toxicology by Narayan Reddy and OP Murty, 35th Edition, Page 284-285

Review of Forensic Medicine and Toxicology by Gautam Biswas, 3rd Edition, Page 177-181

↑ *Back to this question in Part A*

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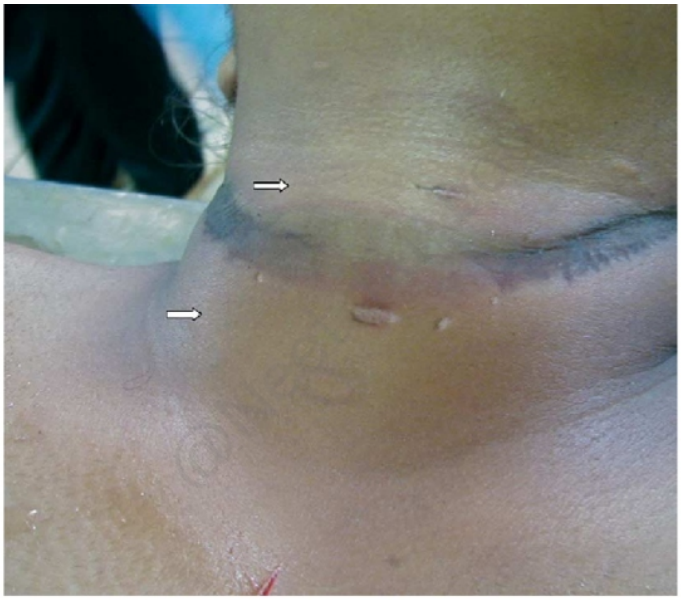
Q8: An individual was found dead at home and brought to the mortuary by the police. On external examination, a horizontal, continuous ligature mark was seen encircling the neck below the level of the thyroid cartilage. What is the likely cause of death? (Q856360)

A. Strangulation by ligature

B. Hanging

C. Throttling

D. Drowning



Correct Answer: A. Strangulation by ligature

Explanation: Strangulation by ligature is typically characterized by: Horizontal ligature marks on the neck, often below the level of the thyroid cartilage. Deep bruising around the neck area, often due to the tight ligature. Petechial hemorrhages in the eyes, face, and skin above the ligature mark. Absence of other signs of hanging, such as the upward traction on the neck. No evidence of a fall or suspension, which distinguishes it from hanging. Causes of Death in Ligature Strangulation: Asphyxia Cerebral anoxia Vagal inhibition Cervical Vertebrae Fracture Postmortem Findings: 1. External Examination: Finding Description Face Congested, swollen, and cyanosed. Tardieu's spots (petechiae) on the forehead, temples, eyelids, and conjunctiva. Prominent eyes with congested conjunctiva, dilated pupils, and possible subconjunctival haemorrhages. Cyanosis of lips, fingernails, and earlobes. Postmortem staining above the ligature. Swollen, dark-coloured, protruding tongue, possibly bitten. Bloodstained frothy fluid and mucus in mouth and nostrils. Neck Ligature mark ('furrow'): well-defined groove, typically the same width as the ligature, often horizontal. More prominent on the front and sides of the neck. Red base with congested or ecchymosed margins; imprint pattern may be present. Can be indistinct if the ligature is soft; it may appear as a deep groove with a narrow cord ('cheese cutter method'). May show an oblique appearance if the

victim was dragged post-strangulation. Other Body Parts Deep, prominent postmortem staining. Involuntary discharge of urine and faecal matter; less common seminal ejaculation. Clenched hands; possible genital turgidity. Possible abrasions, fingernail marks, and contusions on face, and arms, indicating struggle. Horizontal, irregular abrasions on the neck may indicate attempts to remove ligature. 2. Internal Examination: On dissection- Contusion and haemorrhage- of tissue, muscles of the neck, tonsils and glands. Fracture of the thyroid cartilage is commonly seen. Fracture of the hyoid bone is not very common as it is usually at or below the level of the thyroid. Hanging (Option B): Hanging is characterized by: Oblique ligature marks typically at or below the thyroid cartilage. Signs of suspension or a fall from height. Petechial hemorrhages and tongue protrusion. Possible fractures of the cervical spine or hyoid bone. Hanging marks are different in appearance from those caused by strangulation with a ligature. Throttling (Option C): Throttling involves manual strangulation and is characterized by: Irregular ligature marks or fingerprints on the neck. Bruising around the neck due to the pressure applied by hands. No horizontal ligature marks like in strangulation by a ligature. Drowning (Option D): Drowning typically shows: Water in the lungs and froth at the mouth. Washerwoman's hands and mud in the respiratory tract. Absence of ligature marks or any other signs of manual strangulation.

References:

The Essentials of Forensic Medicine & Toxicology by Narayan Reddy and OP Murty, 35th Edition, Page 272

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 168- 173

↑ *Back to this question in Part A*

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Q9: A person was found dead in the bushes with his hands tied. On examination of the body, there was cyanosis petechial hemorrhages, abrasions, and bruises around the mouth and lips.There was associated facial congestion and edema. What is the least likely cause of death here? (Q859894)

A. Asphyxia

B. Suicide

C. Smothering

D. Homicide

Correct Answer: B. Suicide

Explanation: Suicide is least likely because hands are tied (self-restraining is difficult) and facial trauma is unusual in suicidal deaths. Key Findings: Hands tied → Suggests restraint, highly indicative of homicide. Cyanosis and petechial hemorrhages: Signs of asphyxia. Abrasions and bruises around the mouth and lips : Consistent with smothering (external airway obstruction). Facial congestion and edema: Due to venous obstruction from asphyxia . Differentiation of Causes: Asphyxia (general term): Present, evidenced by petechiae, cyanosis, and facial congestion. Smothering (a form of asphyxia): Hands tied, mouth injuries indicate external airway obstruction.

Homicide: Most consistent due to the tied hands and physical trauma.

References:

Deaths

↑ *Back to this question in Part A*

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• [07_Sexual Offences] 016 Sexual Offences Traces Of Evidence

« Back to Folder Directory

[07_Sexual Offences] 016 Sexual Offences Traces Of Evidence — Quick Jump

Q1 (p. 899)	*Q2 (p. 900)*	*Q3 (p. 900)*	*Q4 (p. 901)*	*Q5 (p. 904)*	*Q6 (p. 905)*
Q7 (p. 906)	*Q8 (p. 907)*	*Q9 (p. 908)*	*Q10 (p. 909)*	*Q11 (p. 910)*	*Q12 (p. 910)*
Q13 (p. 911)	*Q14 (p. 913)*	*Q15 (p. 913)*	*Q16 (p. 914)*	*Q17 (p. 915)*	*Q18 (p. 916)*
Q19 (p. 917)	*Q20 (p. 920)*	*Q21 (p. 921)*	*Q22 (p. 922)*	*Q23 (p. 923)*	*Q24 (p. 925)*

Q1: A 28-year-old male presents to the emergency department following an alleged sexual assault by a man. The victim recalls that the assault occurred approximately 4 hours ago. Which of the following examination findings would least likely support evidence of the current sodomy assault? (Q847094)

A. Linear abrasions or contusions in the perianal region

B. Dried semen around the anus

C. Paradoxical dilatation of anus during bimanual traction of buttocks

D. Fresh anal tears or fissures

Correct Answer: C. Paradoxical dilatation of anus during bimanual traction of buttocks

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Most findings listed are consistent with an acute (recent) anal assault , especially since the event reportedly occurred within the last 4 hours . Linear abrasions or contusions in the perianal region (Opotion A): Indicate recent trauma → support recent assault Dried semen around the anus (Option B): Biological evidence strongly supportive of recent penetration Fresh anal tears or fissures (Option D): Direct sign of recent forced penetration However: Paradoxical dilatation of anus during bimanual traction of buttocks (Option C) is typically seen in individuals with habitual passive anal intercourse or chronic laxity , not necessarily due to a recent assault. It lacks acute forensic significance , making it the least supportive finding for a current sodomy event.

References:

The Essentials of Forensic Medicine & Toxicology, K. S. Narayan Reddy, 35th Edition, Page 332-333

↑ *Back to this question in Part A*

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Q2: A 40-year-old male is arrested after being caught secretly watching women undress in a public locker room. He admits that he derives sexual pleasure from watching others undress and sometimes engaging in sexual acts. What is the likely paraphilic disorder? (Q847134)

A. Frotteurism

B. Voyeurism

C. Fetishism

D. Eonism

Correct Answer: B. Voyeurism

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Voyeurism involves deriving sexual pleasure from watching others, typically while they are undressing or engaging in sexual acts. Category Description Transvestism/Eonism Wearing clothes of the opposite sex (Common in males) (Option D) Fetishism Sexual satisfaction from inanimate objects like bras or underpants (Common in males) (Option C) Voyeurism/Scoptophilia/ Peeping Tom Watching someone undress or bathe (Specifically females) Mixoscopia: Sexual gratification from watching others engage in sex. Frotteurism Rubbing private parts against a female's buttocks or thighs (Option A) Masturbation/Onanism/ Ipsation Self-stimulation of genitalia. Coprolalia Obscene language. Scatalogia Obscene telephone calls. Partialism Sexual interest focused on a specific body part other than the genitalia. Klismaphilia Sexual gratification from enemas. Ecouterism Sexual arousal from hearing sounds associated with sexual activity. Nymphomania Excessive sexual desire in females. Satyriasis Excessive sexual desire in males. Gerontophilia Sexual attraction to elderly individuals. Pedophilia Sexual attraction to children. Narratophilia Sexual arousal by reading erotic material. Somnophilia Sexual arousal from a stranger who is asleep. Pyromania Sexual satisfaction from setting fires.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 395-397

↑ *Back to this question in Part A*

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Q3: A 32-year-old male presents to the psychiatrist with complaints of unusual sexual desires. He reports feeling intense sexual gratification when inflicting pain on his partner during consensual intimate encounters. He denies any interest in other forms of sexual activity and mentions that causing pain is the primary source of his sexual

arousal. What is the most likely paraphilic disorder? (Q847131)

A. Algolagnia

B. Uranism

C. Mooning

D. Cunnilingus

Correct Answer: A. Algolagnia

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Algolagnia is a paraphilic disorder characterized by deriving sexual pleasure from inflicting pain on a partner Category Description Sadism/Algolagnia Getting satisfaction by giving pain to a partner. Masochism/ Passive Algolagnia Getting satisfaction by receiving pain from a partner. Bondage Combination of Sadism and Masochism. Lust Murder Murder acts as a stimulus for sexual arousal. Urolagnia/Undinism/ Urophilia Sexual arousal from urine smell, touch, or sight. Uranism Sexual gratification by fingering, fondling, licking, or sucking the genitalia of the opposite sex (Option B) Coprophilia Sexual arousal from fecal smell and touch. Sexual Oralism Fellatio: Oral stimulation of male genitalia. Cunnilingus: Oral stimulation of female genitalia (Option D) Exhibitionism Showing private parts. Streaking: Running naked in public. Mooning: Showing bare buttocks (Mnemonic: Moon resembles buttocks) (Option C) Flashing: Momentarily exposing body parts by quickly moving clothing (Mnemonic: like a flashlight) Necrophilia Sexual activity with a dead body. Necrophagia Eating parts of a dead body.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Pages 395-397

↑ *Back to this question in Part A*

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Q4: Which of the following is a part of the SAFE kit? 1. 2. 3. 4. 5. (Q847127)

A. 1, 2, 3

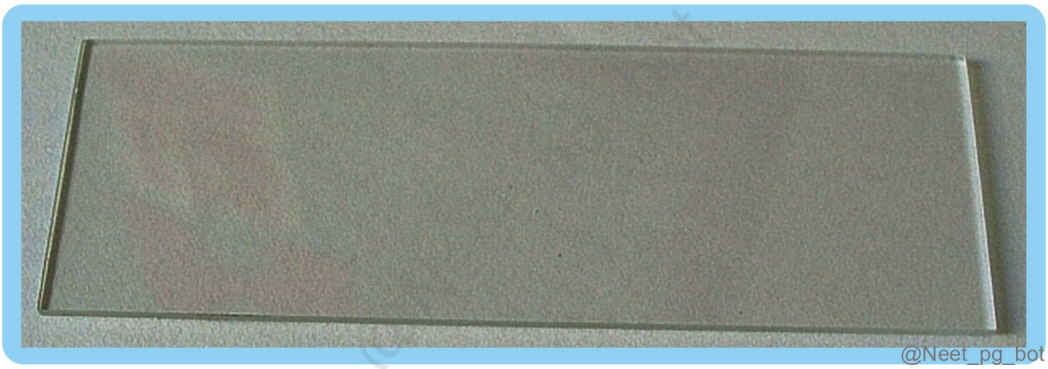
B. 2, 3, 4, 5

C. 1, 2, 3, 4, 5

D. 1, 2, 3, 5


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GERMANY
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Kochsalz "Braun" 0,9%
NaCl
B.BRAUN


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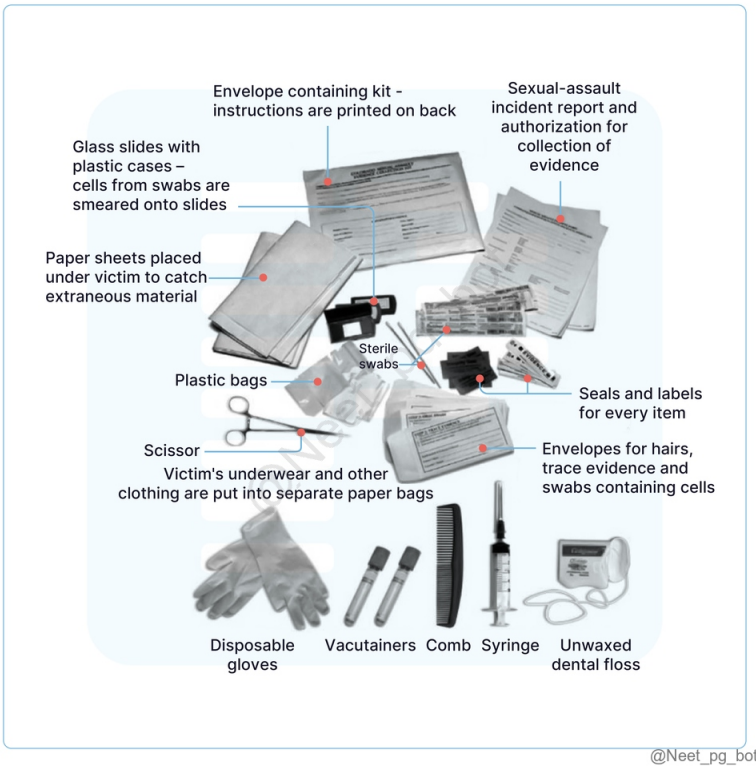


Correct Answer: C. 1, 2, 3, 4, 5

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: All the given images are a part of the SAFE kit The Safe Kit, also known as the Sexual Assault Evidence Collection Kit, Sexual Assault Forensic Evidence (SAFE) Kit, or Physical Evidence Recovery Kit (PERK) It is a crucial tool used by medical personnel to gather and preserve physical evidence following an allegation of sexual assault. The kit was developed by Louis Vitullo and is often referred to as the Vitullo Kit. Contents of the Safe Kit Evidence Collection Bags and Sheets: Used to secure various types of evidence. Swabs: For collecting biological fluids from specific areas, including: Lips Cheeks Thighs Vagina Anus Buttocks Clear Glass Slides: For examining and preserving samples. Self-Sealing Envelopes: For preserving physical evidence such as: Victim's clothes Head hair Pubic hair Blood samples Nail Pick: For scraping debris from beneath the nails, which can provide crucial evidence. White Sheets: To catch any physical evidence that may be stripped from the body during examination. Documentation Forms and Labels: Essential for keeping track of evidence and ensuring proper handling. Sterile Water and Saline: Used for cleaning and preserving samples. Comb & scissor



References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 371

↑ *Back to this question in Part A*

@Neet_pg_bot

Q5: A 20-year-old male was brought for medicolegal examination after being accused of raping a girl 2 hours back. The examining physician noted the cheesy secretion

around the corona glandis and conducted a thorough assessment of the genital organs, including a penile swab. Which of the following is incorrect? (Q847124)

A. Cheesy material is inconsistent with his recent sexual intercourse

B. Lugol’s iodine test turns brown if vaginal cells are present

C. His consent for examination is needed

D. Lugol's iodine can be done till 4 days after rape

Correct Answer: C. His consent for examination is needed

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: In cases of alleged rape, consent from the accused is not required for a medicolegal examination under Section 51 of the BNSS. Examination of Accused Legal Basis Examination under S.51 BNSS Conducted with reasonable force No consent needed Request by SI Burden of Proof In cases of rape, the burden of proof is on males. General Examination Assess behavior, mental status, clothes for stains/tears, Presence of female hair. Genital Examination Check for semen/sperm Smegma (cheesy-like secretions) at corona glandis Presence of smegma on an accused can be a useful clue and help refute a false rape charge. if present, it is inconsistent with recent sexual intercourse. (Option A) However, the absence of smegma does not prove that rape did not occur (Can be rubbed off and show -ve results) The smegma is rubbed off during intercourse which takes about 24 hours for re-deposition. Vaginal Cell Examination Examine the penis and glans for vaginal cells using Papanicolaou stain and Lugol's iodine. Penile Swab Procedure Obtain a swab, allow it to dry, and expose it to Lugol's iodine vapors Brown indicates vaginal cells (glycogen present) (Option B) Lugol's iodine can be done till 4 days after rape (Option D) Note: Section 52 BNSS – deals with examination of a victim or survivor of sexual offenses, which requires consent .

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 384

↑ *Back to this question in Part A*

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Q6: What is the primary purpose of applying toluidine blue to the anogenital area during the examination of rape victim? (Q847120)

A. To enhance the visibility of foreign objects

B. To identify areas of micro-injury

C. To check for signs of infection

D. To prepare for DNA collection

Correct Answer: B. To identify areas of micro-injury

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Toluidine blue is a contrast agent used to highlight micro-injuries in the anogenital area, aiding in the forensic examination. BNSS Section 184: Medical examination of a victim of Rape Step Details Request for Examination Any police officer can request it within 24 hours. Consent Must obtain consent from the woman Examination supervised by a female RMP. Initial Examination Ask the victim to remove clothing. Examine and collect evidence from clothes. Look for foreign objects (hairs, seminal stains) (Option A) Search for physical injuries. Detection of Micro Injuries Apply toluidine-blue contrast to the anogenital area. Swabs Collection 4 swabs: Smear: Prepare a smear for microscopic examination. Sperm: Use saline for motility testing. DNA Profiling (Option D) Chemical Tests: Acid phosphatase, creatinine phosphokinase, lactate dehydrogenase. Examination Position Examine in lithotomy position under good lighting. Hymen Examination Use Glaister-Keene rods or hymenoscope Look for tears (usually posterior at 5-7 o'clock position). Vaginal Examination Use a speculum for vaginal examination. Cervical Examination Use a colposcope for cervical examination. Post-Examination Care Treat STDs, injuries, or potential pregnancy. Provide psychological support. To check for signs of infection (Option C): Infection assessment typically involves clinical evaluation

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 370

↑ *Back to this question in Part A*

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Q7: A 35-year-old employee alleges that he was forced by his employer to work extra hours without pay, against his will. The employee files a complaint under which section of the Bharatiya Nyaya Sanhita (BNS) that deals with unlawful compulsory labour? (Q847118)

A. BNS Section 142

B. BNS Section 145

C. BNS Section 146

D. BNS Section 150

Correct Answer: C. BNS Section 146

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: BNS Section 146 criminalizes unlawful compulsory labour , protecting individuals from being forced to work against their will without lawful authority. Offenders can face imprisonment for up to one year, a fine, or both , with punishment varying based on circumstances. This section safeguards personal freedom, autonomy and prevents exploitation in employment or other labour contexts. BNS Section 142 (Option A): This section relates to offences concerning unlawful assembly or related public order issues , depending on the grouping of offences. In the given scenario, there is no unlawful assembly , no public order disturbance and no group violence is involved. Hence, Section 142 is not applicable. BNS Section 145 (Option B): This section pertains to offences of a different nature (such as property-related or order-related offences) and does not criminalize compelled employment or labour exploitation . In this case, the issue is not trespass, property dispute, or obstruction. Therefore, Section 145 does not apply. BNS Section 150 (Option D): This section deals with offences against public servants or obstruction in the discharge of official duties , depending on statutory classification. In this scenario, the employer is not acting as a public servant in official capacity and the complaint concerns forced labour, not obstruction of government duty. Hence, Section 150 is irrelevant.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 369

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↑ *Back to this question in Part A*

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Q8: During a news report, a journalist accidentally reveals the name of a woman who has accused her neighbor of rape under BNS Section 63. The report goes viral, causing distress to the victim. If the journalist is charged under BNS section 72, what is the maximum punishment they could face? (Q847116)

A. 1 year of imprisonment plus fine

B. 2 years of imprisonment plus a fine

C. 5 years of imprisonment without fine

D. A warning from the court with fine

Correct Answer: B. 2 years of imprisonment plus a fine

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Under BNS Section 72, if a journalist publishes or prints the name or any matter that may reveal the identity of a victim of rape, they can face a punishment of imprisonment that may extend up to 2 years, along with

a fine. BNS 72: Whoever prints or publishes the name or any matter which may make known the identity of any person (victim) against whom an offence under section 64 to section 71 is alleged or found to have been committed shall be punished with imprisonment of either description for a term which may extend to two years and shall also be liable to fine. (Option B) Exceptions If it is for investigation purposes The victim is authorizing Printing or publication of the judgment of any High Court or Supreme Court

References:

The Essentials of Forensic Medicine & Toxicology, K. S. Narayan Reddy, 35th Edition, Page 321

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↑ *Back to this question in Part A*

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Q9: A 26-year-old man is proven guilty of committing an offense of rape that resulted in the victim being in a persistent vegetative state. He is sentenced to 20 years of imprisonment. Under which BNS section is he most likely convicted? (Q847113)

A. BNS Section 65

B. BNS Section 66

C. BNS Section 67

D. BNS Section 68

Correct Answer: B. BNS Section 66

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Section 66, BNS specifically addresses the punishment for rape causing the victim to be in a persistent vegetative state or resulting in death , with rigorous imprisonment for a term which shall not be less than twenty years, but which may extend to imprisonment for life, which shall mean imprisonment for the remainder of that person’s natural life, or with death. Important BNS related to Rape offences 63 BNS Definition of Rape Minimum age of girl for consent for sex: 18 years 64 BNS Punishment for rape (10 years to life) 65 BNS Punishment for rape in certain cases (Option A) Less than 16 years of girl (Rigorous imprisonment for not less than 20 years,which may extend to life imprisonment) Less than 12 years of girl (Rigorous imprisonment for not less than 20 years,extendable to life imprisonment or death penalty) 66 BNS Causing death /vegetative state of the victim while committing rape (20 years to death) 67 BNS Sexual intercourse by husband upon his wife during separation (Option C) 68 BNS Sexual intercourse by a person in authority (Option D) 70 BNS Gang rape > 18 years (20 years - life) < 18 years (life imprisonment - death) 71 BNS Repeat offender (life imprisonment - death) 72 BNS Disclosure of identity of rape victim (up to 2 years)

References:

The Essentials of Forensic Medicine & Toxicology, K. S. Narayan Reddy, 35th Edition, Page 321 https://www.indiacode.nic.in/show-data?abv=CEN&statehandle=123456789/1362&actid=AC_CEN_5_23_00048_2023-45_1719292564123&orderno=68&orgactid=AC_CEN_5_23_00048_2023-45_1719292564123

↑ *Back to this question in Part A*

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Q10: During a forensic examination, a 25-year-old woman reports that she was raped by a colleague at a workplace event. The medical examination reveals no physical injuries but confirms non-consensual sexual intercourse. According to the Bharatiya Nyaya Sanhita, what is the minimum punishment the accused would face? (Q847108)

A. 5 years of rigorous imprisonment

B. 7 years of rigorous imprisonment

C. 10 years of rigorous imprisonment

D. Life imprisonment

Correct Answer: C. 10 years of rigorous imprisonment

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: According to Section 64 of the Bharatiya Nyaya Sanhita (BNS), the punishment for rape is a minimum of 10 years of imprisonment, which may extend to life imprisonment, along with liability to pay a fine. Important BNS related to Rape offences 63 BNS Definition of Rape Minimum age of girl for consent for sex: 18 years 64 BNS Punishment for rape (10 years to life) 65 BNS Punishment for rape in certain cases Less than 16 years of girl (20 years to life) Less than 12 years of girl (20 years to death) 66 BNS Causing death /vegetative state of the victim while committing rape (20 years to death) 70 BNS Gang rape > 18 years (20 years - life) < 18 years (life imprisonment - death) 71 BNS Repeat offender (life imprisonment - death) 72 BNS Disclosure of identity of rape victim (up to 2 years)

References:

The Essentials of Forensic Medicine & Toxicology, K. S. Narayan Reddy, 35th Edition, Page 320, 321. https://www.indiacode.nic.in/show-data?abv=CEN&statehandle=123456789/1362&actid=AC_CEN_5_23_00048_2023-45_1719292564123&orderno=64&orgactid=AC_CEN_5_23_00048_2023-45_1719292564123

↑ *Back to this question in Part A*

@Neet_pg_bot

Q11: Which of the following is NOT true regarding the POCSO Act? (Q847103)

A. It is designed to protect female children under the age of 18 from sexual abuse

B. It also includes protection against digital sexual crimes and exploitation against children.

C. The Act was amended in 2019, making punishments stricter.

D. Special courts have been established to ensure the swift disposal of POCSO cases

Correct Answer: A. It is designed to protect female children under the age of 18 from sexual abuse

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The POCSO Act is gender-neutral, and it protects all children, not just female children, under the age of 18 from sexual abuse. Protection of Children from Sexual Offences (POCSO) Act Enacted in 2012, it is law in India designed to protect children under the age of 18 from sexual abuse, sexual harassment, and pornography. Key Features of the POCSO Act: Gender-neutral law (Option A) It covers penetrative and non-penetrative assault, sexual harassment, and use of children for pornography Burden of proof is on the accused, unlike many other criminal laws where the burden is on the prosecution Mandatory reporting by adults and failure to do so can be punishable Special courts for the trial of offenses to ensure a child-friendly environment Identity of the victim is to be protected, and the proceedings are to be conducted in camera to prevent exposure Recent Changes and Developments in the POCSO Act: 2019 Amendment (Option C ruled out) Stricter Punishments: Death penalty for aggravated sexual assault against children The minimum punishment for penetrative sexual assault increased to 10 years, and for aggravated penetrative sexual assault increased to 20 years, with the possibility of life imprisonment or death in extreme cases. Fast-track Courts to ensure swift disposal of POCSO cases, given the backlog of pending cases. (Option D ruled out) Clarifications on ‘Touch’ and Sexual Intent: The intent behind physical contact is crucial in determining whether it qualifies as an offense under POCSO. Digital Crimes Against Children: (Option B ruled out) Provisions related to the use of children for pornographic and online exploitation purposes have been emphasized with stricter penalties.

References:

https://bnblegal.com/bareact/the-protection-of-children-from-sexual-offences-amendment-act-2019/

↑ *Back to this question in Part A*

@Neet_pg_bot

Q12: Under Section 63 of the Bharatiya Nyaya Sanhita (BNS), which of the following scenarios does NOT constitute rape? (Q847101)

A. A man engages in sexual intercourse with a woman by falsely promising marriage, knowing he does not intend to marry her.

B. A husband forces his wife, who is above 18 years of age, into sexual intercourse without her consent.

C. A man engages in consensual sexual intercourse with a woman who is 17 years old.

D. A man has consensual sexual intercourse with a woman who is mentally incapacitated and unable to provide informed consent.

Correct Answer: B. A husband forces his wife, who is above 18 years of age, into sexual intercourse without her consent.

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Section 63 of the Bharatiya Nyaya Sanhita (BNS) states that sexual intercourse or sexual acts by a man with his own wife, the wife not being under eighteen years of age , is not rape. Rape definition and conditions Section 63, BNS defines rape: Penetrates his penis, to any extent, into the vagina, mouth, urethra or anus of a woman or makes her to do so with him or any other person; or Inserts, to any extent, any object or a part of the body, not being the penis, into the vagina, the urethra or anus of a woman or makes her to do so with him or any other person; or Manipulates any part of the body of a woman so as to cause penetration into the vagina, urethra, anus or any part of body of such woman or makes her to do so with him or any other person; or Applies his mouth to the vagina, anus, urethra of a woman or makes her to do so with him or any other person, under the circumstances falling under any of the following seven descriptions: Against her will Without her consent With her consent, only because she or someone she cares about is threatened with harm or death. With her consent, she mistakenly believes the man is her lawful husband when the man knows that he is not her husband. (Option A) With her consent, when, at the time of giving such consent, she cannot understand the nature or consequences due to intoxication, mental incapacity, or being drugged. (Option D) With or without her consent, when she is under eighteen years of age. (Option C) When she is unable to communicate consent. Exceptions: A medical procedure or intervention shall not constitute rape. Sexual intercourse or sexual acts by a man with his wife, the wife not being under eighteen years of age, is not rape. (Option B) Note: Even if a girl gives consent below 18 years, it is known as statutory rape.

References:

The Essentials of Forensic Medicine & Toxicology, K. S. Narayan Reddy, 35th Edition, Page 320 https://www.indiacode.nic.in/show-data?abv=CEN&statehandle=123456789/1362&actid=AC_CEN_5_23_00048_2023-45_1719292564123&orderno=63&orgactid=AC_CEN_5_23_00048_2023-45_1719292564123

↑ *Back to this question in Part A*

@Neet_pg_bot

Q13: Which of the following best represents an application of Locard's Exchange Principle in forensic investigations? (Q847045)

A. The use of DNA analysis to determine genetic relationships

B. The transfer of sweat and residue forming latent fingerprints on surfaces

C. The identification of drug metabolites in urine samples

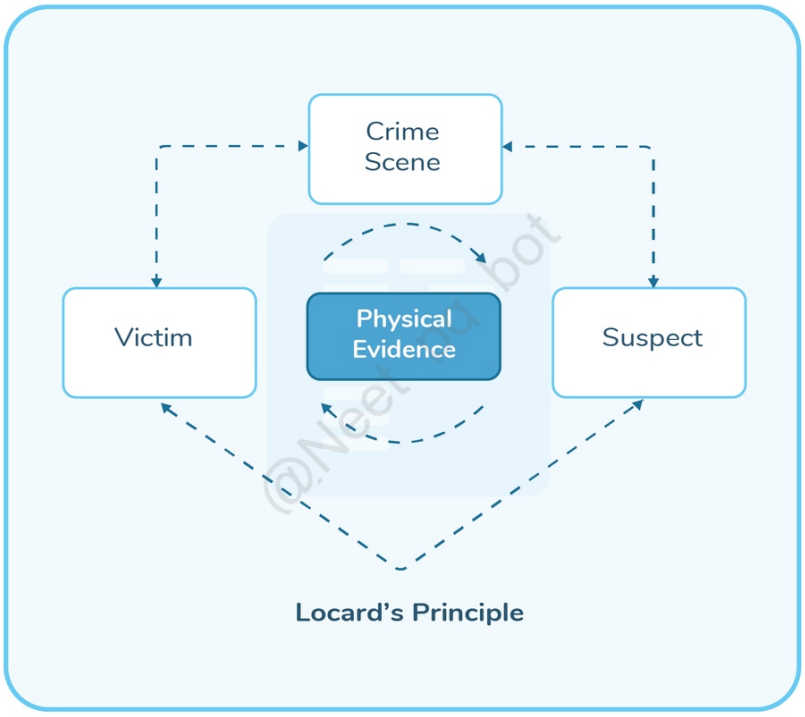
D. The analysis of blood pressure to assess cause of death

Correct Answer: B. The transfer of sweat and residue forming latent fingerprints on surfaces

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Locard's Exchange Principle involves the transfer of material when two objects come into contact, as seen with latent fingerprints formed by sweat and residue. Locard's Exchange Principle States that "when two objects come into contact, material is always transferred between them." Crucial in forensic investigations, especially in sexual assault cases. Applications: Fingerprint Development: Latent fingerprints form from sweat and residue transfer onto surfaces. Various techniques are used to make these prints visible. Trace Evidence in Sexual Assault: Key types of evidence: fibers, hair, biological fluids. Helps establish links between victim and assailant, supporting case details. Timeliness of Evidence Collection: Recovery of trace evidence diminishes over time. Sperm detection: Motile sperm: up to 12 hours in the vagina. Non-motile sperm: up to 72 hours. The use of DNA analysis to determine genetic relationships (Option A) refers to DNA analysis, which is not directly related to material transfer between objects. The identification of drug metabolites in urine samples (Option C) deals with drug testing, which does not involve physical contact between objects. The analysis of blood pressure to assess cause of death (Option D) concerns physiological assessment and is unrelated to material exchange.



References:

Forensic Medicine & Toxicology for Medical students, Gautam Biswas, 3rd Edition, Page 86, 380

↑ *Back to this question in Part A*

@Neet_pg_bot

Q14: Which of the following statements regarding BNS Section 107 is incorrect? (Q847092)

A. It criminalizes sexual acts against the order of nature.

B. Consensual sexual activity between adults is always punishable under this section.

C. The law primarily targets non-consensual sexual acts.

D. Punishment under this section includes imprisonment and/or fine.

Correct Answer: B. Consensual sexual activity between adults is always punishable under this section.

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: BNS Section 107 specifically deals with the "abetment of suicide of a child or person of unsound mind," targeting those who aid, provoke, or encourage vulnerable individuals to commit suicide. The section criminalizes abetment of suicide for vulnerable groups like minors, persons with mental illness, delirious persons, or intoxicated individuals. (Option A ruled out) The punishment includes imprisonment (up to life or death penalty) and/or fines. (Option D ruled out) The law targets abetment (encouraging or forcing suicide), not consensual acts that do not involve abetment. (Option C ruled out)

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 388-392

↑ *Back to this question in Part A*

@Neet_pg_bot

Q15: A 30-year-old man approaches a lawyer seeking advice after discovering that his wife has been having an extramarital affair. He expresses anger and frustration, wanting to understand his legal options regarding this situation. Which of the following statements correctly reflects the legal status of adultery in India? (Q847090)

A. It’s a criminal offense punishable by imprisonment under IPC

B. The man can file a criminal case against his wife’s lover

C. The man can pursue a civil case for divorce

D. A serious offense that can lead to both criminal and civil liabilities

Correct Answer: C. The man can pursue a civil case for divorce

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: In India, adultery was decriminalized by a Supreme Court ruling in 2018, meaning it is no longer punishable as a criminal offense under the Indian Penal Code (IPC) Natural sexual offences: Penile-vaginal route Type of Offense Description Legal Status in India Rape Forceful sexual intercourse Criminal offense Defined under IPC Sec 375 Incest Sexual relationship between blood relations Complexes: Electra complex (Daughter-Father) Oedipus complex (Son-Mother) Pharaon (Brother-Sister) Not a crime (no IPC provision) Adultery Extramarital affairs Decriminalized Civil case; grounds for divorce (Option C)

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Pages 367-385

↑ *Back to this question in Part A*

@Neet_pg_bot

Q16: Forensic analysts find hair samples at a crime scene and need to determine the origin of hair. They note the following characteristics: the medulla is thick, and the scale pattern shows coronal scales. What type of hair are they most likely examining? (Q847086)

A. Human hair

B. Animal hair

C. Synthetic hair

D. Insect hair

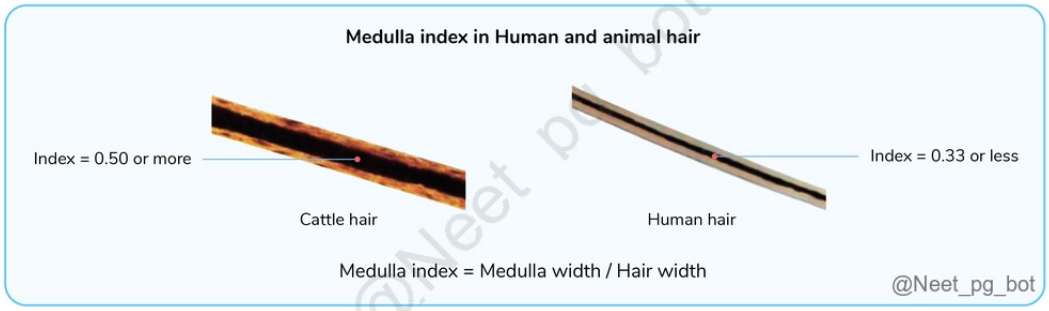
Correct Answer: B. Animal hair

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: This conclusion is based on two key characteristics observed in the animal hair: a thick medulla and the presence of coronal scales. Characteristic Animal Hair Human Hair (Option A) Medulla Thick Narrow Cortex

Thin Thick Scale Pattern Coronal scales (C for Cattle) Imbricate scales (I for Insaan) Texture Coarse and thick Fine and thin Medullary Structure Continuous medulla Discontinuous or absent medulla Pigmentation Pigment is at the center Pigment is at the periphery Medullary Index (MI) More than 0.5 0.33 or less Synthetic hair (Option C) are uniform, lacking biological structure such as a medulla, whereas insect hairs (setae) (Option D) are non-keratinized, jointed, and chitinous stuctures.



References:

Forensic Medicine & Toxicology for Medical students, Gautam Biswas, 3rd Edition, Page 89

↑ *Back to this question in Part A*

@Neet_pg_bot

Q17: During an autopsy, forensic experts find hair strands embedded in the victim's scalp with a swollen bulb and ruptured sheath. What does this evidence suggest about the circumstances of the victim's death? (Q847083)

A. The hair fell out naturally.

B. The victim was forcibly restrained.

C. The hair was dyed before death.

D. The victim had a medical condition.

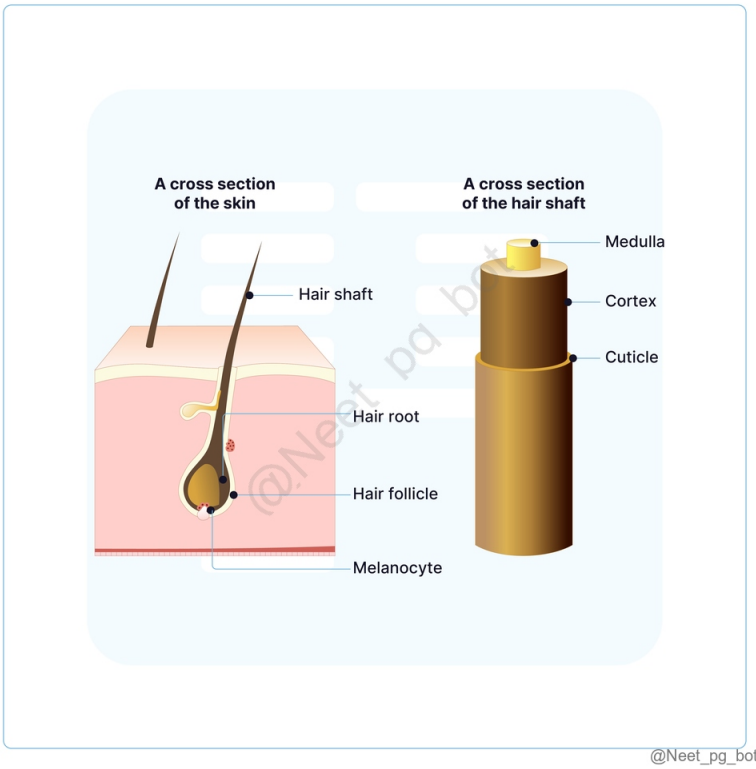
Correct Answer: B. The victim was forcibly restrained.

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: In this case, hair strands with a swollen bulb and ruptured sheath indicate that the hair was forcibly removed rather than falling out naturally. This suggests a struggle or violent interaction, where the victim may have been restrained or attacked, leading to the forcible pulling of hair. Medicolegal importance Blunt trauma: Flattening/splitting of hair shaft. Sharp trauma: Clean, uniform cut surface. Burned cases: Swollen, fragile, curled, twisted hair with peculiar odor (Singeing of hair) Naturally fallen Hair : Distorted bulb, absent sheath (Option A) Forcibly plucked Hair : Ruptured sheath, swollen bulb, irregular shape. Diseases : Lighter color in kwashiorkor,

malnutrition, vitamin deficiencies; fungal tunneling can produce transverse lines (Option D) Dyeing : Color in the cuticle, the microscopical examination can confirm (Option C)



References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 89

↑ *Back to this question in Part A*

@Neet_pg_bot

Q18: Which of the following statements regarding semen analysis tests is incorrect? (Q847080)

A. The fluorescence test results are bluish-white.

B. The Acid phosphatase test is positive in aspermia

C. The CPK test detects fresh seminal stains

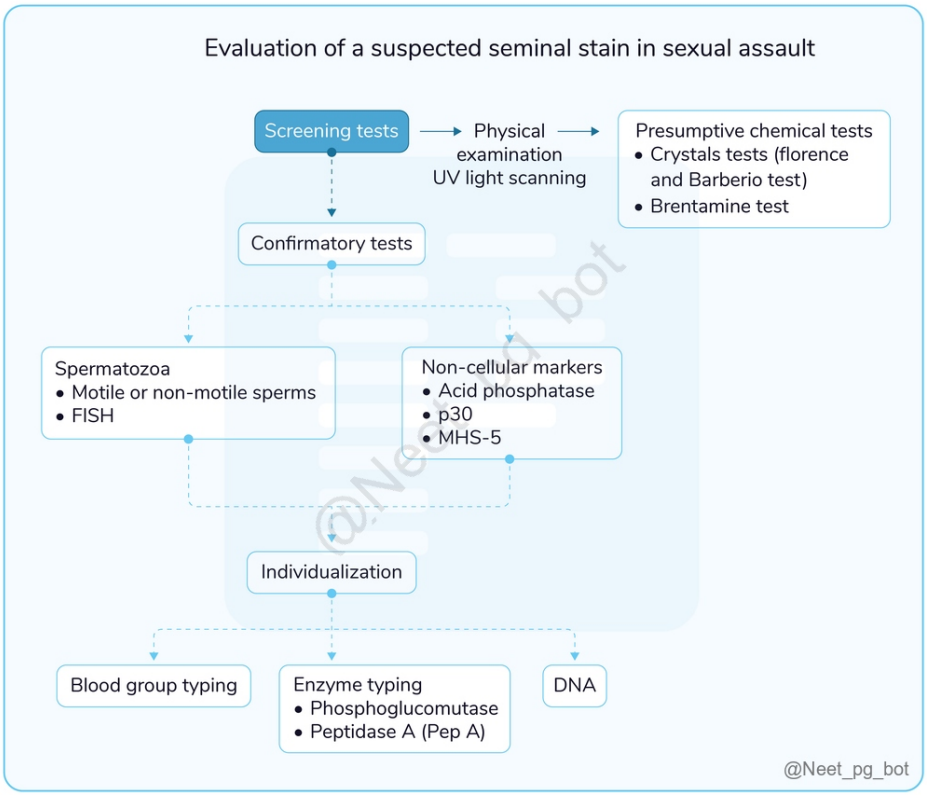
D. Light microscopy is confirmatory

Correct Answer: C. The CPK test detects fresh seminal stains

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The CPK test detects old seminal stains (up to 6 months old), not fresh stains. Fluorescence Test (Option A) Substance Detected : Seminal stain Result : Bluish white color under UV light Acid Phosphatase Test (Option B) Substance Detected : Acid Phosphatase Result : Positive even in aspermia (absence of sperm) Normal Range : 320-360 Bodansky units Confirmatory Tests (Option D) Gold Standard : The presence of spermatozoa under light microscopy. Light microscopy allows for the direct observation of sperm cells in a sample. The detection of spermatozoa confirms the presence of seminal fluid and is a reliable indicator.



References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Pages 431-433

↑ *Back to this question in Part A*

@Neet_pg_bot

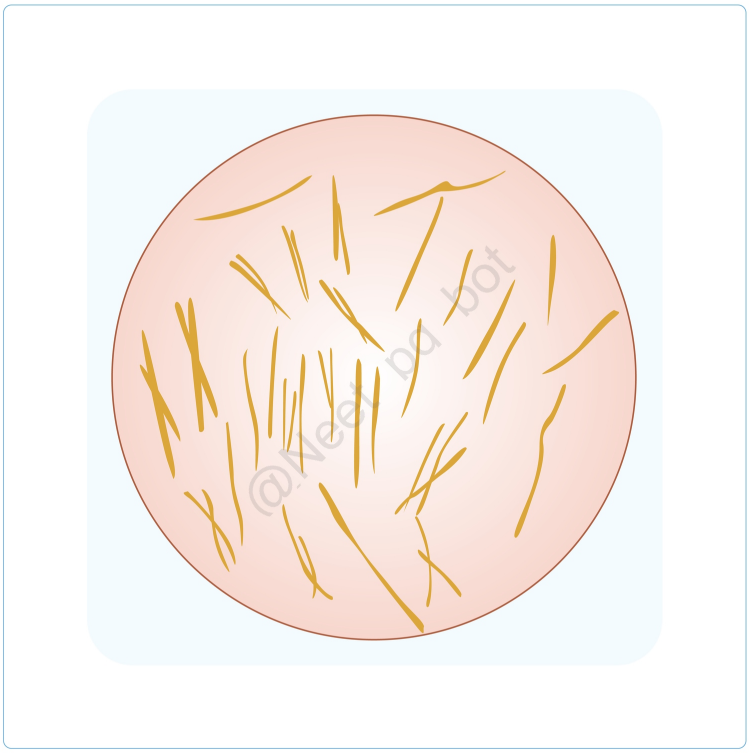
Q19: A 28-year-old woman presents with allegations of sexual assault. A P/V swab was taken, and a test as shown below was performed. Which of the following tests was likely done? (Q847073)

A. Teichmann test

B. Barberio test

C. Takayama test

D. Florence test

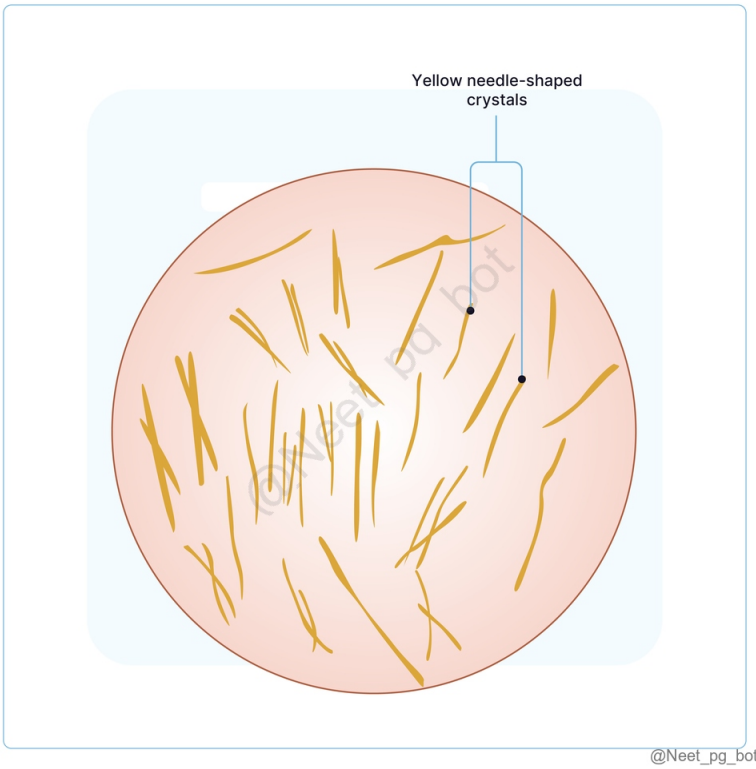


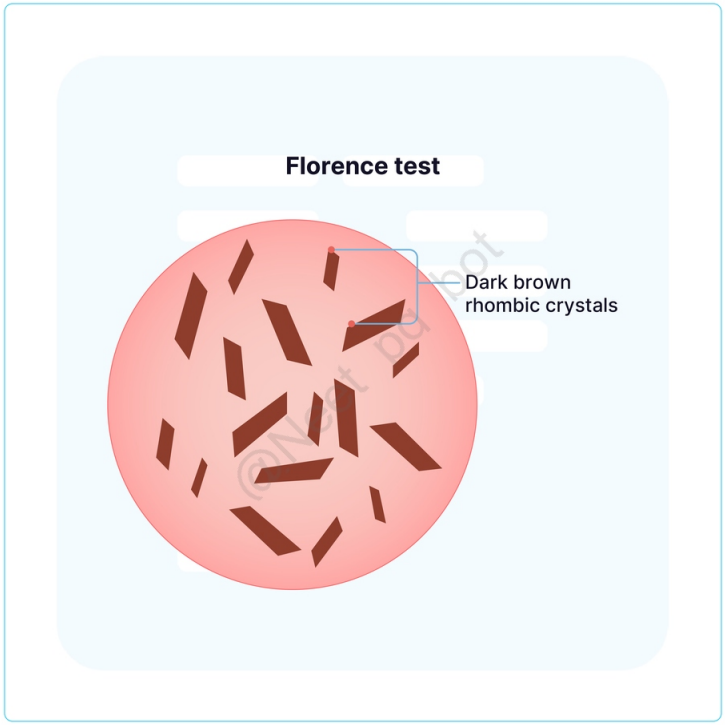
Correct Answer: B. Barberio test

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The given image shows the Barberio test , indicated by the presence of yellow needle-shaped crystals. Test Name Substance Detected Result Reagent Used Barberio Test (Option B) Spermine Yellow needle-shaped crystals of Spermine Picrate Picric acid Florence Test (Option D ruled out) Choline Dark brown rhombic crystals of Choline iodide KI (Potassium Iodide) Teichmann test (Option A) and Takayama test (Option C) detect hemoglobin or blood, not seminal fluid.





References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Pages 431-433

↑ *Back to this question in Part A*

@Neet_pg_bot

Q20: A forensic laboratory conducts a Florence Test on a suspected semen stain. The test yields dark brown rhombic crystals that resemble hemin crystals, indicating a positive result. Which of the following statements is true regarding the Florence Test? (Q847071)

A. It is a confirmatory test for the presence of semen

B. The formation of rhombic crystals is solely due to the presence of spermatozoa

C. False positives can occur if other substances containing choline are present

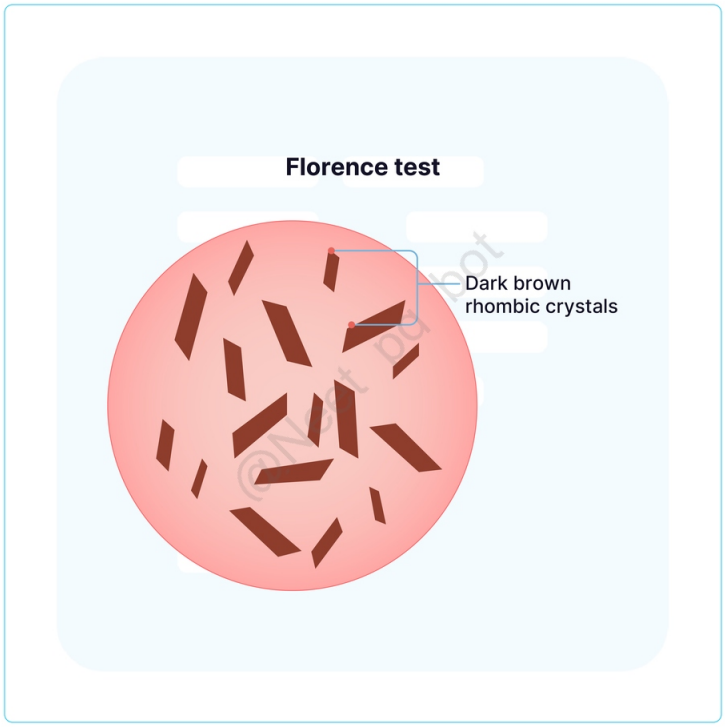
D. The test does not require follow-up confirmatory tests

Correct Answer: C. False positives can occur if other substances containing choline are present

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Florence Test is a presumptive screening tool that can yield false positives if other substances containing choline, such as certain plant or animal materials, are present. Florence Test The Florence Test is a preliminary screening method used to detect the presence of semen stains. It is not definitive and should be followed by confirmatory tests. (Option A ruled out) Procedure: Step Description Extraction Extract the suspected semen stain. Drying Dry the extract on a glass slide. Reagent Application Place a coverslip over the dried extract and add Florence solution (8% iodine in water with 5% potassium iodide). Results Result Type Observation Positive Result Formation of dark brown rhombic crystals (choline periodide) in clusters or rosettes, indicating the presence of semen. (Option B ruled out) Negative Result Absence of characteristic crystals, suggesting no semen is present. Limitations False Positives: Other choline-containing substances (e.g., certain plants or animal matter) may yield false positive results False Negatives: Low choline content or decomposed stains may result in false negatives Importance of Confirmatory Tests (Option D ruled out) Requirement: A positive Florence Test necessitates follow-up with confirmatory tests, including: Microscopic examination for spermatozoa Quantitative acid phosphatase tests Detection of protein p30



References:

Forensic Medicine & Toxicology for Medical students, Gautam Biswas, 3rd Edition, Page 432

↑ *Back to this question in Part A*

@Neet_pg_bot

Q21: A forensic scientist is analyzing a suspected bloodstain and decides to perform the Takayama test for confirmation. Which of the following statements about the Takayama test is correct? (Q847068)

A. It can only be performed on fresh blood samples.

B. The presence of pink, feathery crystals indicates a positive result for blood.

C. It provides information about the species of origin of the blood sample.

D. It is less sensitive than the Teichmann test.

Correct Answer: B. The presence of pink, feathery crystals indicates a positive result for blood.

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The presence of pink, feathery crystals formed during the Takayama test indicates a positive result for blood. This test is effective on both fresh and older bloodstains but does not provide information about the species of origin, which requires further testing. Takayama Tes t The Takayama test (Hemochromogen crystal test) is a confirmatory blood test. More reliable than the Teichmann test, especially for older bloodstains. (Option D ruled out) Test Procedure Step Description Sample Preparation Place a small bloodstain sample on a glass slide and cover with a coverslip. Reagent Introduction Introduce Takayama reagent (sodium hydroxide, pyridine, glucose) under the coverslip. Heating Briefly heat the slide. Crystal Formation Observe for pink, feathery crystals of reduced alkaline hematin (hemochromogen) under a microscope. Advantages of Takayama Test Sensitivity: Effective on smaller blood quantities. Aged Stains: Performs well on older, dried bloodstains. (Option A ruled out) Reliability: Generally more dependable than the Teichmann test. Limitations The test does not determine the species of origin (human or animal); additional tests are necessary. (Option C ruled out)

References:

Forensic Medicine & Toxicology for Medical students, Gautam Biswas, 3rd Edition, Page 424

↑ *Back to this question in Part A*

@Neet_pg_bot

Q22: A forensic laboratory is using the Teichmann test to confirm the presence of blood in a suspected bloodstain. Which of the following statements regarding this test is not true? (Q847065)

A. The test requires the addition of sodium chloride and glacial acetic acid to the blood sample.

B. The presence of brownish rhombic-shaped crystals indicates a positive result for blood.

C. The test can reliably identify the species of origin of the blood sample.

D. False negatives may occur due to the age of the bloodstain or excessive heating.

Correct Answer: C. The test can reliably identify the species of origin of the blood sample.

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The Teichmann test does not provide information about the species of origin of the blood; additional tests are needed for that. Teichmann Test Confirmatory test for blood (Hemin crystal test). Verifies presence of blood after a presumptive positive result. Procedure: Step Description Sample Preparation Small sample of suspected bloodstain on a glass slide. Reagents Added Add a few crystals of sodium chloride and drops of glacial acetic acid. (Option A ruled out) Heating Gently heat the slide. Crystal Formation Formation of brownish rhombic-shaped crystals (hemin or hematin chloride) if blood is present. (Option B ruled out) Crystal Characteristics Hemin crystals may appear singly or in clusters. Visual representation can assist in identification Limitations (Causes of False Negatives) Condition Effect on Test Age of the Stain Reliability decreases with age.

(Option D ruled out) Washing or Chemical Treatment May prevent positive results. Excess Sodium Chloride Interferes with crystal formation. Moisture in Glacial Acetic Acid Can lead to negative results. Overheating Degrades blood components. (Option D ruled out)

References:

Forensic Medicine & Toxicology for Medical students, Gautam Biswas, 3rd Edition, Page 424

↑ *Back to this question in Part A*

@Neet_pg_bot

Q23: Which of the following tests is used to confirm the presence of blood by detecting red, feathery crystals of pyridine ferroprotoporphyrin? (Q847056)

A. Teichmann Test

B. HemaTrace Test

C. Takayama Test

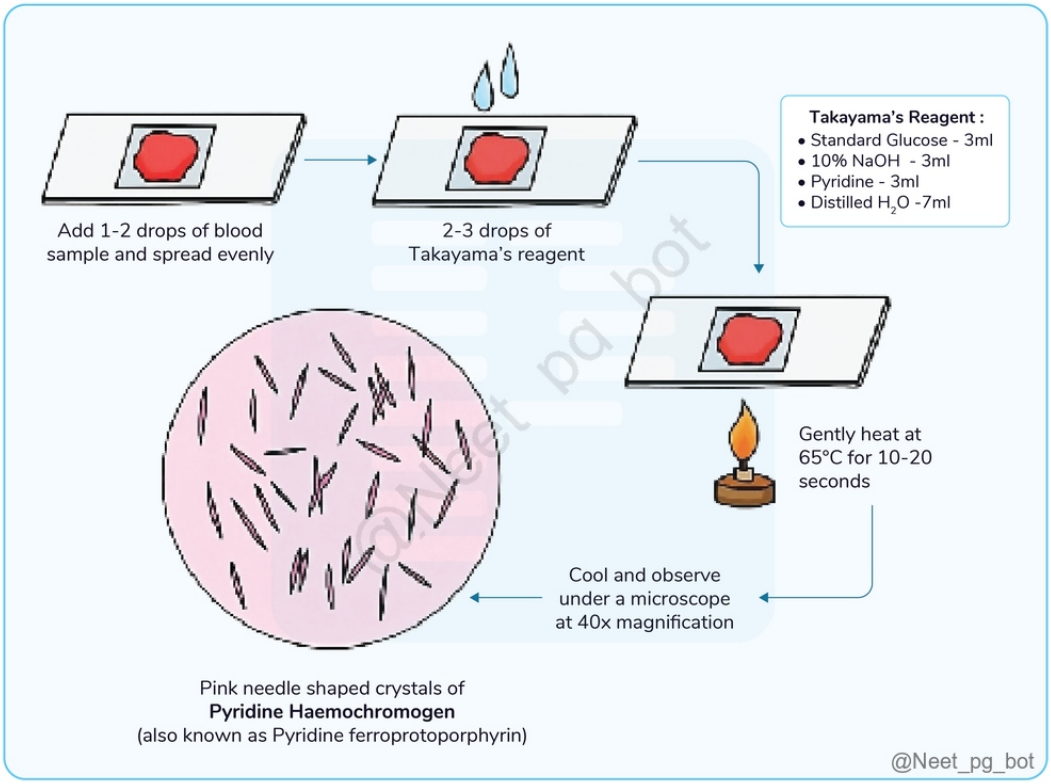
D. Precipitin Test

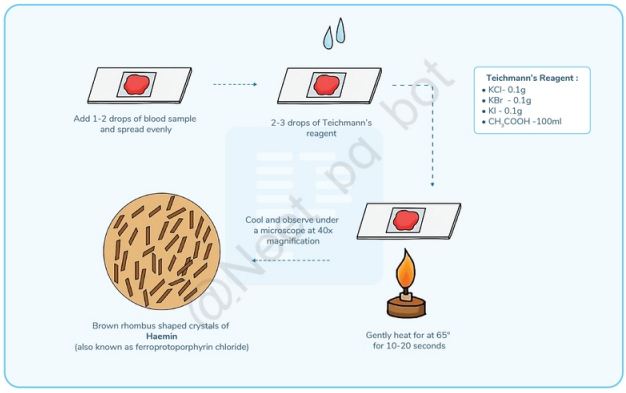
Correct Answer: C. Takayama Test

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The Takayama test confirms the presence of blood by detecting red, feathery crystals of pyridine ferroprotoporphyrin formed by the reaction of hemoglobin with pyridine. Confirmatory Tests for Blood Stains in Forensic Medicine Confirmatory tests are critical for identifying blood presence and origin in forensic investigations. Methods include chemical, immunological, and mass spectrometry techniques for reliable results. Chemical Confirmatory Tests Test Description Takayama Test Detects hemoglobin by forming red, feathery crystals of pyridine ferroprotoporphyrin. Teichmann Test (Option A ruled out) Converts hemoglobin to hemin, creating brownish-yellow rhomboid crystals, confirming blood presence. Immunological Tests Test Description Precipitin Test (Option D ruled out) Identifies species origin through antibody-antigen reactions, using antisera specific to human blood. HemaTrace Test (Option B ruled out) Uses monoclonal antibodies to detect human hemoglobin, showing a visible pink band for confirmation.





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References:

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7896278/

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8617621/

↑ *Back to this question in Part A*

@Neet_pg_bot

Q24: A forensic investigator is analyzing a crime scene for potential blood stains. They decide to use a presumptive test that can detect trace amounts of blood but may also give false positives with other substances like bleach or rust. Which of the following is the most appropriate test for this scenario? (Q847052)

A. Kastle Meyer Test

B. Hemastix

C. Luminol

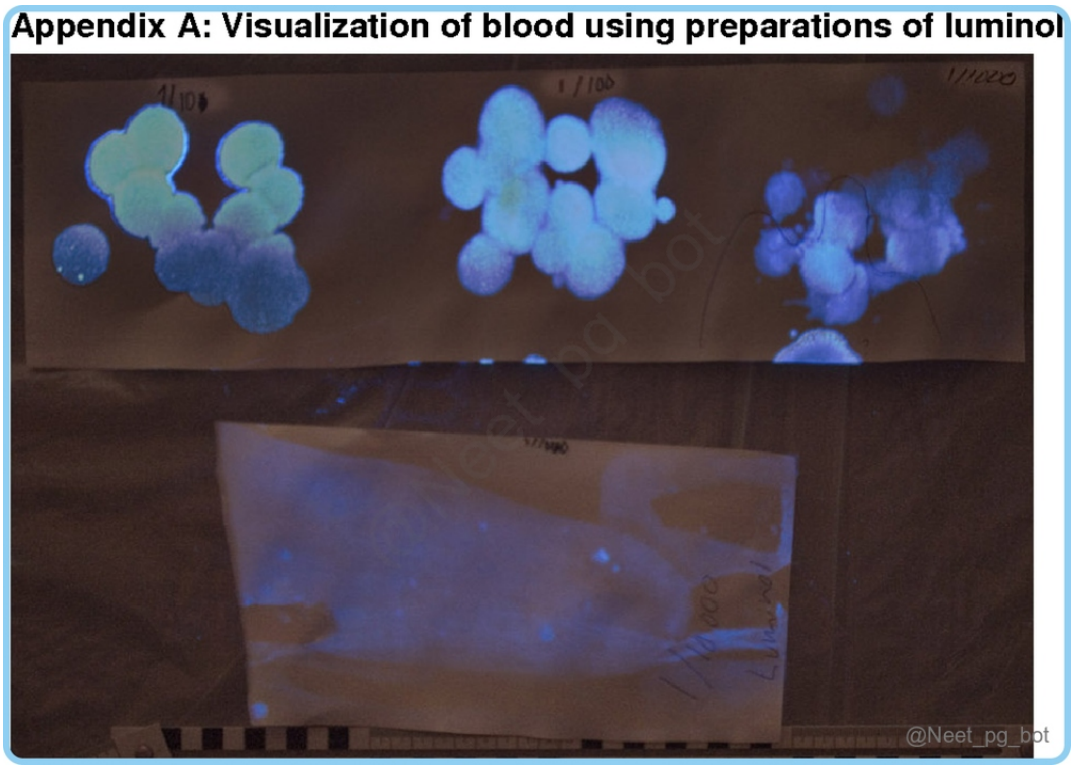
D. Forensic Bluestar

Correct Answer: C. Luminol

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Luminol is widely used for detecting trace amounts of blood. It reacts with hemoglobin and produces a chemiluminescent glow in the dark. However, it can yield false positives with substances like bleach or metals. Blood Stain Screening Tests in Forensic Medicine: Presumptive Tests Luminol : Detects trace blood stains by reacting with hemoglobin. Produces a chemiluminescent glow in the dark. Prone to false positives (e.g., with metals or bleach). Forensic Bluestar : (Option D ruled out) Offers rapid results and can be used for DNA analysis afterward. Similar to Luminol but also has a risk of false positives. Kastle Meyer Test : (Option A ruled out) High specificity but lower sensitivity. Detects blood at 1:16,384 dilution. Hemastix : (Option B ruled out) More sensitive than Kastle Meyer (detects blood at 1:64 dilution). Less specific, with false positives from substances like tomatoes or rust.



References:

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7896278/

https://pubmed.ncbi.nlm.nih.gov/31924286/

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC11070201/

↑ *Back to this question in Part A*

@Neet_pg_bot

• [07_Sexual Offences] 017 Previous Year Questions

« Back to Folder Directory

[07_Sexual Offences] 017 Previous Year Questions — Quick Jump

Q1 (p. 927) *Q2 (p. 928)* *Q3 (p. 929)* *Q4 (p. 930)* *Q5 (p. 931)* *Q6 (p. 932)*

Q1: Which among the following is not seen in heat exhaustion? (Q853112)

A. Loss of thermoregulatory mechanism

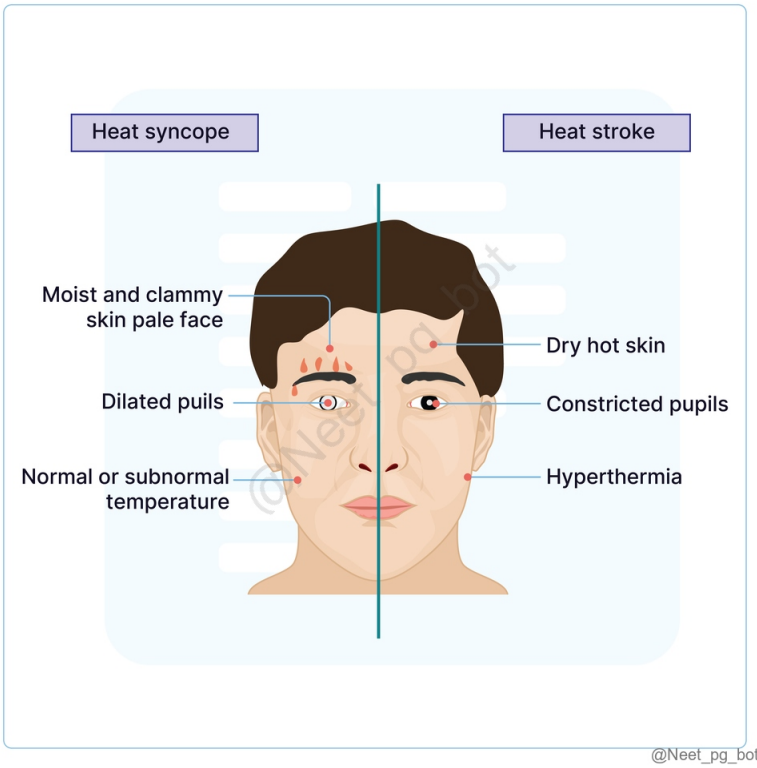
B. Altered sensorium

C. Orthostatic hypotension

D. Core body temperature below 105 °F

Correct Answer: A. Loss of thermoregulatory mechanism

Explanation: Loss of thermoregulatory control is a hallmark of heat stroke , not heat exhaustion. In heat exhaustion, the thermoregulatory mechanisms are intact but overwhelmed. Condition Cause Clinical Features Postmortem Findings Heat Exhaustion Prolonged strenuous activity with inadequate water/salt intake in a hot environment. Nausea, vomiting, malaise, myalgia CNS symptoms: (Option B ruled out) dizziness, fatigue, impaired judgment, psychosis (severe water depletion) Moist skin, increased pulse, rectal temperature > 37.8°C Non-specific Heat Cramps (Miner's/Stoker's/Fireman's Cramps) Fluid and electrolyte depletion (dilutional hyponatremia), following vigorous activity and profuse sweating. Sudden severe muscle cramps (arms, legs, abdomen) Tender, hard, lumpy muscles Flushed face, dilated pupils, dizziness, vomiting Moist, cool skin, body temperature normal/slightly elevated Non-specific Heat Stroke Failure of thermoregulation in extreme heat exposure (Option A) Sudden collapse-loss of consciousness Skin hot, initially wet, then dry Hyperventilation-tachycardia Core temp > 40.5°C Pupils contracted Convulsions Unconsciousness Cerebral dysfunction High fever Absence of sweating Congested lungs, intrathoracic petechiae (children) Subendocardial hemorrhages Brain congestion, flattened convolutions, petechiae in the 3rd/4th ventricle walls Orthostatic hypotension (Option C): Due to dehydration and reduced plasma volume, orthostatic hypotension is a common feature of heat exhaustion. Core body temperature below 105 °F (Option D) : In heat exhaustion, the core body temperature typically remains below 105 °F (40.5 °C), distinguishing it from heat stroke where temperatures exceed this threshold.



References:

Goutam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Pages 265-266

https://pmc.ncbi.nlm.nih.gov/articles/PMC6969637/#

↑ *Back to this question in Part A*

@Neet_pg_bot

Q2: Two handkerchiefs with blood stains are found at a crime scene. What is the most appropriate procedure for handling these items? (Q860095)

A. Place them in same plastic bag and seal it for preservation

B. Rinse the bloodstains with water to prevent contamination

C. Preserve in an envelope/paper bag

D. Place them in different plastic bags and seal it for preservation

Correct Answer: C. Preserve in an envelope/paper bag

Explanation: Paper bags or envelopes allow air to circulate, which helps prevent the growth of mold or bacteria on the blood stains. Items stored in envelopes or paper bags can be easily labeled and documented, ensuring proper chain of custody and traceability of the evidence. Incorrect Options: Place them in the same plastic bag and seal it for preservation (Option A) risks cross-contamination between the two handkerchiefs, which can compromise the integrity of the evidence. Rinse the bloodstains with water to prevent contamination (Option B) can alter the evidence and potentially wash away important forensic information. Place them in different plastic bags and seal them for preservation (Option D) is not preferred as it can contain moisture and cause contamination.

References:

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↑ *Back to this question in Part A*

@Neet_pg_bot

Q3: In cases of suspected alcohol intoxication, which of the following is the correct procedure for sample collection? (Q857401)

A. Sample area cleaned with spirit

B. Sample area cleaned with soap and water

C. Sample should be preserved without preservative

D. Only one urine sample is required

Correct Answer: B. Sample area cleaned with soap and water

Explanation: Soap and water are used to clean the sample collection area to avoid contamination with alcohol or other substances. Alcohol sample collection Cleaning the Skin Avoid using spirit or alcohol on skin or syringe. Use 1:1000 mercuric chloride solution or soap and water. Preservation of Blood Add 100 mg sodium fluoride and 30 mg potassium oxalate to 10 mL blood. Shake thoroughly to prevent alcohol loss due to glycolysis and bacterial activity. Alternate Preservatives Use 50 mg phenyl mercuric nitrate or sodium azide for 10 mL blood or urine. Storage Containers Use screw-capped glass bottles to minimize alcohol evaporation. Avoid rubber stoppers to prevent contamination from oxidizable substances. Label containers with name, date, and time of collection. Storage Guidelines Refrigerate if not sent to the lab immediately; avoid freezing (prevents cell lysis). Samples maintain alcohol concentration for weeks at room temperature. Sample area cleaned with spirit (Option A): The sample collection area with spirit or alcohol-based solutions can contaminate the sample, leading to false-positive results. Sample should be preserved without preservative (Option C): Blood samples for alcohol analysis are typically preserved with sodium fluoride to inhibit fermentation and prevent false readings due to alcohol production by microorganisms. Only one urine sample is required (Option D): In cases of alcohol intoxication, multiple urine samples are often collected over time to monitor alcohol levels and assess the rate of elimination.

References:

The Essentials of Forensic Medicine & Toxicology by Narayan Reddy and OP Murty, 35th Edition, Page 437

↑ *Back to this question in Part A*

@Neet_pg_bot

Q4: During the examination of injury, hair bulbs are noted to be crushed. The probable type of wound is: (Q857652)

A. Abrasion

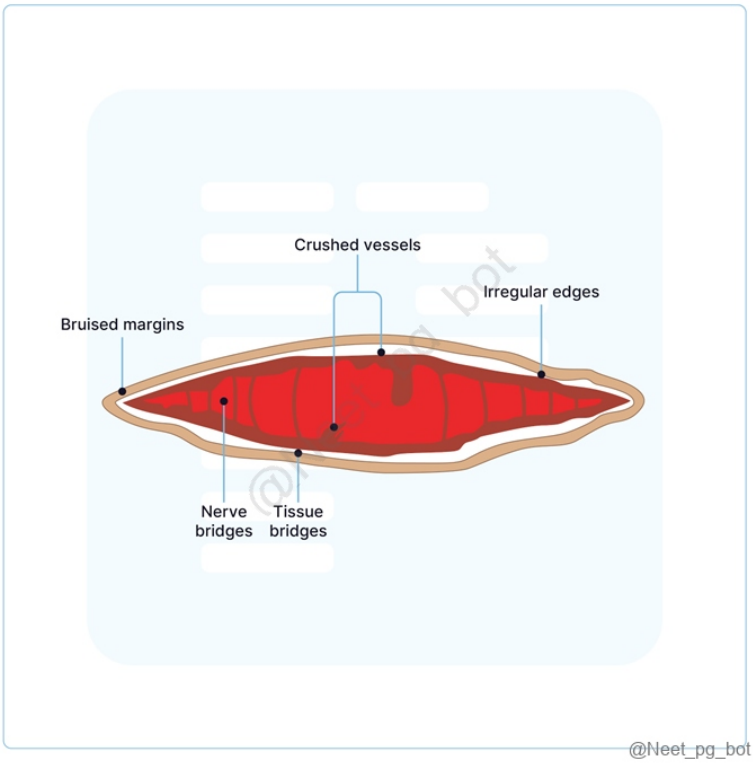
B. Laceration

C. Stab injury

D. None

Correct Answer: B. Laceration

Explanation: haracteristics {{caption_text}} Irregular Margins : Ragged, uneven edges with pointed or blunt ends, often showing small tears. Swallow Tails : Tearing at the ends of lacerations, diverging. Bruising : Seen around the wound, more pronounced in areas impacted at an angle or with downward force. Tissue Bridges : Deeper tissues are unevenly torn, leaving nerve, vessel, and connective tissue bridges. Hair Damage : Crushed hair bulbs; hair and skin tags may be embedded in the wound. Hemorrhage : Less severe bleeding as arteries are crushed and torn irregularly , retracting and allowing blood to clot . Soiling : Debris like mud, wood splinters, sand, glass, or hair can become embedded, carrying medico-legal significance. Wound Gaping : Impact from an angle causes tearing on the opposite side and abrasion on the impact side, leading to gaping. Abrasions (Option A) involve superficial skin damage and typically lack deep tissue involvement and significant bruising. Stab Injury (Option C) : A deep, narrow wound caused by a sharp, pointed object (e.g., knife). Typically, stab wounds have clean edges and are not associated with the irregular, bruised margins or crushed hair seen in lacerations. None (Option D) : This option is incorrect because the described injury (with crushed hair bulbs) clearly corresponds to a laceration, not a different type of injury.



References:

The Essentials of Forensic Medicine & Toxicology, K. S. Narayan Reddy, 35th Edition, Page 144, 145

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 197

↑ *Back to this question in Part A*

@Neet_pg_bot

Q5: All of the following statements are true about the given condition except: (Q856685)

A. Swabs should be taken immediately after moistening with sterile water

B. It is most commonly caused by incisors and canines

C. There are fewer chances of bacterial infections

D. Tetanus vaccination should be given



Correct Answer: C. There are fewer chances of bacterial infections

Explanation: The image depicts a human bite . Human bites are particularly prone to bacterial infections because the mouth harbors normal flora, including Streptococcus, Staphylococcus, and Eikenella corrodens . These bacteria can be transmitted during a bite, significantly increasing the risk of infection. The other statements are true: Swabs should be taken immediately after moistening with sterile water (Option A) : This helps in proper wound care to prevent infection. It is most commonly caused by incisors and canines (Option B) : Human bites are most often inflicted by the sharp teeth in the mouth. Tetanus vaccination should be given (Option D) : If the bite is severe or if the person hasn't had a tetanus booster in the last 10 years, a tetanus shot is advised.

References:

Treatment for Human Bites | Johns Hopkins Medicine

https://emedicine.medscape.com/article/218901-treatment

↑ *Back to this question in Part A*

@Neet_pg_bot

Q6: A woman gave birth to twins. The father who believed that they did not belong to him requested DNA testing. After testing, it was found that one child did not belong to him. This case would be best described as? (Q856318)

A. Superfetation

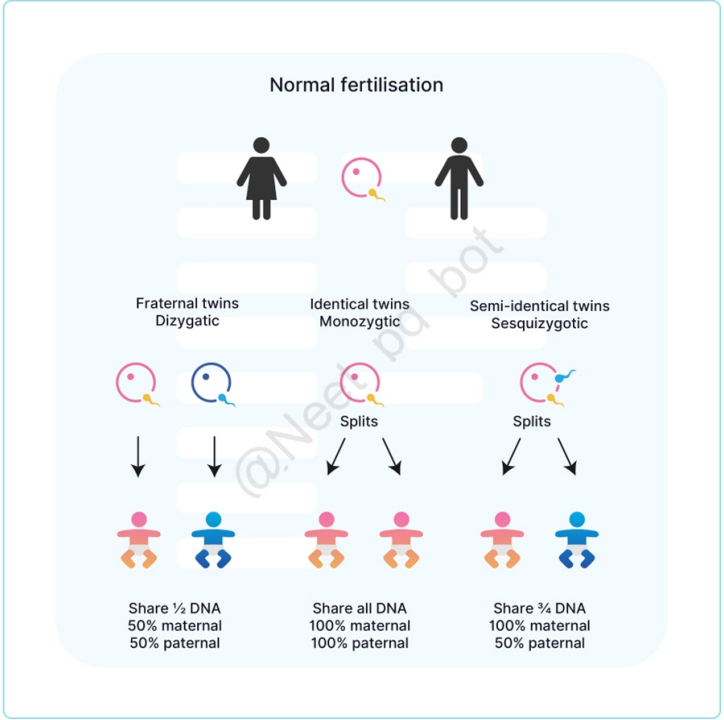
B. Superfecundation

C. Suppositious child

D. Atavism

Correct Answer: B. Superfecundation

Explanation: Correct Option B - Superfecundation Superfecundation refers to the fertilization of two or more ova from different acts of sexual intercourse, in the same cycle, resulting in the conception of multiple embryos with different genetic fathers. In the given scenario, the woman gave birth to twins, but DNA testing revealed that one child did not belong to the father. This indicates that two separate acts of sexual intercourse with different partners occurred, leading to the fertilization of two different ova by two different spermatozoa. As a result, the twins have different genetic fathers, confirming the occurrence of superfecundation. Superfetation (Option A) refers to the occurrence of a second pregnancy during an ongoing pregnancy, where a woman conceives another fetus while already pregnant. Suppositious child (Option C) refers to a child who is falsely or fraudulently claimed or substituted as one's own. Atavism (Option D) refers to the reappearance of a characteristic or trait in an organism that is not present in its immediate ancestors but was present in previous generations.



References:

Williams Obstetrics, 26th Ed, Pg. 840

↑ *Back to this question in Part A*

@Neet_pg_bot

• [08_Sexual Jurisprudence] 018 Sexual Jurisprudence

« Back to Folder Directory

[08_Sexual Jurisprudence] 018 Sexual Jurisprudence — Quick Jump

Q1 (p. 934)	*Q2 (p. 934)*	*Q3 (p. 935)*	*Q4 (p. 936)*	*Q5 (p. 937)*	*Q6 (p. 938)*
Q7 (p. 939)	*Q8 (p. 939)*	*Q9 (p. 940)*	*Q10 (p. 941)*	*Q11 (p. 942)*	*Q12 (p. 943)*
Q13 (p. 943)	*Q14 (p. 944)*	*Q15 (p. 948)*	*Q16 (p. 949)*	*Q17 (p. 950)*	*Q18 (p. 951)*
Q19 (p. 952)	*Q20 (p. 954)*	*Q21 (p. 955)*	*Q22 (p. 956)*		

Q1: A person of eonism derives pleasure from? (Q882179)

A. Wearing clothes of opposite sex

B. Kissing and licking of anus by a sexual partner

C. Underclothing of female

D. Seeing a female undressing

Correct Answer: A. Wearing clothes of opposite sex

Explanation: Correct Option A - Wearing clothes of opposite sex: Eonism is a practice where individuals derive pleasure or satisfaction from wearing the clothes of the opposite sex. It's not about voyeurism or fetishizing specific items of clothing or sexual practices but about the act of adopting the appearance of the opposite sex Incorrect Options: Option B - Kissing and licking of the anus by a sexual partner: This sexual activity, often referred to as anilingus, doesn't have any specific connection to eonism. Option C - Underclothing of a female: Underclothing of a female eonism isn't about this particular item of clothing. It's about the act of dressing in clothing of the opposite sex as a whole. Option D - Seeing a female undressing: This option describes voyeurism

References:

Prepladder Notes

↑ *Back to this question in Part A*

@Neet_pg_bot

Q2: A woman presents with amenorrhea, breast tenderness, and morning sickness. Which category of pregnancy signs do these symptoms belong to? (Q847003)

A. Presumptive

B. Probable

C. Positive

D. Diagnostic

Correct Answer: A. Presumptive

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Pregnancy Signs Presumptive Signs (Option A) Probable Signs (Option B ruled out) Positive Signs (Option C ruled out) Amenorrhea Breast Changes: Tenderness, enlargement, darkened nipples, colostrum secretion. Morning Sickness Quickening: First fetal movements felt around 16-18 weeks. Pigmentation Changes Chadwick's Sign: Bluish colour of the vaginal mucosa by the 8th week. Increased urination Fatigue Mood/Body Changes Abdominal Enlargement Hegar's Sign: Softening of the uterine isthmus (6-10 weeks). Goodell's Sign: Softened cervix by 6th week. Palmer’s Sign: Uterine contractions felt early (4-8 weeks). Piskacek's Sign: Asymmetrical uterine enlargement. Ballottement: Fetal rebound during an exam by 4-5 months. Immunological Pregnancy Tests: Detect hCG in urine/serum. Fetal Heart Sounds: Heard via stethoscope by 18-20 weeks. Fetal Movements: Palpable by 20-22 weeks. Ultrasound: Fetal visualisation from 4-5 weeks. Radiographic Imaging: Fetal skeleton visible from 16 weeks. Diagnostic (Option D): This term is not typically used in pregnancy sign classification.

References:

Essentials of Forensic Medicine, K. S. Narayan Reddy, 35th Edition, Pages 306-307

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Pages 355-357

↑ *Back to this question in Part A*

@Neet_pg_bot

Q3: What is the expected result of a Lateral Traction Test in an individual who is not accustomed to anal penetration? (Q847032)

A. Relaxation and dilation of the anal sphincter up to 4-5 cm

B. Reflex constriction of the anal sphincter

C. No response in the anal sphincter

D. Complete prolapse of the rectum

Correct Answer: B. Reflex constriction of the anal sphincter

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Individuals unaccustomed to anal penetration usually exhibit reflex constriction of the anal sphincter. Lateral Traction Test Purpose : Used to assess the anal sphincter's response, potentially indicating habitual anal penetration. Procedure : A thumb is placed on each side of the anus, and lateral traction is applied to observe the sphincter reaction. Expected Results : Type of Individual Response Non-habitual: Typically observed in individuals who are not accustomed to anal penetration (Option C & D ruled out) Reflex constriction Habitual passive partner: In habitual anal penetration, the sphincter may relax, with the anal opening dilating up to 4–5 cm, sometimes revealing the rectum (Option A ruled out) Relaxation and dilation (may dilate 3–5 cm)

References:

Essentials of Forensic Medicine, K. S. Narayan Reddy, 35th Edition, Page 333

↑ *Back to this question in Part A*

@Neet_pg_bot

Q4: Which of the following statements best describes the role of the Sexual Assault Forensic Examination (rape kit) concerning victim care? (Q847028)

A. The examination focuses solely on collecting evidence and does not provide medical treatment.

B. The examination can help victims access immediate medical care and provide resources for their health needs and collecting evidence

C. The examination requires all victims to file a police report and then provides resources for their health needs.

D. The examination is primarily for legal purposes and does not address the psychological well-being of the victim.

Correct Answer: B. The examination can help victims access immediate medical care and provide resources for their health needs and collecting evidence

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The Sexual Assault Forensic Examination is designed not only to collect evidence but also to ensure that victims receive necessary medical treatment, addressing both physical health and immediate care needs. Sexual Assault Forensic Examination Kit (also known as a rape kit) Purpose : Preserves DNA evidence from the body, clothes, or personal items after a sexual assault and provides important medical care. No Requirement to Report : Victims can undergo an exam without reporting the crime, allowing evidence to be stored in case of later reporting. (Option C ruled out) Contents : The kit includes items like swabs, bags, documentation forms, and instructions for evidence collection (contents may vary by location). Exam Procedure : Typically includes immediate medical care, health history review, head-to-toe examination, evidence collection (e.g., DNA, blood, hair samples), and documentation of injuries. Follow-Up Care : Includes treatment for STIs, emergency contraception, and resources for further medical support. Examiners : These are conducted by trained professionals

like Sexual Assault Nurse Examiners (SANEs) or Sexual Assault Forensic Examiners (SAFEs). Benefits : Helps in potential prosecution, connects DNA to databases for future investigations, and addresses physical health needs after an assault. The examination focuses solely on collecting evidence and does not provide medical treatment (Option A) : This option is incorrect. While evidence collection is a key component, the Sexual Assault Forensic Examination also includes important medical care, such as treating injuries and providing preventive measures for STIs and emergency contraception. The examination is primarily for legal purposes and does not address the psychological well-being of the victim (Option D) : Sexual Assault Forensic Examination does take into account the psychological well-being of the victim, often providing access to mental health resources and support during and after the examination.

References:

rainn.org/articles/rape-kit

↑ *Back to this question in Part A*

@Neet_pg_bot

Q5: A 28-year-old female presents to a clinic with a sore throat and discomfort following a recent sexual encounter. During the examination, the clinician notes abrasions on her mouth and lips. Which sexual act is most likely associated with the injuries observed in this patient? (Q847025)

A. Sodomy

B. Sin of Gomorrah

C. Tribadism

D. Bestiality

Correct Answer: B. Sin of Gomorrah

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Sin of Gomorrah describes oral sexual acts and could lead to abrasions in the mouth and throat, making it the most likely cause of the patient's symptoms. Unnatural sexual Acts Sodomy (Option A ruled out) Definition : Anal intercourse, historically associated with the town of Sodom. Parties Involved : This can occur between males or between a male and female. Legal Aspects : Consensual sodomy is not punishable; non-consensual acts lead to punishment for the active agent. Contexts : Common in confined environments (e.g., prisons, barracks) where individuals are isolated for long periods. Evidence : Physical examination may show signs like abrasions or relaxed anal muscles in habitual cases. Sin of Gomorrah (Buccal Coitus) (Option B) Definition : Oral sexual act involving a male organ in another’s mouth. Historical Context : Referred to as a "sin" in the town of Gomorrah. Legal Aspects : Punishable when performed without consent. Physical Evidence : Possible abrasions or teeth marks on the penis; semen in the victim's mouth may be detected up to nine hours after

the act. Risks : Potential for accidental death if the penis blocks the airway. Bestiality (Option D ruled out) Definition : Sexual acts between humans and animals, typically involving smaller animals or pets. Common Animals : Includes livestock (e.g., calves, sheep) and household pets (e.g., dogs, cats). Physical Evidence : Animal hair or secretions on the person, and human sperm or injuries in the animal's genital area. Associated Beliefs : Sometimes linked to superstitions, like the idea of curing certain diseases through intercourse with animals. Tribadism (Female Homosexuality) (Option C ruled out) Definition : Sexual activity between women for mutual gratification, also known as lesbianism. Common Acts : Includes kissing, body contact, genital apposition, and use of objects for stimulation. Historical Context : Linked to the Isle of Lesbos and sometimes called "Sapphism." Social Dynamics : This can lead to intense emotional connections, and historically noted cases include jealousy and possessiveness among partners.

References:

Essentials of Forensic Medicine, K. S. Narayan Reddy, 35th Edition, Page 332-334

↑ *Back to this question in Part A*

@Neet_pg_bot

Q6: A 10-year-old boy exhibits extreme jealousy toward his mother's close relationship with her new partner, showing signs of distress when she pays attention to anyone else. What psychological complex might this behaviour suggest? (Q847024)

A. Pharaoh Complex

B. Electra Complex

C. Oedipus Complex

D. Narcissistic Complex

Correct Answer: C. Oedipus Complex

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The boy's jealousy towards his mother's attention to others indicates an unconscious desire for exclusivity with her, characteristic of the Oedipus complex. Oedipus Complex Electra Complex Pharaoh Complex Refers to a son's sexual desire for his mother. Refers to a daughter's sexual desire for her father. (Option B ruled out) Refers to a brother's sexual desire for his sister. (Option A ruled out) These complexes are associated with psychological issues and may be rooted in early-life trauma or unresolved conflicts. Individuals exhibiting these complexes may have psychopathic tendencies. Narcissistic Complex (Option D) : While narcissism involves self-centeredness, it does not specifically relate to the jealousy exhibited in the context of family dynamics and maternal attachment. It is usually characterized by self-love which may or may not be associated with genital excitation.

References:

Essentials of Forensic Medicine, K. S. Narayan Reddy, 35th Edition, Page 336

↑ *Back to this question in Part A*

@Neet_pg_bot

Q7: Which of the following methods of violence is most likely to directly injure the uterus and cause membrane rupture? (Q847022)

A. Inserting foreign objects like knitting needles

B. Strenuous activities like horse riding

C. Using pastes with toxic ingredients

D. Injecting fluids into the uterus with a syringe

Correct Answer: A. Inserting foreign objects like knitting needles

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Methods of Violence in Criminal Abortion General Violence Local Violence Abdominal Pressure : Applying force to the abdomen (kicking, kneeling, tight bandages, etc.) aiming to cause injury. Strenuous Activities: Engaging in extreme physical activities like horse riding, jumping, or falling to induce trauma. (Option B ruled out) Cupping : Using heated cups on the abdomen to create suction, possibly separating the placenta. Temperature Extremes : Alternating between hot and cold baths, aiming to shock the system. Syringing : Injecting harmful fluids (like soap or chemicals) into the uterus, risking infection and air embolism. (Option D ruled out) Syringe Aspiration : Inserting a syringe into the cervix to aspirate the gestational sac, leading to aspiration and expulsion of contents. Membrane Rupture : Using sharp objects (knitting needles, pencils) to puncture the amniotic sac, risking haemorrhage and infection. (Option A) Abortion Stick : Inserting sticks soaked in irritants (like calotropis) to cause uterine contractions. Cervical Dilation : Forcing open the cervix with objects to cause contractions. Air Insufflation : Pumping air into the uterus to detach the foetus, risking air embolism. Electric Curren t: Using electrical current on the cervix to induce contractions content expulsion. Toxic Pastes : Injecting harmful pastes into the uterus, leads to tissue damage like necrosis and infection. (Option C ruled out)

References:

Essentials of Forensic Medicine, K. S. Narayan Reddy, 35th Edition, Page 314, 315 Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 338, 339, 340

↑ *Back to this question in Part A*

@Neet_pg_bot

Q8: Which of the following drugs is known for being an emmenagogue used in criminal abortions? (Q847011)

A. Lead

B. Quinine

C. Savin

D. Cantharides

Correct Answer: C. Savin

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Abortifacient Drugs Description Abortifacient drugs are substances used in illegal abortions, posing severe health risks to women and potentially leading to death. Dosages and administration are often handled by unqualified individuals, increasing complications. Mechanisms of Action Ecbolics Stimulate uterine contractions to expel the fetus. Examples: Ergot, Hydrastis canadensis, quinine, lead, pituitary extract - oxytocin, synthetic estrogens. (Option A and B ruled out) Emmenagogues (Option B) Increase menstrual flow , potentially causing abortion in high doses. Examples: Savin , borax, apiol, rue. Irritants Cause reflex uterine contractions through gastrointestinal or genitourinary irritation. GIT Irritants: Strong laxatives like calomel, castor oil and saline cathartics. Genitourinary Irritants: Oils like pennyroyal, tansy and potassium permanganate, which can cause severe damage. Systemic Poisoning Induces abortion through toxic effects on the body. Examples: Lead, copper, iron, and certain organic irritants like cantharides, and unripe papaya. (Option D ruled out)

References:

Essentials of Forensic Medicine, K. S. Narayan Reddy, 35th Edition, Page 313 Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 338

↑ *Back to this question in Part A*

@Neet_pg_bot

Q9: Which section of the BNS involves life imprisonment for causing a miscarriage without the woman’s consent? (Q847010)

A. 88

B. 89

C. 90

D. 91

Correct Answer: B. 89

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Criminal Abortion - Legal Aspects BNS (Bharatiya Nyaya Sanhita, 2023) IPC Section (Indian Penal Code, 1860) Definition 88 (Option A ruled out) 312 Voluntary criminal abortion by anyone, including the pregnant woman, can lead to up to 3 years imprisonment and/or fine. If the woman is "quick with child" (fetal movement felt), the punishment can extend up to 7 years and a fine. 89 (Option B) 313 Causing a miscarriage without the woman's consent is punishable by life imprisonment or up to 10 years in prison, with a fine. 90 (Option C ruled out) 314 If a miscarriage attempt leads to the woman's death, the responsible person faces up to 10 years in prison and a fine. If done without her consent, the punishment can be life imprisonment or up to 10 years. 91 (Option D ruled out) 315 Actions to prevent a child from being born alive or causing death after birth can result in up to 10 years imprisonment, fine, or both. 92 316 Causing the death of a "quick unborn child" (after fetal movement) is considered culpable homicide, punishable by up to 10 years imprisonment and a fine. Criminal Abortion Methods Upto end of 1st month: Violent exercises Upto end of 2nd month: Abortifacient drugs 3rd or 4th month: Mechanical interference

References:

Essentials of Forensic Medicine, K. S. Narayan Reddy, 35th Edition, Page 312, 313 Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 338 BNS to IPC

↑ *Back to this question in Part A*

@Neet_pg_bot

Q10: Under the eugenic grounds of the Medical Termination of Pregnancy (MTP) Act, which of the following is a valid indication for terminating a pregnancy? (Q847007)

A. Maternal hypertension

B. Severe fetal genetic anomaly

C. Threatened miscarriage

D. Adolescent pregnancy

Correct Answer: B. Severe fetal genetic anomaly

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Under eugenic grounds , termination is permitted when there is a substantial risk that the child, if born, would suffer from serious physical or mental abnormalities . Example: Anencephaly Down syndrome Major structural anomalies Severe genetic disorders Maternal hypertension (Option A) falls under therapeutic ground only if it endangers the mother's life; not eugenic ground. Threatened miscarriage (Option C) is a spontaneous

obstetric condition, not an indication for MTP. Adolescent pregnancy (Option D) falls under socio-economic/humanitarian ground , not eugenic

References:

Essentials of Forensic Medicine, K. S. Narayan Reddy, 35th Edition, Pages 312, 313

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Pages 34, 35

↑ *Back to this question in Part A*

@Neet_pg_bot

Q11: Which of the following is classified as an induced abortion performed to protect the mother's life? (Q847006)

A. Criminal Abortion

B. Legal Abortion

C. Spontaneous Abortion

D. Septic Abortion

Correct Answer: B. Legal Abortion

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Abortion Medical Definition Abortion is the expulsion of an embryo or fetus weighing 500g or less, which is not capable of surviving independently. This typically corresponds to 22 weeks of gestation. Legal Definition Abortion is the expulsion of the products of conception from the uterus at any period before full term. Types of Abortion Natural/ Spontaneous Abortion Occurs without external induction and often coincides with menstrual flow. (Option C ruled out) It is most common in the first trimester of pregnancy. Type Definition Bleeding Pain Cervical Os Products of Conception (POC) Management Threatened abortion Vaginal bleeding before 20 weeks with viable pregnancy Mild–moderate Mild Closed Not expelled Bed rest, progesterone support, observe Inevitable abortion Abortion cannot be prevented Moderate–severe Cramping Open Not yet expelled Evacuation (medical/surgical) Incomplete abortion Partial expulsion of POC Heavy Severe Open Some retained Evacuation (MVA / D&E) Complete abortion Complete expulsion of POC Mild, decreasing Subsides after expulsion Closed Fully expelled Observation Missed abortion Fetal death without expulsion Minimal or absent Mild or absent Closed Retained dead fetus Medical (Misoprostol) or D&E Artificial/Induced Abortion: Willful termination of pregnancy before fetal viability. Legal/ Justifiable Abortion Performed to protect the life or health of the mother and follows the MTP Act. (Option B) Complications increase with gestational age, with higher rates in mid-trimester abortions. Criminal/ Illegal Abortion Induced unlawfully, often before the third month, with a high risk of complications such as infection and uterine injury. (Option A ruled out) Complications include hemorrhagic shock, septicemia, and secondary infertility. Septic Abortion (Option D): It refers to a complication of abortion involving infection of the uterus and products of conception, not an intentionally induced abortion.

References:

Essentials of Forensic Medicine, K. S. Narayan Reddy, 35th Edition, Page 312

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Pages 337, 341

↑ *Back to this question in Part A*

@Neet_pg_bot

Q12: Which term refers to the inability to initiate or maintain the sexual arousal pattern in females or an incapacity to achieve orgasm? (Q846963)

A. Impotence

B. Erectile Dysfunction

C. Quod

D. Frigidity

Correct Answer: D. Frigidity

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Frigidity describes the inability to initiate or maintain the sexual arousal pattern in females, characterised by a lack of desire for sexual intercourse or the inability to achieve orgasm. Causes of Frigidity: Vaginismus- Spasmodic contraction of the vagina due to increased sensitivity in the region. It is due to a definite “cramp-like spasm” of the adductor muscles instead of a rhythmic contraction. Neurological disorders Hypothyroidism Use of sedatives or depressants Menopause Impotence (Option A) : This refers to the inability of an individual to engage in sexual intercourse and attain satisfaction, meaning they cannot copulate. Erectile dysfunction (Option B) : This is the inability to develop and sustain an erection that is adequate for satisfactory sexual intercourse, occurring without the presence of an ejaculatory issue like premature ejaculation. It is usually a term used for males. Quod (Option C) also known as impotence quode hanc is when a male might experience impotence with one specific female but not with another.

References:

Essentials of Forensic Medicine, K. S. Narayan Reddy, 35th Edition, Pages 297- 300 Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Pages 345- 347

↑ *Back to this question in Part A*

@Neet_pg_bot

Q13: Which of the following features distinguishes a fimbriated hymen from a torn hymen due to trauma? (Q846999)

A. Asymmetrical notches

B. Posterior location of notches

C. Mucous membrane covering intact notches

D. Extension of notches to the vaginal wall

Correct Answer: C. Mucous membrane covering intact notches

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Hymen Tear Fimbriated Hymen Often, it results from sexual intercourse or trauma. It can be associated with injuries to surrounding areas, such as the perineum and labia. Usually occurs at the lateral edges of the labia and extends into the vaginal wall. Traumatic tears may not have mucous membrane covering and can be located posteriorly. (Option B ruled out) Characterised by a wavy or irregular border with symmetrical notches. (Option A ruled out) Notches are typically found anteriorly and do not penetrate the vaginal wall. (Option D ruled out) The mucous membrane remains intact around natural notches. It requires careful examination to differentiate it from traumatic tears. Hymen: The hymen is a thin mucous membrane at the vaginal opening, which changes in size during childhood and puberty. Hymen Rupture Causes: Most commonly occurs due to sexual intercourse. Other causes include: Accidental injuries (e.g., falls). Masturbation with large objects. Medical examinations and procedures. Insertion of foreign objects. Infections (e.g., diphtheria, fungal infections). Poor hygiene leads to scratching. Use of sanitary tampons.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 363

↑ *Back to this question in Part A*

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Q14: A medical student is studying the anatomical variations of the hymen. Which of the following statements regarding hymen types and their implications is true? (Q846997)

A. A single central opening characterises a septate hymen.

B. The cribriform hymen features multiple small openings in the membrane.

C. An infantile hymen typically has multiple small openings.

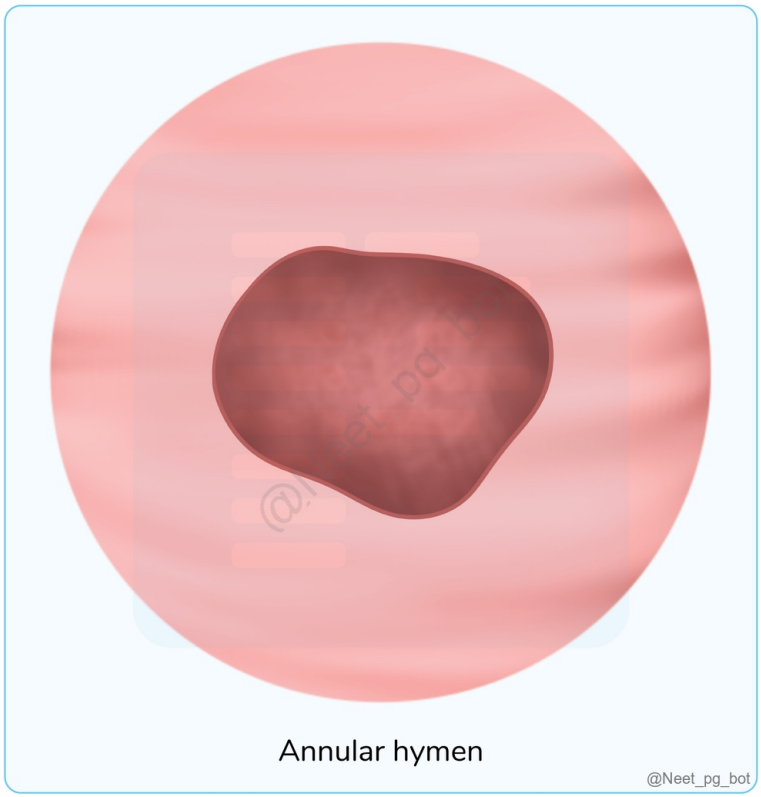
D. The annular hymen typically have two side-by-side openings.

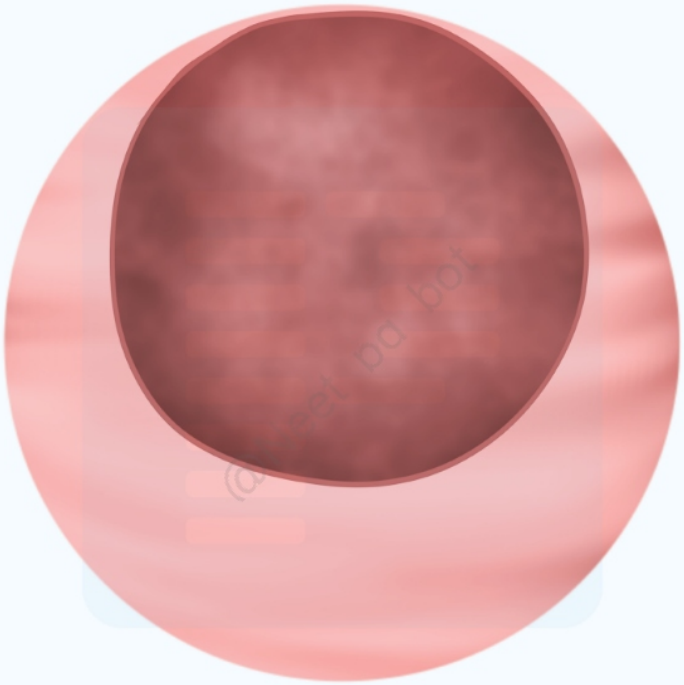
Correct Answer: B. The cribriform hymen features multiple small openings in the membrane.

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The cribriform hymen is characterised by multiple openings, which is an accurate description. Hymen Types: The hymen, a mucous membrane fold at the vaginal opening, can have several types: Type Description Annular Centrally located opening (Option D ruled out) Semilunar Anteriorly located opening Infantile Small, linear central opening (Option C ruled out) Septate Two side-by-side openings (Option A ruled out) Cribriform Multiple openings (Option B) Vertical Vertical orientation of the opening Imperforate No opening present





Crescentic hymen

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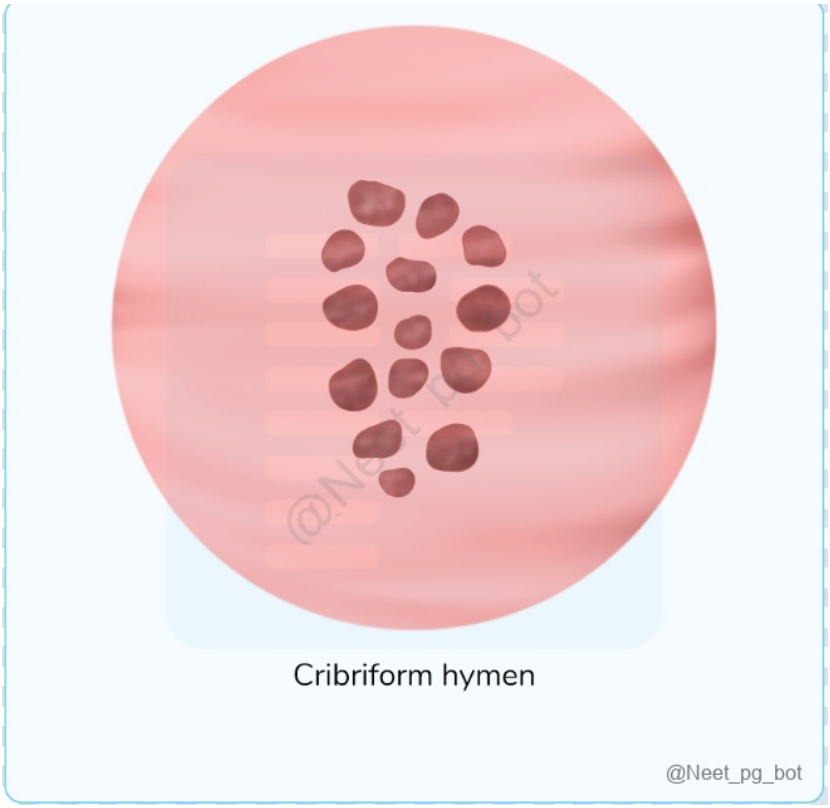
Infantile

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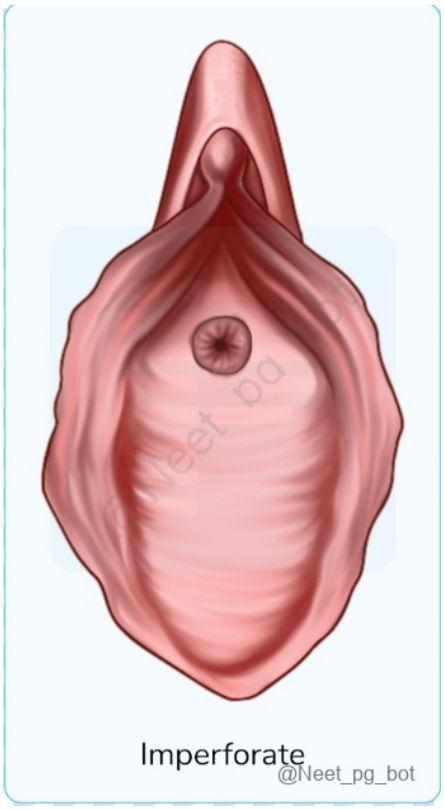
Septate hymen

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Cribriform hymen

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References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 353, 354

↑ *Back to this question in Part A*

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Q15: A 24 y/o woman is anxious about societal perceptions of her virginity after her first sexual experience. Which of the following statements is true regarding virginity and defloration? (Q846996)

A. Virginity can be medically assessed by examining the hymen.

B. Defloration is solely marked by the hymen's rupture during first intercourse.

C. Virginity is a social construct that varies across cultures.

D. False virgins always present with small and firm breasts.

Correct Answer: C. Virginity is a social construct that varies across cultures.

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Virginity is primarily a social construct influenced by cultural values, rather than a medical concept with objective criteria. While misconceptions about the hymen persist, the notion of virginity varies significantly across cultures. Definitions: Virginity : A social, cultural, and religious construct. (Option C) Refers to the state of never having engaged in sexual intercourse. Lacks a medical or scientific definition, highlighting its subjective nature across different societies. Defloration : Refers specifically to the rupture of the hymen during the first vaginal intercourse. It is increasingly recognized that hymen condition does not reliably indicate sexual activity. (Option B ruled out) Hymen and Virginity: Intact hymens are inaccurately linked to virginity. Factors other than intercourse can rupture the hymen, including- accidents, medical exams or insertion of objects into the vagina. Hymen's appearance varies. It is usually thin. It could also be tough, fleshy and cartilaginous. Variability and potential for healed injuries make hymen examination an unreliable indicator of sexual history. (Option A ruled out) Category True Virgin False Virgin Genital Signs Intact, rigid, inelastic hymen; admits only a fingertip, causing pain. Thick, fleshy labia majora that close the vaginal orifice; small, pink labia minora covered by labia majora. Narrow vagina with prominent rugae; full finger cannot be admitted. Present fossa navicularis, intact fourchette, narrow vestibule, small clitoris, intact posterior commissure. Intact hymen that may be loose, elastic, or thick; admits two fingers easily. Less fleshy labia majora; vaginal orifice may be visible; enlarged, pigmented labia minora. Roomy vagina with less prominent rugae; full finger can be admitted. Disappearance of fossa navicularis; torn and healed fourchette; wider vestibule; enlarged clitoris; possibly torn posterior commissure. (Option D ruled out) Extra-Genital Signs Small, hemispherical, firm breasts; pink areola. Larger, pendulous, flabby breasts; pigmented areola.

References:

Hymen Hymen & Virginity Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 353, 354, 355 Knight’s Forensic Pathology, 4th Edition, Page 431

↑ *Back to this question in Part A*

@Neet_pg_bot

Q16: Which of the following is not a feature of the Indian Council of Medical Research (ICMR) guidelines on surrogacy? (Q846992)

A. The surrogate mother must be under 45 years of age

B. The ART clinic is allowed to advertise for surrogate mothers

C. Surrogacy should only be considered for those physically or medically unable to carry a child

D. A woman can be a surrogate mother only once in her lifetime

Correct Answer: B. The ART clinic is allowed to advertise for surrogate mothers

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: ICMR guidelines prohibit ART clinics from advertising for surrogate mothers or engaging in commercial dealings for surrogacy. The couple is responsible for finding the surrogate. Surrogate Mother: A surrogate mother is a woman who carries a child for another couple or individual, intending to give up the baby after birth. Surrogacy can be: Traditional surrogacy : The surrogate is the biological mother. Gestational surrogacy : The surrogate carries an embryo that is not biologically hers, typically through in vitro fertilisation (IVF). Commercial Surrogacy: Previously common in India, commercial surrogacy involved contractual agreements with financial compensation for surrogates beyond medical and pregnancy costs but is now prohibited under the 2018 Surrogacy (Regulation) Bill. Altruistic Surrogacy: Supported by the 2018 bill, altruistic surrogacy allows surrogates to receive coverage only for medical and pregnancy-related expenses, emphasizing a non-monetary, ethical approach without profit. ICMR Guidelines on Surrogacy: Surrogates can be known, unknown, or a relative of the couple. If a relative, she should be from the same generation as the intended mother. Considered only for those who are physically or medically unable to carry a pregnancy to term. (Option C ruled out) Genetic parents must legally adopt the child born via surrogacy. Payment to the surrogate mother must cover all pregnancy-related expenses, documented in an agreement. ART clinics cannot advertise for surrogate mothers or engage in commercial surrogacy; the couple is responsible for finding a surrogate. (Option B) The surrogate mother must be under 45 years of age. (Option A ruled out) A woman can be a surrogate no more than one time in her lifetime. (Option D ruled out) Clinics must guide couples through surrogacy, ensuring surrogates meet health criteria for full-term pregnancy.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 351, 352

www.surrogacycentreindia.com/commercial-surrogacy-vs-altruistic-surrogacy-in-india/#

↑ *Back to this question in Part A*

@Neet_pg_bot

Q17: A couple is considering artificial insemination with donor sperm (AID). What legal issue is most likely to arise if the procedure is performed without the husband's consent? (Q846985)

A. Genetic defects in the child

B. Legitimacy and paternity disputes

C. Transmission of infectious diseases

D. Increased risk of psychological issues in the child

Correct Answer: B. Legitimacy and paternity disputes

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Performing artificial insemination with donor sperm (AID) without the husband's consent could result in legal problems regarding the child's paternity, raising questions about the child's legitimacy and the father's legal rights. Precautions and Legal Problems in Artificial Insemination: Precautions: Informed Consent : Informed consent is essential for medical procedures. In artificial insemination (AI), obtaining consent from both the woman and her partner (if applicable) is crucial. This should include details about the sperm source, associated risks, and legal implications. Donor Screening : Sperm donors should undergo thorough screening for genetic and infectious diseases to reduce the risk of transmitting health issues to the child and to prevent potential legal disputes over genetic defects. Confidentiality : Maintaining confidentiality is vital in AI, especially for donor insemination (AID), where the donor's identity and the details of the procedure should be protected to avoid legal and ethical conflicts. Medico-legal Considerations in AI: Litigation Risk : Doctors may face lawsuits if a defective child is born. Screening the donor for genetic defects can help prevent this. Marriage Nullity & Divorce : AI for sterility is not grounds for divorce, but AI due to impotence is. If AID (Artificial Insemination by Donor) is done without the husband's consent, it is considered cruelty and can lead to divorce and legal action. Legitimacy : A child born via AIH (Artificial Insemination by Husband) is legitimate. But via AID is considered illegitimate and cannot inherit property. Adultery : No adultery is committed since there is no physical coitus involved. Indian law also states that women cannot be punished for adultery. Incest Risk : There is a potential risk of incest between the offspring of AI and the donor's children. Unmarried Women/Widows : Legally, there is no bar for unmarried or widowed women to undergo AID. The child would be legitimate. If a deceased husband's sperm is used, the child is still legitimate. Genetic defects in the child (Option A): While a potential concern, this is not a primary legal issue stemming from the lack of consent. Transmission of infectious diseases (Option C): This is related to the screening process of donor sperm, not a legal issue related to consent. Increased risk of psychological issues in the child (Option D) : This could be a concern but is not a primary legal issue arising from a lack of spousal consent.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 349, 350, 351

↑ *Back to this question in Part A*

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Q18: A 32-year-old woman and her partner are struggling to conceive due to poor sperm motility. The doctor recommends assisted reproductive techniques. Which of the following methods is most likely to provide the highest chance of pregnancy for this couple? (Q846971)

A. Intracervical insemination (ICI)

B. Intrauterine insemination (IUI)

C. Intratubal insemination

D. Intrauterine tuboperitoneal insemination (IUTPI)

Correct Answer: B. Intrauterine insemination (IUI)

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The method most likely to give a couple with poor sperm motility the best chance of conceiving is Intrauterine Insemination (IUI) . It involves placing washed, concentrated sperm directly into the uterine cavity , bypassing the cervix and enhancing the chances of sperm reaching the egg. It is generally recommended as the first-line assisted reproductive technique for male factor infertility , including poor sperm motility. Intracervical insemination (ICI) (Option A): Sperm is placed in the cervix, which is less effective when sperm motility is poor, as sperm must travel through the uterus and fallopian tubes on their own. Intratubal insemination (Option C): Technically places sperm in the fallopian tube but is more invasive and not commonly used; success rates are similar to or lower than IUI. Intrauterine tuboperitoneal insemination (IUTPI) (Option D): Rare and complex technique; not routinely performed and offers no significant advantage over IUI.

References:

www.emedicinehealth.com/what_are_the_4_types_of_artificial_insemination/article_em.htm

pubmed.ncbi.nlm.nih.gov/10202879/

puneivf.com/blog/sperm-count-for-ivf/#

↑ *Back to this question in Part A*

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Q19: A 32-year-old woman arrives at the hospital in labour. During delivery, it is noted that one of her twins is white, while the other is black whereas both the parents are of Caucasian descent. The mother recalls having had intercourse with two different partners within a short timeframe during her ovulation. What phenomenon best explains this situation? (Q846969)

A. Superfetation

B. Superfecundation

C. Lithopedion

D. Fetus Papyraceus

Correct Answer: B. Superfecundation

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Superfecundation describes the fertilization of two ova released during the same ovulation cycle, resulting from separate acts of intercourse with different partners. This can lead to fraternal twins who are half-siblings, which explains the observed differences in their appearances at birth. Superfecundation

Superfetation (Option A ruled out) This refers to the fertilization of two ova released from the ovary during the same ovulation cycle , occurring through two separate acts of intercourse at short intervals. The term also describes cases where two different males father fraternal twins, known as heteropaternal superfecundation . This can result in twins who are half-siblings, exemplified by one baby being white and the other black. Medico-legal Aspect: Significant differences in the appearance of the two babies may lead to suspicions of adultery or infidelity. This occurs when two ova are fertilized at different times during the ovulation cycle , specifically involving the fertilization of a second ovum in a pregnant woman. In this case, one fetus tends to be more developed than the other. They may be born simultaneously, showing different levels of maturation, or at different times, which can range from 1 to 3 months apart. The likelihood of superfetation is higher in women with a septate or double uterus. Lithopedion (Option C) : Known as a "stone baby," this condition occurs when a fetus dies during an ectopic abdominal pregnancy and becomes calcified. It is not relevant to the situation of twin pregnancies. Fetus Papyraceus (Option D) : This term refers to a condition in twin pregnancies where one fetus may die and become flattened and mummified due to pressure from the other. It does not apply to the case described, as it does not involve two distinct fetuses from different fathers. Intraoperative photograph showing papyraceous fetus and atrophic placenta.





References:

Essentials of Forensic Medicine, K. S. Narayan Reddy, 35th Edition, Page 308

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 359, 360

↑ *Back to this question in Part A*

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Q20: A 30-year-old woman comes to the clinic with her newborn baby. She explains that her husband passed away six months ago, shortly after she became pregnant. The baby was born healthy, and she is excited to introduce him to the world. What type of child is this? (Q846967)

A. Atavism

B. Illegitimate child

C. Supposititious child

D. Posthumous child

Correct Answer: D. Posthumous child

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: A posthumous child refers to a child born after the father has died. The baby in this scenario fits this definition perfectly. Atavism (Option A) : This term denotes the reappearance of a characteristic in an individual after several generations of absence, often due to genetic recombination. A child may resemble their grandparents rather than their parents, highlighting the complex nature of heredity. It does not relate to the status of the child's birth, so this option is incorrect. Illegitimate child (Option B) : Also known as a bastard this describes a child born out of lawful wedlock or not within a competent time after the dissolution of marriage. In this scenario, the child is born to a woman who was married, making this option incorrect. Certain conditions can render a child illegitimate, including if the alleged father is under the age of puberty, physically incapable of fathering children, not sexually accessible to the mother at the time of conception, or has blood group incompatibility. Legitimate Child : A child born during a lawful marriage or within 280 days after the marriage has been dissolved by divorce or death of the husband, as long as the mother remains unmarried. Supposititious child (Option C) : This term describes a fictitious child where a woman may pretend to be pregnant and later present a living child as her own. This can involve substituting one child for another or claiming a child after an abortion, typically for financial gain or to claim property. In this case, there is no indication of deception or substitution, so this option does not apply.

References:

Essentials of Forensic Medicine, K. S. Narayan Reddy, 35th Edition, Pages 309, 310 Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 360

↑ *Back to this question in Part A*

@Neet_pg_bot

Q21: Which of the following is not considered a ground for divorce under the Hindu Marriage Act, of 1955? (Q846965)

A. Change of religion

B. Cruelty

C. Financial disputes

D. Virulent leprosy

Correct Answer: C. Financial disputes

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Financial disputes are not listed as grounds for divorce under the Hindu Marriage Act of 1955. Grounds for Divorce (Hindu Marriage Act, 1955) Adultery : Voluntary sexual intercourse with any person other

than his/her spouse. Cruelty : Willful and unjustifiable conduct to cause danger to life, limb, or health of another (including mental health). (Option B ruled out) Desertion : Abandonment of one spouse without reasonable cause and without consent or against the wish of the other. Apostasy : Change of religion. (Option A ruled out) Unsoundness of mind . Virulent leprosy and sexually transmitted diseases including AIDS. (Option D ruled out) Renouncing the world . Additional grounds for women : Husband convicted of rape, sodomy, or bestiality.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 363

↑ *Back to this question in Part A*

@Neet_pg_bot

Q22: According to the Hindu Marriage Act, of 1955, which of the following is considered a ground for a void marriage? (Q846964)

A. Impotence

B. Bigamy

C. Unsoundness of mind

D. Consent obtained by force

Correct Answer: B. Bigamy

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Bigamy (entering into another marriage without dissolving the first) is classified as a void marriage, null from the time of inception. The Hindu Marriage Act, 1955 , outlines the legal framework for Hindu marriages in India, addressing the Grounds for void and voidable marriages Grounds for divorce Grounds for Void and Voidable Marriages Void Marriage Voidable Marriage Null from the time of inception. Remains valid until annulled by the court Bigamy (entering into another marriage without dissolution of the first). Impotence (Option A ruled out) Prohibited degree of relationship (blood relations), unless permitted by custom. Unsoundness of mind of either party at the time of marriage (Option C ruled out) Sapinda relationship (relationship extending to 3rd generation in the line of ascent through the mother and 5th generation through the father) Consent obtained by force, fraud, or misconception of facts (Option D ruled out) Pregnancy of the woman by another person, unknown to the husband at the time of marriage

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 363

↑ *Back to this question in Part A*

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• [08_Sexual Jurisprudence] 019 Previous Year Questions

« Back to Folder Directory

[08_Sexual Jurisprudence] 019 Previous Year Questions — Quick Jump

Q1 (p. 958)	*Q2 (p. 960)*	*Q3 (p. 960)*	*Q4 (p. 962)*	*Q5 (p. 963)*	*Q6 (p. 964)*
Q7 (p. 965)	*Q8 (p. 965)*	*Q9 (p. 966)*	*Q10 (p. 967)*	*Q11 (p. 968)*	*Q12 (p. 970)*
Q13 (p. 970)	*Q14 (p. 971)*	*Q15 (p. 971)*	*Q16 (p. 972)*	*Q17 (p. 973)*	*Q18 (p. 974)*
Q19 (p. 974)	*Q20 (p. 975)*				

Q1: A 10-year-old male child came to the casualty with difficulty in walking and pain in the perianal region. On subjecting the specimen from the perianal region to a test, it produces yellow needle-shaped rhombic crystals with picric acid. What is the test done? (Q855252)

A. Barberio test

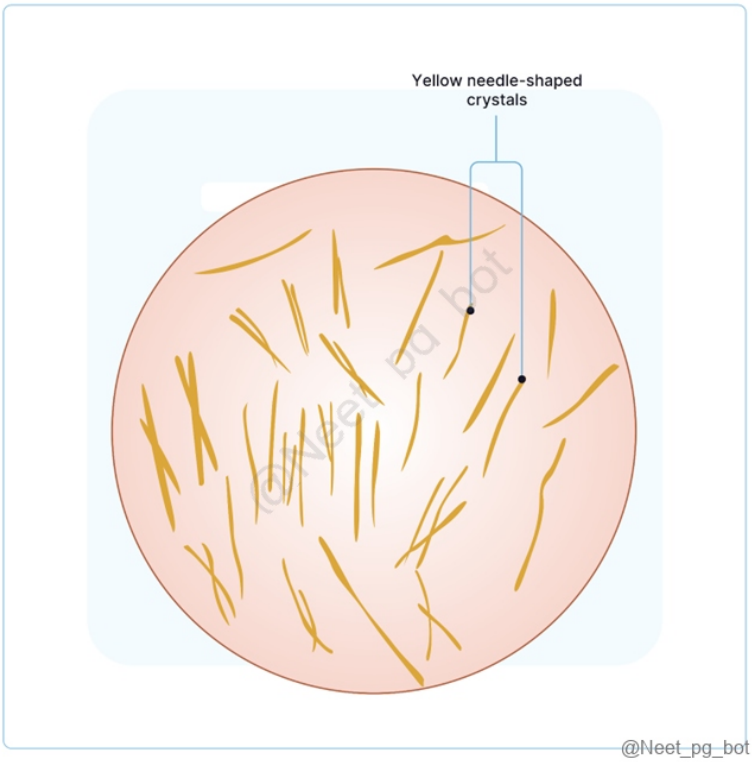
B. Florence test

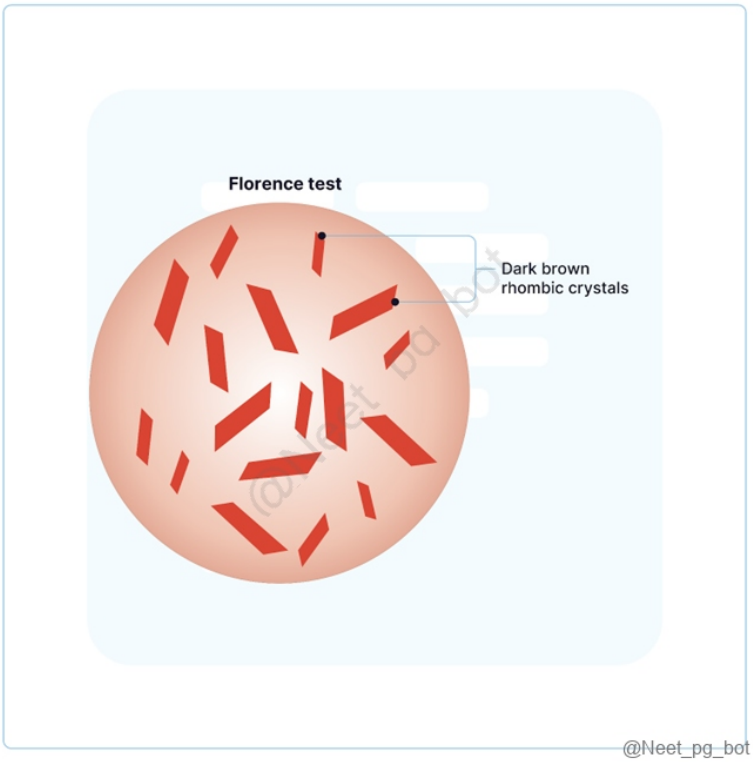
C. Teichmann test

D. Acid phosphatase test

Correct Answer: A. Barberio test

Explanation: The above scenario is suggestive of Barberio test , indicated by the presence of yellow needle-shaped crystals. The Barberio test specifically detects Spermine , a compound derived from the prostate, and is used to identify seminal fluid. {{caption_text}} Test Name Substance Detected Result Reagent Used Mnemonic Notes Barberio Test (Option A) Spermine Yellow needle-shaped crystals of Spermine Picrate Picric acid Barbar picks your hair with a needle Detects Spermine from the prostate; confirms the presence of seminal fluid. Florence Test (Option B ruled out) Choline Dark brown rhombic crystals of Choline iodide KI (Potassium Iodide) Florence has 'C', C for Choline It detects choline from the seminal vesicle and is used to identify seminal fluid. {{caption_text}} Teichmann test (Option C): This test detects hemoglobin or blood, not seminal fluid. Acid phosphatase test (Option D): The Acid phosphatase test is used to detect the presence of prostatic fluid in sexual assault cases. It does not produce needle-shaped rhombic crystals with picric acid.





References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 431-433

https://pmc.ncbi.nlm.nih.gov/articles/PMC1187150/

↑ *Back to this question in Part A*

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Q2: Typically, what is the condition of the hymen in cases of sexual assault involving a young child? (Q854899)

A. Ruptured since it is located superficially

B. Ruptured since it is very thin

C. Unruptured since it is poorly developed

D. Unruptured since it is highly elastic

Correct Answer: D. Unruptured since it is highly elastic

Explanation: In young children, the hymen is thick, elastic, and deeply situated , allowing it to stretch without tearing during attempted penetration. Because of its elasticity and protected location, hymenal rupture is uncommon even in cases of sexual assault, though minor injuries may still occur. Ruptured since it is located superficially (Option A): In children, the hymen is not superficial but deeply placed , protecting it from rupture. Ruptured since it is very thin (Option B): The hymen in young children is actually relatively thick , not thin. Unruptured since it is poorly developed (Option C): The hymen is well developed even in children; its elasticity and depth, not poor development, prevent rupture.

References:

Knight's Forensic Pathology 4th Edition.2016 Pg no.: 429-431

↑ *Back to this question in Part A*

@Neet_pg_bot

Q3: In the OPD, a 5-year-old child presenting with perianal pain is examined. Upon testing a sample obtained from the perianal region, it reveals the presence of yellow rhombic crystals of spermine picrate. What is the specific diagnostic procedure used to identify this condition? (Q854898)

A. Barberio test

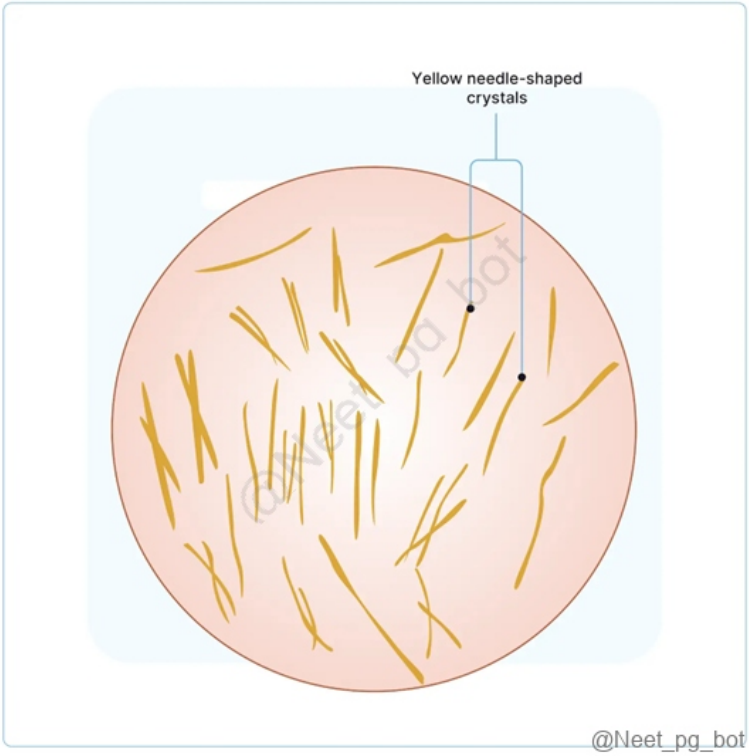
B. Florence test

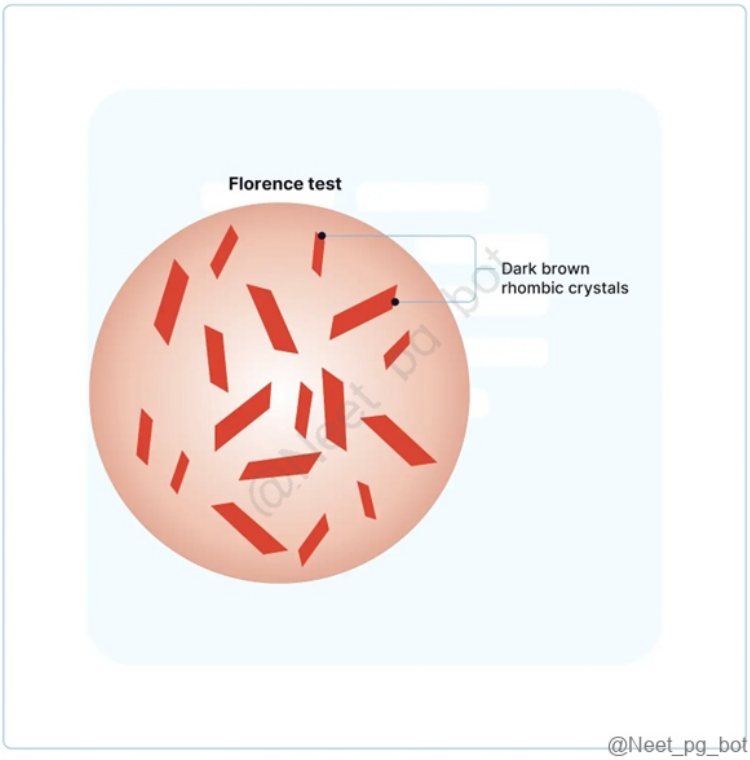
C. Takayama test

D. Teichmann test

Correct Answer: A. Barberio test

Explanation: Barberio test , indicated by the presence of yellow needle-shaped crystals, is used to identify the seminal fluid in this condition. The Barberio test specifically detects Spermine, a compound derived from the prostate, and is used to identify seminal fluid. Test Name Substance Detected Result Reagent Used Mnemonic Notes Barberio Test Spermine Yellow needle-shaped crystals of Spermine Picrate Picric acid Barbar picks your hair with a needle Detects Spermine from the prostate; confirms the presence of seminal fluid. Florence Test Choline Dark brown rhombic crystals of Choline iodide KI (Potassium Iodide) Florence has 'C', C for Choline It detects choline from the seminal vesicle and is used to identify seminal fluid. Florence Test (Option B) : This test detects choline and produces different crystal formations (dark brown rhombic crystals). Takayama test (Option C) : Similar to the Teichmann test, the Takayama test is used for hemoglobin detection. Teichmann test (Option D): This test detects hemoglobin or blood, not seminal fluid.





References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 431-433

↑ *Back to this question in Part A*

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Q4: As a medical officer, what actions should you take when a 14-year-old girl accompanied by her mother presents to the outpatient department (OPD) with a history of penovaginal penetration by a neighbor, with consent given by the girl? The girl expresses her refusal to undergo an examination. 1. Document informed refusal 2. Do not inform the police 3. Counsel the mother and daughter 4. Examine with necessary force 5. Inform the police (Q856869)

A. 1, 2, 3 are true

B. 2, 3, 4 are true

C. 1, 3, 5 are true

D. 3, 4, 5 are true

Correct Answer: C. 1, 3, 5 are true

Explanation: Document informed refusal (True) : It is important to document that the 14-year-old girl has expressed her informed refusal for an examination. This ensures that the healthcare professional has made her aware of the medical and legal consequences of her decision, while respecting her autonomy. Do not inform the police (False) : Regardless of the girl's consent, sexual activity with a minor (<18 years old) is considered statutory rape. The law mandates that such incidents be reported to the police immediately to ensure the minor's protection. Counsel the mother and daughter (True) : The healthcare professional should counsel both on the legal implications, reporting importance, and emotional impact. Examine with necessary force (False) : An examination should not be forced if the patient refuses. It should proceed only with consent or legal authority. Inform the police (True) : The healthcare professional is legally obligated to inform the police in cases of statutory rape to ensure legal protection for the minor. Procedures in a Rape Victim: Initial Steps: The police should advise the survivor not to bathe or change clothes to preserve evidence. The scene of the offense may be visited if necessary. The medical officer must ensure the survivor is treated with sensitivity and in an environment of trust, particularly when the survivor is from a marginalized group. Examination Procedure: A police requisition is required, except when the victim approaches the doctor directly. Informed consent must be obtained for the examination and evidence collection. The survivor has the right to refuse parts of the examination, but this refusal should be documented. Consent must be signed by the survivor (if ≥12 years old) or their guardian (if <12 years old). The survivor can refuse to report to the police, but the doctor is still required to inform them about the incident. Examining Process: The victim should be identified, and a female doctor or attendant should ideally conduct the examination, or a female presence should be maintained. The examination should be carried out promptly to prevent loss of evidence. Statements from the victim and accompanying persons should be recorded separately, especially if the abuser is present. Special care should be given to transgender or intersex individuals, respecting their preferences for examination. Additional Considerations: Survivors with disabilities or from vulnerable groups (like sex workers) should be handled with particular care and their consent for examination should be respected. Past sexual encounters should not be documented unless relevant to the current incident. The Supreme Court recognizes that non-consensual intercourse with sex workers constitutes rape.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 370-373

↑ *Back to this question in Part A*

@Neet_pg_bot

Q5: What is the appropriate term to describe a person who sits naked on their balcony, deriving sexual pleasure from observing others looking at them, while overlooking a park? (Q856313)

A. Voyeurism

B. Fetishism

C. Exhibitionism

D. Masochism

Correct Answer: C. Exhibitionism

Explanation: The behavior described in the scenario, where a guy derives sexual gratification by sitting nude on his balcony and observing people who look at him, is Exhibitionism. Category Description Sadism/Algolagnia Getting satisfaction by giving pain to a partner. Masochism/ Passive Algolagnia (Option D) Getting satisfaction by receiving pain from a partner. Bondage Combination of Sadism and Masochism. Lust Murder Murder acts as a stimulus for sexual arousal. Urolagnia/Undinism/ Urophilia Sexual arousal from urine smell, touch, or sight. Uranism Sexual gratification by fingering, fondling, licking, or sucking the genitalia of the opposite sex Coprophilia Sexual arousal from fecal smell and touch. Sexual Oralism Fellatio: Oral stimulation of male genitalia. Cunnilingus: Oral stimulation of female genitalia Exhibitionism (Option C) Showing private parts. Streaking: Running naked in public. Mooning: Showing bare buttocks (Mnemonic: Moon resembles buttocks) Flashing: Momentarily exposing body parts by quickly moving clothing (Mnemonic: like a flashlight) Necrophilia Sexual activity with a dead body. Necrophagia Eating parts of a dead body. Fetishism(Option B) Sexual satisfaction from inanimate objects like bras or underpants (Common in males) Voyeurism/Scoptophilia/ Peeping Tom (Option A) Watching someone undress or bathe (Specifically females) Mixoscopia: Sexual gratification from watching others engage in sex.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 395-397

↑ *Back to this question in Part A*

@Neet_pg_bot

Q6: What is the appropriate IPC section for the act of inducing abortion without the consent of the woman? (Q857625)

A. 312

B. 313

C. 318

D. 317

Correct Answer: B. 313

Explanation: Under Section 89 of the Bharatiya Nyaya Sanhita (BNS) - Whoever causes a woman to miscarry without her consent , whether or not she is quick with child, commits an offence punishable with imprisonment for life or up to ten years, and fine. BNS Section Equivalent IPC Section Provision Section 88 312 IPC Causing miscarriage with consent Section 89 313 IPC Causing miscarriage without consent Section 91 317 IPC Exposure and abandonment of a child under 12 years Section 92 318 IPC Concealment of birth by secret disposal of dead body

References:

IPC : Offences Affecting The Human Body | Devgan.in.

Medical Abortion in India

↑ *Back to this question in Part A*

@Neet_pg_bot

Q7: All are grounds for divorce except : (Q857619)

A. Adultery

B. Incurable Leprosy

C. Poverty

D. Insanity

Correct Answer: C. Poverty

Explanation: Poverty Poverty is not a valid ground for divorce according to the Hindu Marriage Act. Financial difficulties or poverty alone cannot be the reason to end a marriage. Hindu Marriage Act, 1955 (Sections 11, 12, 13): 1. Grounds for Void and Voidable Marriages: Void Marriage (Null from inception): Bigamy (marriage without dissolution of the earlier one) Prohibited degree of relationship (unless custom permits) Sapinda relationship (blood relationships up to 3rd generation through mother and 5th generation through father) Voidable Marriage (Valid until annulled): Impotence Unsoundness of mind at the time of marriage Consent obtained by force, fraud, or misconception of facts Pregnancy of the wife by another person, and the husband is unaware at the time of marriage 2. Grounds for Divorce: Adultery (voluntary intercourse with someone other than the spouse) (Option A ruled out) Cruelty (danger to life, limb, health, or mental health) Desertion (abandonment without reasonable cause) Apostasy (change of religion) Unsoundness of mind (insanity) (Option D ruled out) Virulent leprosy and sexually transmitted diseases (including AIDS) (Option B ruled out) Renouncing the world Husband convicted of rape, sodomy, or bestiality

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 363

↑ *Back to this question in Part A*

@Neet_pg_bot

Q8: A 16-year-old girl was rescued from a village in Bihar where she had been sold off by her father for Rs. 25000 to a 45-year-old man. On examination, she was found to be

12 weeks pregnant. She was granted permission to abort the pregnancy, taking into consideration the age of the girl and the circumstances of her pregnancy. A doctor who will be eligible to perform the abortion for this girl should have performed at least how many MTP prior to this? (Q857035)

A. 10

B. 15

C. 25

D. 35

Correct Answer: C. 25

Explanation: Qualifications of an RMP to conduct MTP: For MTP up to 12 weeks: Experience of assisting in 25 MTP cases. (Options A, B, & D ruled out) At least 5 cases performed independently. Must be in an approved hospital by the government. For MTP between 12-20 weeks: Post-graduate degree/diploma in Obstetrics & Gynecology. 6 months of house surgeoncy in Obstetrics & Gynecology. 1 year or more of practice in Obstetrics & Gynecology at any hospital.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page. 35

↑ *Back to this question in Part A*

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Q9: A 16-year-old girl and a 23-year-old boy undergo medical examination following allegations of rape made by the girl's parents. The girl states the sexual act was consensual, and no injuries are found on examination. According to the law, what is the legal status of the consent in this case? (Q866415)

A. Consent is invalid as the girl is under 18 years

B. No punishment since the act was consensual

C. No punishment since there are no injuries

D. Parents must prove the act was non-consensual

Correct Answer: A. Consent is invalid as the girl is under 18 years

Explanation: Under the Protection of Children from Sexual Offences (POCSO) Act and the Bharatiya Nyaya Sanhita (BNS), the age of consent for sexual activity is 18 years. Any sexual act with a person below 18 years is legally considered statutory rape, regardless of actual consent or absence of injuries. The intent of the law is to protect minors from exploitation, assuming they cannot give legally valid consent for sexual activity. Incorrect Options: Option B - No punishment since the act was consensual: Incorrect, because in statutory rape, consent is legally irrelevant if the person is under 18. Option C - No punishment since there are no injuries: Incorrect, as absence of injury does not affect the offence; penetration alone suffices for rape charges under the law. Option D - Parents must prove the act was non-consensual: Incorrect, as non-consent need not be proven for minors under 18; the act itself is punishable.

↑ *Back to this question in Part A*

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Q10: Which of the following procedures has been banned by the Supreme Court of India due to its association with sexual assault cases involving doctors? (Q860105)

A. Foley’s catheter insertion

B. Colposcopy

C. PV speculum insertion

D. Two-finger test

Correct Answer: D. Two-finger test

Explanation: The two-finger test is banned by the Supreme Court of India because it infringes on the privacy, physical and mental integrity, and dignity of rape survivors. BNSS Section 184 - Medical examination of Victim of Rape Step Details Request for Examination Any police officer can request it within 24 hours. Consent Must obtain consent from the woman Examination supervised by a female RMP. Initial Examination Ask the victim to remove clothing. Examine and collect evidence from clothes. Look for foreign objects (hairs, seminal stains) Search for physical injuries. Detection of Micro Injuries Apply toluidine-blue contrast to the anogenital area. Swabs Collection 4 swabs: Smear: Prepare a smear for microscopic examination. Sperm: Use saline for motility testing. DNA Profiling Chemical Tests: Acid phosphatase, creatinine phosphokinase, lactate dehydrogenase. Examination Position Examine in lithotomy position under good lighting. Hymen Examination Use Glaister-Keene rods or hymenoscope Look for tears (usually posterior at 5-7 o'clock position). Vaginal Examination Use a speculum for vaginal examination. (Option C) Cervical Examination Use a colposcope for cervical examination. (Option B) Post-Examination Care Treat STDs, injuries, or potential pregnancy. Provide psychological support. Foley’s catheter (Option A) is used for treatment purpose and can be used in rape victims

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 370

↑ *Back to this question in Part A*

Q11: During the forensic examination of semen from a rape victim, the identification of distinctive yellow needle-like crystals raises attention. What is the specific test employed to ascertain the presence of sperm? (Q860088)

A. Barberio test

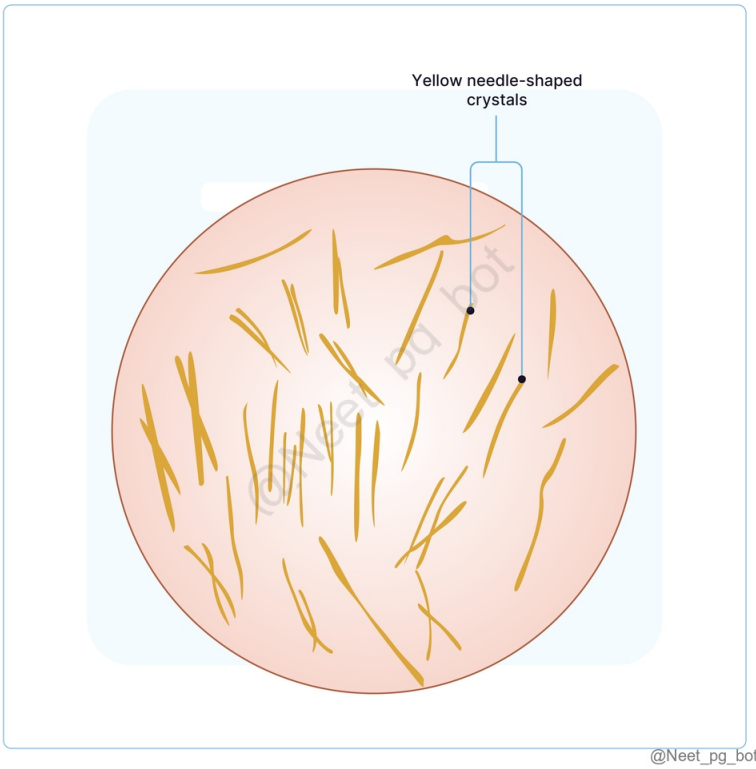
B. Acid phosphatase test

C. Papanicolaou smear

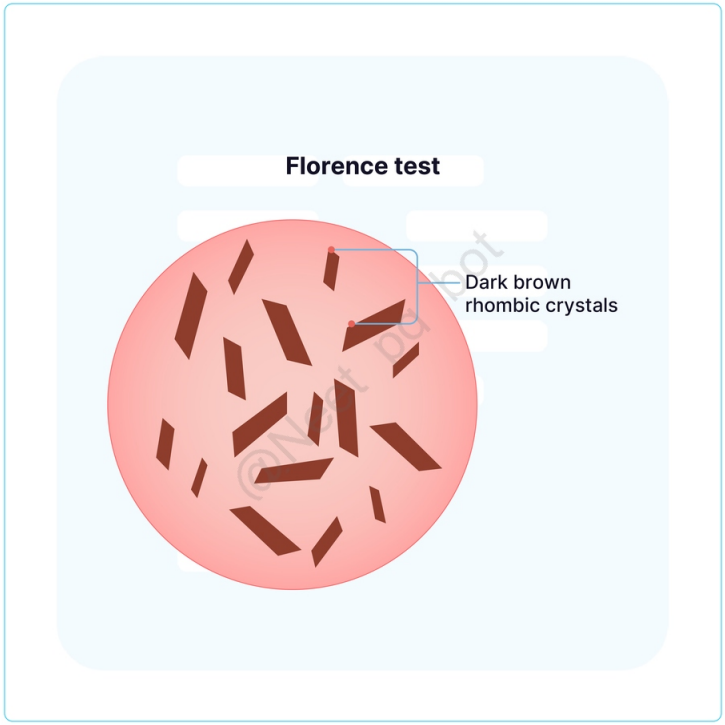
D. Florence test

Correct Answer: A. Barberio test

Explanation: Barberio test , indicated by the presence of yellow needle-shaped crystals, is used to identify the seminal fluid in this condition. The Barberio test specifically detects Spermine, a compound derived from the prostate, and is used to identify seminal fluid. Test Name Substance Detected Result Reagent Used Mnemonic Notes Barberio Test Spermine Yellow needle-shaped crystals of Spermine Picrate Picric acid Barbar picks your hair with a needle Detects Spermine from the prostate; confirms the presence of seminal fluid. Florence Test Choline Dark brown rhombic crystals of Choline iodide KI (Potassium Iodide) Florence has 'C', C for Choline It detects choline from the seminal vesicle and is used to identify seminal fluid. Florence Test (Option D) : This test detects choline and produces different crystal formations (dark brown rhombic crystals). Acid phosphatase test (Option B) can be used to detect seminal fluid, as acid phosphatase is present in high concentrations in semen. The test does not involve the formation of yellow needle-like crystals. Papanicolaou smear (Option C) commonly known as a Pap smear, is a screening test used to detect cervical cancer and abnormalities in cervical cells.



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References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 431-433

↑ *Back to this question in Part A*

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Q12: Declaration of Oslo by World Medical Association in 1970 deals with? (Q840088)

A. Therapeutic Abortion

B. Torture, degradation or cruel treatment of prisoners

C. Ethical aspects for Medical Researches

D. Hunger

Correct Answer: A. Therapeutic Abortion

Explanation: Correct Option A - Therapeutic Abortion: The Declaration of Oslo discusses the role of doctors in therapeutic abortion. It was adopted by the 24th World Medical Assembly Oslo, Norway, August 1970 and amended by the 35th World Medical Assembly Venice, Italy, October 1983 Incorrect Options: Option B - Torture, degradation or cruel treatment of prisoners: Torture, degradation or cruel treatment of prisoners was discussed in the declaration of Tokyo. Option C - Ethical aspects for Medical Researches: Ethical aspects for Medical Researches was discussed in the declaration of Helsinki. Option D - Hunger: Role of doctors in the Hunger strike was discussed in the declaration of malta.

References:

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↑ *Back to this question in Part A*

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Q13: Match the following sexual paraphilias:- A. Eonism B. Necrophilia C. Frotteurism D.Exhibitionism Sexual gratification by rubbing private parts against another person Exposure of one’s genitals to an unsuspecting stranger Sexual gratification by intercourse with dead body Sexual pleasure by wearing clothes of the opposite sex (Q840085)

A. A4, B3, C1, D2

B. A2, B3, C4, D1

C. A4, B1, C3, D2

D. A1, B4, C2, D3

Correct Answer: A. A4, B3, C1, D2

Explanation: Correct Option A - A4, B3, C1, D2: Eonism- Sexual pleasure by wearing clothes of the opposite sex Necrophilia- Sexual gratification by intercourse with dead body Frotteurism- Sexual gratification by rubbing private parts against another person Exhibitionism- Exposure of one's genitals to an unsuspecting stranger Incorrect Options: Options B, C, and D: These are incorrect options

↑ *Back to this question in Part A*

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Q14: 27 weeks of gestation with congenital anomalies. whose presence is not required for authorisation of MTP? (Q844159)

A. Obstetrician

B. Lawyer

C. Pediatrician

D. Sonologist

Correct Answer: B. Lawyer

Explanation: Correct Option B - Lawyer: A lawyer's presence is not required for the authorization of a Medical Termination of Pregnancy (MTP) for congenital anomalies. The primary requirement is the involvement of a medical team with specific specialists. The lawyer's role typically comes into play in legal proceedings or when there are legal challenges, but not in the medical decision-making process for MTP. Incorrect Options: Option A - Obstetrician: Required: An obstetrician is essential for evaluating and managing the medical aspects of the pregnancy, including assessing the viability and risks involved with the continuation or termination of the pregnancy. Option C - Pediatrician: Required: A pediatrician's input is crucial when congenital anomalies are involved, as they provide insight into the nature and severity of the anomalies, which helps in making informed decisions about the MTP. Option D - Sonologist: Required: A sonologist, who performs and interprets ultrasound scans, plays a critical role in diagnosing congenital anomalies and assessing the gestational age of the fetus. This information is vital for decision-making regarding MTP.

↑ *Back to this question in Part A*

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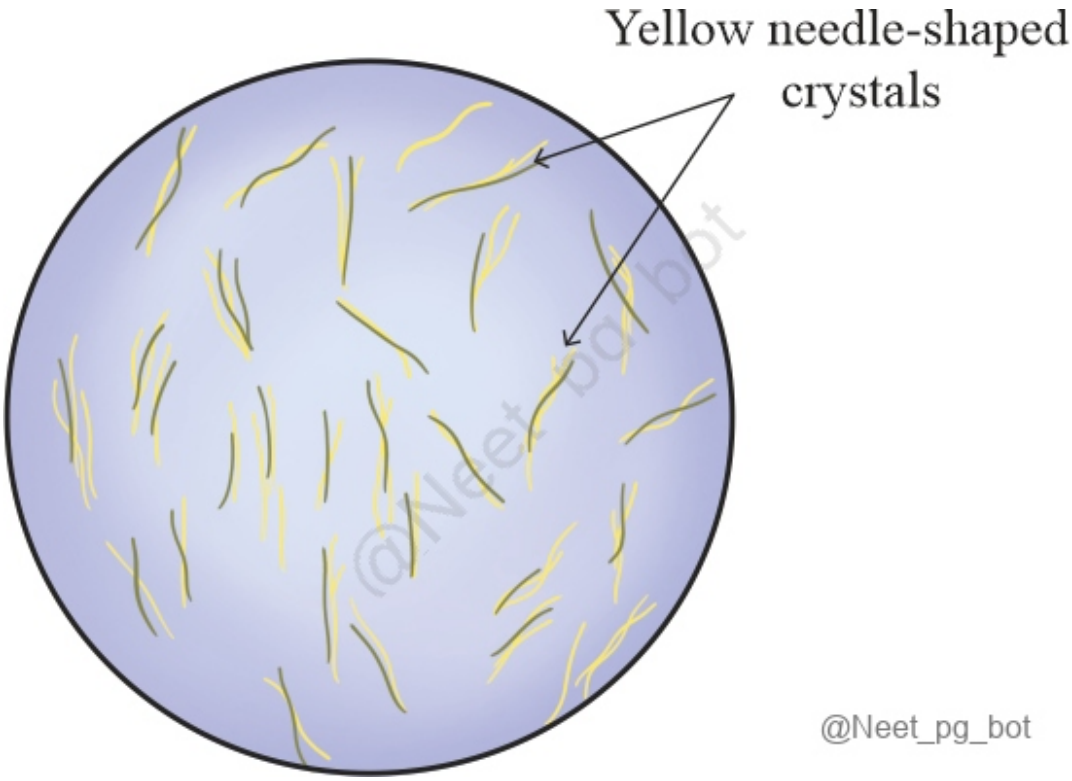
Q15: Examination of a suspicious stain shows the following finding. The test is? (Q844139)

A. Barberios test

B. Florence test

C. Teichman test

D. Takayama test



Correct Answer: A. Barberios test

Explanation: Barberio’s test detects spermine in semen. When treated with picric acid , it forms yellow needle-shaped crystals Florence test(Option B) is also a semen test , NOT a blood test.It detects choline and forms brown, rhombic (not needle-shaped) crystals of choline periodide . The Teichman test(Option C) is also used for blood detection but is characterized by the formation of rhomboid-shaped crystals, not needle-shaped ones. Takayama test(Option D) test detects blood and forms pink or reddish-brown crystals, not yellow needle-shaped crystals.

References:

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↑ *Back to this question in Part A*

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Q16: A child was born after 8 months of father's death. Grandparents filed a case that the baby is not their son's. DNA is positive. The child is called ? (Q844138)

A. Suppositious child

B. Fabricated child

C. Posthumous child

D. Illegitimate child

Correct Answer: C. Posthumous child

Explanation: CorrectAnswer C) Posthumous child: A posthumous child is one who is born after the death of one or both parents. In this case, since the child was born after the father's death but is confirmed by DNA to be the biological child of the deceased father, the correct term is "posthumous child." Incorrect Options: Option A - Suppositious child: A suppositious child refers to a child who is falsely claimed to be the legitimate child of a deceased person, but this term is not commonly used in modern legal or medical contexts. It does not apply to the situation described. Option B - Fabricated child: A fabricated child is not a standard term used in legal or medical contexts. It suggests falsification but is not relevant in the context of a child's legitimacy or paternity. Option D - Illegitimate child: An illegitimate child is one born out of wedlock. However, since the issue in this case is related to the timing of birth relative to the father's death rather than marital status, "illegitimate child" is not the most accurate term here.

↑ *Back to this question in Part A*

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Q17: Recording of evidence of a female in sexual Assault in court is done in? (Q844102)

A. Open court proceedings

B. Closed court proceedings

C. Hearing on different location

D. Hearing on camera

Correct Answer: B. Closed court proceedings

Explanation: Correct Option B - Closed court proceedings: In cases involving sexual assault, closed court proceedings are used to ensure the privacy and protection of the victim. These proceedings are not open to the public, which helps maintain the victim's confidentiality and reduce the emotional impact of the court process. Closed court sessions help protect the victim from public scrutiny and potential re-traumatization. Incorrect

Options: Option A - Open court proceedings: Open court proceedings are accessible to the public and can expose the victim to unnecessary stress and scrutiny. Such settings do not provide the privacy needed for sensitive cases like sexual assault. Option C - Hearing on different location: While a hearing might be conducted from a different location for logistical reasons (e.g., via video link), this is not specifically designed to protect the privacy of the victim in the same way that closed court proceedings do. Option D - Hearing on camera: Although on-camera recordings may be used to record testimony, this does not replace the need for closed court proceedings. On-camera recordings are part of the procedure to ensure that evidence is preserved and presented appropriately, but they are generally conducted within the framework of closed court proceedings to ensure the privacy of the victim.

↑ *Back to this question in Part A*

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Q18: A man wears a female dress and high heels and gets pleasure by doing so. He was not attracted to the same gender. This condition is? (Q844093)

A. Transvestic fetishism

B. Voyeurism

C. Sexual dysphoria

D. Gay orientation

Correct Answer: A. Transvestic fetishism

Explanation: Correct Option A - Transvestic fetishism: Transvestic fetishism involves wearing clothing traditionally associated with the opposite sex for sexual arousal. It is characterized by deriving sexual pleasure from cross-dressing, without necessarily having an attraction to the same gender. The person in this scenario finds pleasure in wearing female clothing and high heels but is not attracted to the same sex. Incorrect Options: Option B - Voyeurism: Voyeurism involves gaining sexual pleasure from watching others who are unaware that they are being watched, particularly in intimate or private situations. It is not related to cross-dressing or deriving pleasure from wearing the clothing of the opposite sex. Option C - Sexual dysphoria: Sexual dysphoria (more commonly referred to as gender dysphoria) is the distress or discomfort that may occur when an individual's gender identity does not align with their assigned sex at birth. This condition involves a disconnect between one’s experienced gender and the gender assigned at birth, not the act of cross-dressing for pleasure. Option D - Gay orientation: Gay orientation refers to an attraction to individuals of the same gender. The scenario described does not involve sexual attraction to the same sex but rather involves deriving pleasure from wearing clothing typically associated with the opposite sex.

↑ *Back to this question in Part A*

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Q19: What is the most appropriate term to describe the behavior of a man who consistently derives sexual pleasure from causing physical harm to his partner , often resulting in cuts and burns on their arms ? (Q793525)

A. Voyeurism

B. Fetishism

C. Sadism

D. Masochism

Correct Answer: C. Sadism

Explanation: Correct Option C - Sadism: The behavior described in the scenario is the core characteristic of sadism, which is a sexual disorder that involves gaining pleasure from the experience of inflicting pain, humiliation, or suffering on others. Incorrect Option: Option A - Voyeurism: Voyeurism is the act of observing individuals who are naked or engaged in sexual activity without their knowledge or consent, for the purpose of sexual gratification. Option B - Fetishism: Fetishism is a type of sexual disorder in which an individual is sexually aroused by non-human objects or specific body parts that are not typically considered sexually arousing, such as shoes, leather, or feet. Option D - Masochism: Masochism is a sexual disorder in which an individual derives sexual pleasure from receiving pain or humiliation.

References:

Prepladder Notes

↑ *Back to this question in Part A*

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Q20: Which test is employed to distinguish human blood from blood of other species among the options provided? (Q793570)

A. Teichman test

B. Precipitin test

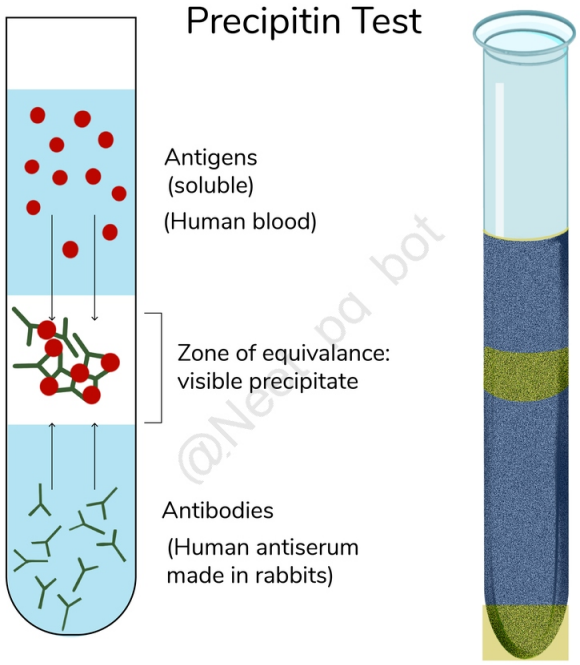
C. Barberio test

D. Takayama test

Correct Answer: B. Precipitin test

Explanation: Correct Option B - Precipitin test: The precipitin test is used to differentiate human blood from the blood of other species. This test is based on the principle that antibodies in serum will react with and precipitate

their corresponding antigens. Incorrect Options: Option A - Teichman test: This test is used to detect the presence of hemoglobin in a blood stain. Option C - Barberio test: This test is used to detect seminal stains . Option D - Takayama test: This test is used to detect the presence of blood in a forensic sample,



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References:

Prepladder Notes

↑ *Back to this question in Part A*

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• [09_Medical Jurisprudence] 020 Medical Jurisprudence

« Back to Folder Directory

[09_Medical Jurisprudence] 020 Medical Jurisprudence — Quick Jump

Q1 (p. 977)	*Q2 (p. 978)*	*Q3 (p. 978)*	*Q4 (p. 979)*	*Q5 (p. 980)*	*Q6 (p. 980)*
Q7 (p. 981)	*Q8 (p. 982)*	*Q9 (p. 983)*	*Q10 (p. 983)*	*Q11 (p. 984)*	*Q12 (p. 985)*
Q13 (p. 986)	*Q14 (p. 986)*	*Q15 (p. 987)*	*Q16 (p. 988)*	*Q17 (p. 989)*	*Q18 (p. 989)*
Q19 (p. 990)	*Q20 (p. 991)*	*Q21 (p. 992)*	*Q22 (p. 993)*	*Q23 (p. 993)*	*Q24 (p. 994)*
Q25 (p. 995)	*Q26 (p. 996)*	*Q27 (p. 997)*	*Q28 (p. 998)*	*Q29 (p. 999)*	*Q30 (p. 1000)*
Q31 (p. 1001)	*Q32 (p. 1002)*	*Q33 (p. 1003)*	*Q34 (p. 1003)*	*Q35 (p. 1004)*	*Q36 (p. 1005)*

Q1: A surgeon is performing an emergency appendectomy following all standard surgical protocols and with informed consent. During the procedure, the patient suffers a sudden, unpredictable anaphylactic shock to a standard anesthetic agent and dies despite all resuscitative efforts. Under which section of the Bharatiya Nyaya Sanhita is the surgeon protected from criminal liability? (Q885738)

A. Section 26

B. Section 80

C. Section 106

D. Section 115

Correct Answer: B. Section 80

Explanation: Section 80 of the Bharatiya Nyaya Sanhita (corresponding to Section 80 of the IPC) provides that nothing is an offence which is done by accident or misfortune, without any criminal intention or knowledge, in the doing of a lawful act in a lawful manner by lawful means and with proper care and caution. In this scenario, the surgeon was performing a lawful act with due care, and the death was an unforeseen accident. Section 26 (Option A) refers to acts done by consent not intended to cause death, but Section 80 specifically covers the "accident" aspect of lawful acts. Section 106 (Option C) relates to causing death by negligence (Rash and Negligent act), which would apply only if the surgeon had deviated from standard care. Section 115 (Option D) refers to voluntarily causing hurt, which involves intentional injury and is not applicable to a surgical accident.

References:

Modi’s Textbook of Medical Jurisprudence and Toxicology, 27th Edition, Page 743

The Bharatiya Nyaya Sanhita, 2023, Section 80

↑ *Back to this question in Part A*

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Q2: A patient visits a Casualty Medical Officer with a minor bruise. The police officer present receives information about this non-cognizable offence. According to Section 195 of the Bharatiya Nagarik Suraksha Sanhita, what is the mandatory legal procedure for the officer? (Q885697)

A. Register an FIR and proceed with the arrest of the accused

B. Record the information in a station diary and refer the informant to the Magistrate

C. Conduct a mandatory forensic DNA collection within 24 hours

D. Ignore the complaint as it does not involve "Grievous Hurt"

Correct Answer: B. Record the information in a station diary and refer the informant to the Magistrate

Explanation: Section 195 of the Bharatiya Nagarik Suraksha Sanhita (replacing Section 155 of the Code of Criminal Procedure) dictates that for non-cognizable cases, the police cannot investigate or arrest without a Magistrate's order. They must record the substance of the information and direct the informant to court. Registering an FIR (Option A) is reserved for cognizable offences where police can arrest without a warrant. Forensic DNA collection (Option C) is a requirement for certain specific serious offences under Section 176 of the Bharatiya Nagarik Suraksha Sanhita, not routine non-cognizable cases. Ignoring a complaint (Option D) is a dereliction of duty; the law requires the recording of the information even if the police cannot investigate immediately.

References:

The Bharatiya Nagarik Suraksha Sanhita, 2023, Section 195

The Essentials of Forensic Medicine and Toxicology, K.S. Narayan Reddy, 35th Edition, Page 7

↑ *Back to this question in Part A*

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Q3: A nurse administers a high-potency sedative to a patient without a doctor's prescription just to "keep the patient quiet" during a busy shift. The patient suffers a temporary drop in oxygen saturation but recovers fully without permanent injury. The nurse's act of rashness/negligence is punishable under which section of the

Bharatiya Nyaya Sanhita? (Q885698)

A. Section 106

B. Section 115

C. Section 355

D. Section 110

Correct Answer: C. Section 355

Explanation: Section 355 of the Bharatiya Nyaya Sanhita (replacing Section 336 of the Indian Penal Code) deals with any act done so rashly or negligently as to endanger human life or the personal safety of others, even if no actual hurt is caused. Section 106 (Option A) is only applicable if the negligence results in the death of the person. Section 115 (Option B) requires "voluntarily causing hurt," whereas Section 355 focuses on the "endangerment" through rashness. Section 110 (Option D) refers to the punishment for the attempt to commit culpable homicide.

References:

The Bharatiya Nyaya Sanhita, 2023, Section 355

Textbook of Forensic Medicine and Toxicology, V.V. Pillay, 19th Edition, Page 42

↑ *Back to this question in Part A*

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Q4: A forensic expert is asked in court to explain the legal scope of "Injury." According to Section 2(17) of the Bharatiya Nyaya Sanhita, which of the following scenarios constitutes a legal "Injury"? (Q885722)

A. Physical trauma to the abdomen leading to a ruptured spleen

B. Intentional damage to a person’s professional reputation via false social media posts

C. Unauthorised demolition of a person's boundary wall

D. All of the above

Correct Answer: D. All of the above

Explanation: Section 2(17) of the Bharatiya Nyaya Sanhita (replacing Section 44 of the Indian Penal Code) defines "injury" very broadly as any harm whatever illegally caused to any person, in body, mind, reputation, or property . Ruptured spleen (Option A) is harm to the "Body." Reputation damage (Option B) is harm to "Reputation." Boundary wall demolition (Option C) is harm to "Property." Since all are included in the statutory definition,

Option D is the correct answer.

References:

The Bharatiya Nyaya Sanhita, 2023, Section 2(17)

Modi's Textbook of Medical Jurisprudence and Toxicology, 27th Edition, Page 245

↑ *Back to this question in Part A*

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Q5: In a case of custodial death, it is found that the officer beat the victim with the knowledge that such an act was likely to cause death, but there was no specific evidence of a premeditated intent to kill. Under the Bharatiya Nyaya Sanhita, the punishment for this act of culpable homicide not amounting to murder is found under: (Q885725)

A. Section 103

B. Section 104

C. Section 111

D. Section 106

Correct Answer: B. Section 104

Explanation: Section 104 of the Bharatiya Nyaya Sanhita (replacing Section 304 of the Indian Penal Code) provides the punishment for Culpable Homicide not amounting to murder. It covers acts done with the intention of causing death (Part I) or with the knowledge that it is likely to cause death (Part II). Section 103 (Option A) provides the punishment for Murder (intentional killing with no exceptions). Section 111 (Option C) is a new section dealing with organised crime. Section 106 (Option D) deals with causing death by negligence (like a road accident or medical error), which lacks the "knowledge of likelihood of death" present in culpable homicide.

References:

The Bharatiya Nyaya Sanhita, 2023, Section 104

The Essentials of Forensic Medicine and Toxicology, K.S. Narayan Reddy, 35th Edition, Page 254

↑ *Back to this question in Part A*

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Q6: A surgeon tells a patient that if they do not undergo an immediate (but actually unnecessary) expensive surgery, they will "certainly die within 24 hours." The patient, terrified by this false claim, signs the consent form. This consent is legally invalid under which section of the Bharatiya Nyaya Sanhita? (Q885727)

A. Section 88

B. Section 89

C. Section 90

D. Section 92

Correct Answer: C. Section 90

Explanation: Section 90 of the Bharatiya Nyaya Sanhita (replacing Section 90 of the Indian Penal Code) states that consent is not valid if it is given under fear of injury or under a misconception of fact, provided the person doing the act knows or has reason to believe the consent was so obtained. Section 88 (Option A) protects acts done in good faith for a person's benefit with consent; however, the lack of valid consent (per Section 90) removes this protection. Section 89 (Option B) refers to consent given by a guardian for a child or a person of unsound mind. Section 92 (Option D) covers acts done in good faith for the benefit of a person without consent (e.g., emergency surgery on an unconscious patient).

References:

The Bharatiya Nyaya Sanhita, 2023, Section 90

Modi’s Textbook of Medical Jurisprudence and Toxicology, 27th Edition, Page 743

↑ *Back to this question in Part A*

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Q7: A doctor informs a patient that their biopsy results confirm advanced Stage IV carcinoma. The patient, overwhelmed by the news, suffers a fatal myocardial infarction on the spot. Is the doctor liable for the death? (Q885728)

A. Yes, under Section 106 for causing death by negligence

B. Yes, under Section 104 for knowledge of the impact of the news

C. No, they are protected under Section 93 of the Bharatiya Nyaya Sanhita

D. No, but only if the doctor had a psychiatrist present during the disclosure

Correct Answer: C. No, they are protected under Section 93 of the Bharatiya Nyaya Sanhita

Explanation: Section 93 of the Bharatiya Nyaya Sanhita (replacing Section 93 of the Indian Penal Code) protects communications made in good faith. No communication made in good faith is an offence by reason of any harm to the person to whom it is made, if it is made for the benefit of that person. Section 106 (Negligence) (Option A) does not apply because communicating a diagnosis is a professional duty, not a negligent act. Section 104 (Culpable Homicide) (Option B) is incorrect as there is no "act" done with the intent or knowledge to cause death in a criminal sense; it is a professional disclosure. While a psychiatrist (Option D) might be helpful, the legal protection is derived from the "good faith" nature of the communication itself, regardless of who else was in the room.

References:

The Bharatiya Nyaya Sanhita, 2023, Section 93

Textbook of Forensic Medicine and Toxicology, V.V. Pillay, 19th Edition, Page 38

↑ *Back to this question in Part A*

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Q8: In a case involving an occupational health hazard, a pregnant worker is forced to work 14-hour shifts in a factory with toxic chemical exposure, leading to a miscarriage. Which Article of the Constitution of India is primarily violated regarding the State's duty toward maternity relief? (Q885731)

A. Article 21

B. Article 42

C. Article 44

D. Article 51A

Correct Answer: B. Article 42

Explanation: Article 42 of the Constitution of India is a Directive Principle of State Policy that mandates the State to make provisions for securing "just and humane conditions of work and for maternity relief." Article 21 (Option A) relates to the Right to Life and Personal Liberty; while it encompasses health, Article 42 is the specific constitutional directive for maternity. Article 44 (Option C) relates to the Uniform Civil Code, which is unrelated to labor or maternity laws. Article 51A (Option D) lists the Fundamental Duties of citizens, not the obligations of the State toward workers.

References:

1. The Constitution of India, Article 42 2. Modi’s Textbook of Medical Jurisprudence and Toxicology, 27th Edition, Page 412

↑ *Back to this question in Part A*

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Q9: A 16-year-old boy is accused of rape and murder. The Juvenile Justice Board (JJB) must decide whether he should be tried as an adult. According to Section 15 of the Juvenile Justice Act, what is the specific requirement for this decision? (Q885734)

A. He must be tried as an adult automatically if the victim is a woman

B. Juvenile Justice Board must conduct a "Preliminary Assessment" of his mental and physical capacity to commit the offence

C. He cannot be tried as an adult until he reaches the age of 21

D. The police must decide the trial venue based on the FIR

Correct Answer: B. Juvenile Justice Board must conduct a "Preliminary Assessment" of his mental and physical capacity to commit the offence

Explanation: Under Section 15 of the Juvenile Justice (Care and Protection of Children) Act , for children between 16-18 years accused of heinous crimes, the JJB must conduct an assessment regarding their mental and physical capacity to commit the offence, their ability to understand the consequences, and the circumstances of the act. Automatic trial as an adult (Option A) is not permitted under Indian law; the assessment is a mandatory prerequisite. There is no requirement to wait until age 21 (Option C) ; the assessment happens during the juvenile proceedings. The police (Option D) have no legal authority to decide the trial venue; this power rests solely with the Juvenile Justice Board.

References:

Juvenile Justice (Care and Protection of Children) Act, 2015 (Amended 2021), Section 15

The Essentials of Forensic Medicine and Toxicology, K.S. Narayan Reddy, 35th Edition, Page 495

↑ *Back to this question in Part A*

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Q10: A Medical Officer, while conducting a post-mortem examination in a case of suspected poisoning, intentionally throws away the stomach wash samples to protect the accused, who is a close relative. Which section of the Bharatiya Nyaya Sanhita is the doctor liable under? (Q885696)

A. Section 206

B. Section 238

C. Section 115

D. Section 106

Correct Answer: A. Section 206

Explanation: Section 206 of the Bharatiya Nyaya Sanhita (replacing Section 204 of the Indian Penal Code) punishes the destruction of forensic evidence- any document or electronic record or item (like a viscera sample) to prevent its production as evidence in a legal proceeding. Section 238 (Option B) relates to causing the disappearance of evidence of an offence or giving false information to screen an offender, but Section 206 is more specific to the act of destroying a record/item one is legally bound to produce. Section 115 (Option C) relates to voluntarily causing hurt, which is a physical injury and unrelated to evidence tampering. Section 106 (Option D) refers to causing death by negligence.

References:

The Bharatiya Nyaya Sanhita, 2023, Section 206

Modi's Textbook of Medical Jurisprudence and Toxicology, 27th Edition, Page 15

↑ *Back to this question in Part A*

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Q11: A complainant wishes to file a criminal case against a man for "enticing away" his wife with the intent of illicit intercourse. While the Supreme Court decriminalized Adultery, which specific provision remains in the Bharatiya Nyaya Sanhita to penalize the act of enticing or detaining a married woman with criminal intent? (Q885739)

A. Section 22

B. Section 84

C. Section 497

D. Section 108

Correct Answer: B. Section 84

Explanation: While Adultery (formerly IPC 497) is no longer a crime, Section 84 of the BNS (replacing Section 498 of the IPC) still penalizes "enticing or taking away or detaining with criminal intent a married woman." It targets the third party who interferes with a marriage with the intent of illicit intercourse. Section 22 (Option A) deals with the "Act of a person of unsound mind" (Legal Insanity). It has no relation to matrimonial offences.

Section 497 (Option C) was the old IPC section for Adultery; it has been completely omitted from the BNS following the Joseph Shine judgment. Section 108 (Option D) relates to the abetment of suicide, which is a different category of offence involving self-harm.

References:

The Bharatiya Nyaya Sanhita, 2023, Section 84

Modi's Textbook of Medical Jurisprudence and Toxicology, 27th Edition, Page 750

↑ *Back to this question in Part A*

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Q12: A patient's relative continuously harasses and insults a doctor, falsely accusing them of "killing" a patient in public. Overwhelmed by the humiliation and mental agony, the doctor commits suicide, leaving a note citing the harassment as the sole reason. The relative may be charged under which section of the Bharatiya Nyaya Sanhita ? (Q885740)

A. Section 103

B. Section 108

C. Section 226

D. Section 111

Correct Answer: B. Section 108

Explanation: Section 108 of the Bharatiya Nyaya Sanhita (replacing Section 306 of the IPC) deals with the Abetment of Suicide . If any person commits suicide, whoever abets the commission of such suicide shall be punished with imprisonment and a fine. Abetment involves instigation or intentional aiding that leads the victim to take their own life. Section 103 (Option A) provides the punishment for Murder, which involves the direct intentional killing of another person. Section 226 (Option C) refers to the attempt to commit suicide to restrain a public servant, which is a different context. Section 111 (Option D) is a new provision dealing with Organized Crime and is not applicable to individual abetment cases.

References:

The Bharatiya Nyaya Sanhita, Section 108

Textbook of Forensic Medicine and Toxicology, V.V. Pillay, 19th Edition, Page 256

↑ *Back to this question in Part A*

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Q13: A doctor in a private clinic treats a patient for a gunshot wound. The patient refuses to explain the injury. Under Section 33 of the Bharatiya Nagarik Suraksha Sanhita, what is the legal obligation of the doctor regarding the disclosure of this information? (Q885741)

A. The doctor is bound by medical secrecy and cannot inform the police

B. The doctor must inform the police only if the patient dies

C. Every person aware of the commission of certain offences is duty-bound to give information to the nearest Magistrate or police officer

D. Information is required only if the doctor is a Government Medical Officer

Correct Answer: C. Every person aware of the commission of certain offences is duty-bound to give information to the nearest Magistrate or police officer

Explanation: Section 33 of the Bharatiya Nagarik Suraksha Sanhita (BNSS) (corresponding to Section 39(1) of the old CrPC) mandates that every person aware of the commission of, or the intention to commit, certain serious offences (including those affecting life like gunshot wounds) shall forthwith give information to the nearest Magistrate or police officer. Failure to do so can make the person liable under Section 238 of the BNS (omission to give information). The doctor is bound by medical secrecy and cannot inform the police (Option A) : Medical secrecy is not absolute and is overridden by statutory requirements to report crimes to protect public safety. The doctor must inform the police only if the patient dies (Option B) : Death is not a prerequisite; the awareness of a "commission of an offence" (like an illegal shooting) triggers the duty. Information is required only if the doctor is a Government Medical Officer (Option D): The law uses the term "Every person," meaning it applies to all citizens, including private medical practitioners.

References:

The Bharatiya Nagarik Suraksha Sanhita, Section 33

The Essentials of Forensic Medicine and Toxicology, K.S. Narayan Reddy, 35th Edition, Page 12

↑ *Back to this question in Part A*

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Q14: During a court testimony, a nurse states: "I did not see the doctor administer the wrong injection, but the ward boy told me he saw it happen." Under the Bharatiya Sakshya Adhiniyam , why is this testimony generally inadmissible? (Q885743)

A. It violates the Rule against Perjury

B. It violates the "Firsthand Knowledge Rule"

C. The nurse is not a "Medical Expert"

D. The statement was not recorded by a Magistrate

Correct Answer: B. It violates the "Firsthand Knowledge Rule"

Explanation: Section 60 of the Bharatiya Sakshya Adhiniyam (BSA) (replacing Section 60 of the Indian Evidence Act) stipulates that oral evidence must, in all cases whatever, be direct . This means if it refers to a fact which could be seen, it must be the evidence of a witness who says he saw it. The nurse's statement is "Hearsay Evidence," which is generally excluded because the person who actually saw the act (the ward boy) is not the one testifying. It violates the Rule against Perjury (Option A) relates to giving false evidence under oath, which is not the issue here; the issue is the source of the knowledge. The nurse is not a "Medical Expert" (Option C): Even if the nurse were an expert, the rule of direct evidence regarding a factual observation remains the same. The statement was not recorded by a Magistrate (Option D) refers to confessions or statements under Section 183 BNSS, but Section 60 BSA governs the nature of oral evidence in open court.

References:

The Bharatiya Sakshya Adhiniyam, Section 60

Modi’s Textbook of Medical Jurisprudence and Toxicology, 27th Edition, Page 12

↑ *Back to this question in Part A*

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Q15: A person submits a written declaration before a statutory authority, which by law is admissible as evidence. It is later proved that the declaration was knowingly false, though it was not made on oath. Which legal provision is most appropriately attracted? (Q885745)

A. Giving false evidence under oath

B. Making a false declaration receivable as evidence

C. Fabrication of false evidence for judicial proceedings

D. Screening an offender by causing disappearance of evidence

Correct Answer: B. Making a false declaration receivable as evidence

Explanation: Section 200 of the Bharatiya Nyaya Sanhita, 2023, applies to cases where a person makes a declaration which is legally receivable as evidence , knowing it to be false, even if it is not made on oath . The

essence of the offence lies in the legal requirement of truthfulness, not the presence of an oath. Giving false evidence under oath (Option A): Giving false evidence on oath is punishable under provisions corresponding to false evidence (earlier Indian Penal Code Section 191), not Section 200 of the Bharatiya Nyaya Sanhita . Fabrication of false evidence for judicial proceedings (Option C): Fabrication of false evidence involves the creation of false circumstances or documents, which is a separate offence. Screening an offender by causing disappearance of evidence (Option D): Causing disappearance of evidence to screen an offender is addressed under provisions corresponding to screening offences, not false declarations.

References:

Reddy K. S. Narayan,Essentials of Forensic Medicine and Toxicology, 36th Edition, Page 402

Pillai P. S. A.,Criminal Law, 14th Edition, Page 621

↑ *Back to this question in Part A*

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Q16: Following an assault on a doctor during emergency duty, the accused is booked under a state legislation specifically enacted to protect healthcare workers and hospital property. Which of the following best reflects the nature and intent of this legislation? (Q885746)

A. It regulates ethical misconduct of medical professionals

B. It provides criminal penalties for violence against medical personnel and damage to medical institutions

C. It compensates patients for medical negligence

D. It governs the registration and licensing of doctors

Correct Answer: B. It provides criminal penalties for violence against medical personnel and damage to medical institutions

Explanation: The Medicare Service Persons and Medicare Service Institutions (Prevention of Violence and Damage to Property) Acts were enacted by various States to criminalize violence against healthcare workers and damage to medical property , recognizing the increasing occupational risk faced by medical professionals. It regulates ethical misconduct of medical professionals (Option A): Ethical misconduct is regulated by medical regulatory bodies under professional conduct regulations, not by these Acts. It compensates patients for medical negligence (Option C): Compensation for negligence is dealt with under civil law and consumer protection legislation. It governs the registration and licensing of doctors (Option D): Registration and licensing are governed by medical regulatory statutes, not criminal protective laws.

References:

Reddy K. S. Narayan, 36th Edition, Page 520

Parikh’s Textbook of Medical Jurisprudence, Forensic Medicine and Toxicology, 7th Edition, Page 681

↑ *Back to this question in Part A*

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Q17: During an inquiry into an allegation of professional misconduct, a registered medical practitioner fails to provide the requested medical records within the stipulated time despite repeated notices. This failure primarily constitutes: (Q885747)

A. Civil negligence

B. Criminal negligence

C. Professional misconduct

D. Deficiency of service

Correct Answer: C. Professional misconduct

Explanation: As per ethical and legal guidelines, medical records must be supplied within seventy-two hours when demanded by the patient or investigating authority. Failure to do so is considered professional misconduct , irrespective of negligence or intent. Civil negligence (Option A): Civil negligence requires proof of duty, breach, causation, and damage, which is not essential for establishing misconduct. Criminal negligence(Option B): Criminal negligence requires gross negligence or recklessness endangering life, which is not implied merely by record non-disclosure. Deficiency of service (Option D): Although it may amount to a deficiency of service, the primary violation remains ethical misconduct.

References:

Reddy K. S. Narayan, 36th Edition, Page 510

Parikh’s Textbook, 7th Edition, Page 642

↑ *Back to this question in Part A*

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Q18: In a case of civil medical negligence, the burden of proof primarily lies on: (Q885749)

A. Treating doctor

B. Hospital administration

C. Patient

D. Medical Council

Correct Answer: C. Patient

Explanation: In civil negligence cases, the burden of proof lies on the patient , who must establish duty of care, breach of duty, causation, and resultant damage. The standard applied is the preponderance of probabilities , not proof beyond a reasonable doubt. The treating doctor (Option A) is required to defend only after negligence is prima facie established. Hospital administration (Option B) liability arises only if institutional negligence is alleged. The Medical Council (Option D) conducts disciplinary proceedings, not civil trials.

References:

Reddy K. S. Narayan, 36th Edition, Page 503

Modi’s Textbook of Medical Jurisprudence and Toxicology, 26th Edition, Page 329

↑ *Back to this question in Part A*

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Q19: A patient is undergoing an elective hysterectomy. During the surgery, the surgeon inadvertently nicks a blood vessel, leading to excessive bleeding. The surgeon immediately identifies the issue and successfully controls the bleeding, preventing further complications. Despite the patient's stable recovery, the patient files a negligence claim against the surgeon. Which defense is most likely to be successful in this case? (Q846924)

A. Contributory negligence

B. Therapeutic misadventure

C. Error of judgment

D. Medical Maloccurence

Correct Answer: B. Therapeutic misadventure

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Therapeutic Misadventure : An unintended complication occurred during treatment, which was beyond the doctor's control. In this case, Therapeutic Misadventure is the most appropriate defense. The surgeon unintentionally caused a complication (nicking a blood vessel) during the surgery, but it was quickly managed without any long-term harm to the patient. Since the complication was accidental and not due to negligence, this

defense can be used effectively. The surgeon must prove that the event was an unforeseen complication of the surgery and not due to lack of skill or care. Contributory negligence (Option A) : In this scenario, the patient did not contribute to the complication during surgery. Therefore, this defense does not apply as the patient did not act negligently in any way. Error of judgment (Option C) : This situation is not about a poor decision but an accidentalcomplication (nicking a blood vessel). Medical maloccurrence (Option D) : It refers to adverse outcomes that result from unavoidable risks or unpredictable complications, unrelated to the quality of care provided and not implying negligence. In contrast, therapeutic misadventure involves unintended injuries or harm directly caused by errors or mishaps during medical management.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page. 18.

↑ *Back to this question in Part A*

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Q20: A 78-year-old patient with terminal cancer is experiencing unbearable pain and requests to end their life peacefully. The patient's family consults with the medical team about options.Which of the following accurately describes the type of euthanasia they are considering? (Q846915)

A. Involuntary euthanasia

B. Passive euthanasia

C. Voluntary euthanasia

D. Active euthanasia

Correct Answer: C. Voluntary euthanasia

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: In this case, the patient is requesting to end their life peacefully, which aligns with voluntary euthanasia. The patient is capable of making this decision and providing consent for the same. Types of Euthanasia Type Key Features Voluntary Euthanasia (Option C) - Patient's consent is obtained - Patient is capable of making the decision Non-voluntary Euthanasia - Patient cannot give informed consent - Often involves coma patients or severely defective infants Involuntary Euthanasia (Option A) - Considered murder - Ethically, morally, and legally wrong Active Euthanasia (Option D) - Act of commission - Administration of lethal doses of drugs - Using measures that would hasten death Passive Euthanasia (Option B) - Act of omission - Allowing death by not resuscitating - Not using measures that would delay death In India, passive euthanasia is legal under controlled and well-defined conditions involving the withdrawal or withholding of life-sustaining treatment in patients with terminal or irreversible conditions, such as a persistent vegetative state. The other types of euthanasia are not legal in India.

References:

Gautam Biswas Review of Forensic Medicine and Toxicology 3rd Edition, Pages 26, 27

pmc.ncbi.nlm.nih.gov/articles/PMC10236687/

↑ *Back to this question in Part A*

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Q21: A 65-year-old patient in Mumbai wants to ensure their end-of-life wishes are respected if they become incapacitated. Which of the following statements about Living wills in India is correct? (Q846916)

A. Living wills are not legally recognized in India

B. A Living will must be verified by a Chief Judicial Magistrate

C. Can designate a person to make medical decisions on their behalf

D. If two living wills are made, the first one will be valid.

Correct Answer: C. Can designate a person to make medical decisions on their behalf

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Can designate a person to make medical decisions on their behalf Explan ation: Living will allow individuals to express their wishes for end-of-life care and can designate a person (a nominated representative (NR)) to make medical decisions on their behalf. Living Will or Advance Medical Directive: Legal Status Legally recognized since 2018 Supreme Court judgment (Option A) Purpose Express wishes for end-of-life care and designate decision-maker Eligibility Not limited to terminally ill patients; can be executed by any competent adult Authentication Must be attested by a Judicial Magistrate First Class (JMFC) (Option B) Authorities involved Primary Medical Board and Secondary Medical Board Validity If two living wills are made, the last one will be considered valid (Option D) Types of Will: Simple Wills (basic asset distribution) - A straightforward document that outlines how assets should be distributed and names a guardian for minor children. Holographic Wills (handwritten) - Entirely handwritten and signed by the testator (the person making the will), often without witnesses; Not recognized in all jurisdictions. Joint/Mutual Wills (for couples) - A single document created by two or more people (usually spouses) that covers all their assets. It cannot be easily changed after one person passes away. Living Wills (medical directives) - A document outlining medical preferences (e.g., life support, organ donation) if the person becomes incapacitated, not for asset distribution. Pour-Over Wills (linking to trusts) - It is used in conjunction with a trust. It pours any assets not already in the trust into it upon the person's death.

References:

www.indialaw.in/blog/civil/understanding-the-concept-of-living-wills/

↑ *Back to this question in Part A*

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Q22: A 35-year-old bus driver is diagnosed with epilepsy during a routine medical check-up. The patient requests the doctor not to disclose this information to anyone. In this scenario, which of the following actions by the doctor would be most appropriate? (Q846917)

A. Maintain absolute confidentiality as requested by the patient

B. Immediately report the condition to the patient's employer

C. Explain the potential risks to the patient and persuade them to allow disclosure

D. Disclose the information without the patient's consent

Correct Answer: C. Explain the potential risks to the patient and persuade them to allow disclosure

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: This scenario falls under the concept of privileged communication , which involves balancing patient confidentiality with public safety. The doctor should explain to the patient the potential risks their condition poses to public safety, given their occupation as a bus driver. The doctor should then attempt to persuade the patient to allow disclosure to the appropriate authorities. If the patient still refuses after this

References:

Gautam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Pages 10, 11

↑ *Back to this question in Part A*

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Q23: Which of the following does not fall under an exception to informed consent? (Q846918)

A. A medical examination ordered by a police officer for an individual arrested on suspicion of drug trafficking

B. Emergency surgical treatment for a patient after a road traffic accident

C. A psychiatric evaluation ordered by a court for a prisoner showing signs of severe mental illness

D. A patient diagnosed with tuberculosis refusing treatment, and the physician administering medication under the guise of placebo treatment to manage the condition for public health reasons

Correct Answer: D. A patient diagnosed with tuberculosis refusing treatment, and the physician administering medication under the guise of placebo treatment to manage the condition for public health reasons

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Informed consent is provided when a patient understands the nature of their condition, the proposed treatment , the outcomes of the suggested treatment, alternative treatment options, and the associated risks and benefits . The patient has the right to either accept or decline the procedure. Consent refers to a voluntary agreement , permission, or compliance, which may be either expressed or implied. It is exempt in certain circumstances. While patients with notifiable diseases (e.g., tuberculosis) may be treated to protect public health, using a placebo without the patient's knowledge violates ethical guidelines. Even in cases of public health concerns, deceptive treatment is not an acceptable practice and does not fall under exceptions to informed consent. Exceptions to Informed Consent : Emergencies (Option B ruled out) Medical examination ordered by a police officer for an arrested individual [Sec 51 & 52 BNSS] (Option A ruled out) Therapeutic privilege Therapeutic waiver Medico-legal postmortems Psychiatric examination or treatment mandated by a court order (Option C ruled out) Use of placebos Prisoners A person suffering from a disease under the ‘notified’ category (to notify the authorities only) Treatment of notifiable diseases for the greater community interest. Implied consent: Occurs when consent is not explicitly stated or written but is inferred through actions. Substituted consent: When a person is unable to provide informed consent for medical treatment, proxy consent must be obtained from a close relative. The typical order of priority is the spouse, followed by an adult child, then a parent, and finally a sibling. Presumed consent/opt-out: Refers to the patient's refusal of the procedure, test, or treatment.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page. 22-25.

The Essentials of Forensic Medicine and Toxicology, K S Narayan Reddy, OP Murty, 35th Edition, Page. 36-39.

↑ *Back to this question in Part A*

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Q24: A 65-year-old male with terminal cancer is being treated in a palliative care unit. The physician is aware that disclosing the full extent of his poor prognosis may cause severe distress and worsen his psychological state. However, his family is requesting detailed information about his condition to be disclosed to the patient. Which of the following ethical principles is most appropriate for the physician to apply in this situation? (Q846920)

A. The physician should use full disclosure and inform the patient of all risks, benefits, and prognosis, allowing the patient to make an informed decision about further care.

B. The physician should apply therapeutic privilege, withholding certain information if it is believed that disclosing the full prognosis could harm the patient's emotional well-being.

C. The physician should rely on therapeutic privilege but must always seek approval from the patient's family before withholding any information.

D. The physician should provide the information to the family only, as full disclosure primarily concerns the patient's relatives in situations involving terminal illness.

Correct Answer: B. The physician should apply therapeutic privilege, withholding certain information if it is believed that disclosing the full prognosis could harm the patient's emotional well-being.

Explanation: Full Disclosure : Ethical duty: Physicians are generally expected to inform patients of their diagnosis, prognosis, and treatment options , enabling autonomous, informed decision-making . This allows the patient to make informed decisions, emphasizing autonomy and respect for their right to know the full extent of their condition. Full disclosure primarily concerns the patient, not the family. While family members can be involved in discussions, the ethical duty to disclose information focuses on the patient's right to know about their own condition. (Option D) Limitations: In some sensitive situations, full disclosure may lead to psychological harm (e.g., extreme distress, anxiety, or depression). (Option A) Therapeutic Privilege : Definition: The physician may withhold specific information if disclosure is likely to cause harm to the patient's mental or emotional health . Criteria: Used only when the benefits of withholding outweigh the harm of disclosure . In the given scenario, the physician may choose not to disclose the full severity of the prognosis if it is deemed that this information would negatively impact the patient's mental state. Therapeutic privilege does not require the physician to seek approval from the family before withholding information. (Option C) The decision to withhold information is primarily based on the physician's judgment about the potential harm to the patient, though family involvement may be helpful in some cases.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 43.

The Essentials of Forensic Medicine and Toxicology, K S Narayan Reddy, OP Murty, 35th Edition, Page 36.

↑ *Back to this question in Part A*

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Q25: Which BNS section denotes that consent given by an insane person is invalid? (Q846921)

A. 25 BNS / IPC 87

B. 26 BNS / IPC 88

C. 28 BNS / IPC 90

D. 30 BNS / IPC 9

Correct Answer: C. 28 BNS / IPC 90

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The consent given by an insane or intoxicated person, who is unable to understand the nature and consequences of that to which he gives his consent is invalid (28 BNS / IPC 90) Provisions under the Act BNS Section Corresponding IPC Section Any act done without intent to cause death or serious harm, but done with consent, is not considered an offense. 25 (Option A) 87 An act done in good faith with the consent of the person, for their benefit, is not an offense. 26 (Option B) 88 An act done in good faith for the benefit of a child under 12 years old or an insane person, with the consent of a guardian, is not an offense. 27 89 Consent is invalid if: Given under fear or misconception Given by an insane person 28 (Option C) 90 The exceptions under sections 25, 26, and 27 do not apply to acts that independently constitute offenses, or are intended or likely to cause harm to the person giving consent or on whose behalf consent is given. 29 91 Acts done in good faith without consent are permissible in the following situations: During an emergency When the person is incapable of giving consent When there is no guardian to give consent 30 (Option D) 92 Acts causing slight harm are not considered offenses. 33 95

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page. 24.

The Essentials of Forensic Medicine and Toxicology, K S Narayan Reddy, OP Murty, 35th Edition, Page. 37-39.

New Criminal Laws - Government of India

↑ *Back to this question in Part A*

@Neet_pg_bot

Q26: A 50-year-old woman undergoes a surgical procedure and experiences severe postoperative complications due to the surgeon’s failure to follow standard protocols. As a result, she files a lawsuit seeking compensation for her injuries. In this scenario, which of the following statements accurately describes the nature of the lawsuit? (Q846922)

A. The lawsuit is a criminal negligence case because it involves severe harm and a violation of medical standards.

B. The lawsuit is a civil negligence case because it seeks compensation for harm caused by the surgeon's actions.

C. The lawsuit cannot proceed because the patient consented to the surgery.

D. The lawsuit is a tort case that does not involve any financial compensation.

Correct Answer: B. The lawsuit is a civil negligence case because it seeks compensation for harm caused by the surgeon's actions.

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The patient in this scenario has experienced severe complications following a surgical procedure due to the surgeon's negligence in adhering to standard protocols. This clearly indicates a potential breach of the duty of care expected from medical professionals. Feature Civil Negligence Criminal Negligence Offense No specific and clear violation of law Must have specifically violated a particular criminal law Negligence Simple absence of care and skill Gross negligence, inattention, or lack of competence Conduct of a physician Compared to a generally accepted simple standard of conduct Not compared to a single test Consent for the act Good defense, cannot recover damages Not a defense, can be prosecuted Trial by Civil court Criminal court Evidence Strong evidence is sufficient Guilt must be proved beyond reasonable doubt Punishment Liable to pay damages Imprisonment, fine, or both Contributory negligence Defense for doctor Not a defense Double jeopardy Cannot be tried twice for the same offense Can be tried twice for the same crime Damage Repairable damage or harm to the patient Irreparable damage to the patient Dispute Between two parties in their individual capacities Between the State and the offending doctor Complainant Sufferer's party is the complainant Public prosecutor on behalf of the State is the complainant

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page. 15-16.

The Essentials of Forensic Medicine and Toxicology, K S Narayan Reddy, OP Murty, 35th Edition, Page. 29-32.

↑ *Back to this question in Part A*

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Q27: A 48-year-old patient with ischemic heart disease is discharged following a cardiac procedure. Upon discharge, the doctor prescribes medications without reviewing the patient's current medication list, resulting in reduced effectiveness of the new drug. The patient also fails to adhere to the regimen, taking the medication only when he "felt like it." This leads to a severe cardiac event, prompting the patient to file a lawsuit, alleging negligence on the doctor's part. Which legal principle would most likely serve as the doctor's defense in this case? (Q846923)

A. Composite negligence

B. Vicarious liability

C. Contributory negligence

D. Res ipsa loquitur

Correct Answer: C. Contributory negligence

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: In this scenario, Contributory Negligence is the appropriate legal principle. In this case, the patient failed to follow the prescribed medication regimen, which significantly contributed to the worsening of their condition. The doctor also failed to review the medications that the patient was already using. Thus, while the doctor may have some degree of liability, the patient's actions play a crucial role in reducing the doctor's responsibility. Contributory Negligence: Contributory negligence refers to any unreasonable behavior or lack of care on the part of the patient that contributes to the injury, along with the doctor's negligence. Without the patient's behavior, the injury would not have occurred. Contributory negligence serves as a good defense for doctors in civil cases . If contributory negligence is proven, the damages awarded by the court to the patient may be reduced, as the patient's actions contributed to the harm. Exceptions to Contributory Negligence Last Clear Chance Doctrine: If the defendant had the final opportunity to avoid the accident but failed to do so, the defendant remains liable despite plaintiff's negligence. Example: A pedestrian negligently crosses the road, but the driver sees them in time and could avoid the accident but does not — driver is liable. Doctrine of Avoidable Consequences: Plaintiff's negligence occurring after the accident may reduce damages but does not bar claim. Defendant's Wilful or Gross Negligence: If the defendant's act is intentional or reckless, contributory negligence is not a valid defense. Children: Young children are generally not held contributorily negligent due to lack of capacity. Res Ipsa Loquitur Cases: In cases where negligence is obvious from the nature of the event, contributory negligence may not easily apply. (Option D ruld out) Composite negligence (Option A): Involves a situation where the patient did not contribute to their injury, but two or more other parties are responsible for causing harm. In composite negligence, all parties are jointly and severally liable for the damages. Vicarious liability (Option B): This applies when an employer (such as a hospital or a medical institution) is held responsible for the actions of an employee (e.g., a doctor or nurse). This is not relevant in this case.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page. 20

The Essentials of Forensic Medicine and Toxicology, K S Narayan Reddy, OP Murty, 35th Edition, Page. 29

↑ *Back to this question in Part A*

@Neet_pg_bot

Q28: Which of the following is NOT considered a type of infamous conduct or professional misconduct according to the guidelines for medical practitioners? (Q846911)

A. Performing an illegal abortion operation

B. Issuing false or misleading certificates for administrative purposes

C. Refusing emergency treatment to a patient

D. Advertising in the yellow pages of the telephone directory

Correct Answer: D. Advertising in the yellow pages of the telephone directory

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: A medical practitioner may list his/her name in a telephone directory , including yellow pages, as a simple listing , without promotional content. This is not considered advertising and therefore NOT misconduct . Professional Misconduct / Infamous Conduct: Definition Any conduct of the doctor that might reasonably be regarded as disgraceful or dishonorable or judged by professional men of good repute and competence. It involves abuse of professional position. Examples 1. Performing illegal abortions (Option A) 2. Issuing false or misleading certificates (Option B) 3. Not maintaining medical records for 3 years 4. Not displaying registration number 5. Absence from duty in rural postings 6. Fee splitting (dichotomy) 7. Refusing emergency treatment (Option C) 8. Performing artificial insemination without informed consent

References:

Gautam Biswas Review of Forensic Medicine and Toxicology 3rd Edition Pages 12, 13

↑ *Back to this question in Part A*

@Neet_pg_bot

Q29: A patient undergoes surgery for a broken leg. After the operation, the patient develops a severe infection due to the use of contaminated surgical instruments. The patient had no involvement in the handling of the instruments and did not contribute to the negligence. Which legal doctrine best applies to this situation regarding the surgeon's liability? (Q846945)

A. Doctrine of Res Ipsa Loquitur

B. Doctrine of Common Knowledge

C. Novus Actus Interveniens

D. Borrowed Servant Doctrine

Correct Answer: A. Doctrine of Res Ipsa Loquitur

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Doctrine of Res Ipsa Loquitur applies because the injury (infection) would not have occurred without negligence, the surgeon had exclusive control over the instruments, and the patient was not contributory negligent. It allows the patient to establish negligence without needing expert testimony. Doctrine of Res Ipsa Loquitur Means "the thing speaks for itself"; Used when negligence is obvious. Expert Evidence : Patients don't need to prove negligence through expert testimony; the burden shifts to the doctor to prove innocence. Conditions : Injury would not have occurred without negligence. Doctor had exclusive control over the treatment or instrument causing injury. Patient was not contributory negligent. Novus Actus Interveniens (Option C): This doctrine refers to an unrelated event that breaks the chain of causation. In this scenario, there is no unrelated event that caused the injury; it directly resulted from the use of contaminated instruments. Doctrine of Common Knowledge (Option B): Applies when negligence is evident from common knowledge, not requiring specialized medical expertise. Expert Evidence: Experts are not needed for matters of common knowledge.Patient's Burden: The patient must show the act of negligence (commission or omission), but doesn't need to prove the standard of care. Borrowed Servant Doctrine (Option D): This doctrine applies to situations where an employee (like a nurse) is temporarily under the control of another employer (like a surgeon). It does not directly relate to the surgeon's negligence in this case, as it does not address the issue of instrument contamination.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 19

↑ *Back to this question in Part A*

@Neet_pg_bot

Q30: A 68-year-old woman with severe coronary artery disease undergoes coronary bypass surgery. Prior to the operation, the surgeon discusses the potential complications, including a 2-5% risk of mortality due to inherent surgical risks. Despite the surgery being performed with appropriate care, the patient unfortunately dies during the procedure. Which legal principle best explains the surgeon's liability in this case? (Q846946)

A. Novus Actus Interveniens

B. Calculated Risk Doctrine

C. Vicarious Liability

D. Respondeat Superior

Correct Answer: B. Calculated Risk Doctrine

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The calculated risk doctrine applies here because the risk of mortality was clearly communicated and is recognized as an inherent risk of the procedure, indicating that the surgeon acted within accepted standards of care. Calculated Risk Doctrine Res ipsa loquitur does not apply when injuries may occur despite reasonable care. Defense for Doctors: Doctors can present evidence that accepted treatments have unavoidable risks. Example: A patient dying during a coronary bypass surgery is seen as an inherent risk (2-5%). Novus Actus Interveniens (Unrelated Intervening Action) (Option A) This refers to an event that breaks the chain of causation from the original negligent act. Negligence Element : Requires proof of negligence to establish a break in causation. Often applied in incidents like leaving surgical instruments inside a patient. Pleas are rarely accepted by courts. Vicarious Liability/Respondeat Superior (Option C & D) Employers are liable for the negligent acts of their employees under certain conditions. Also called the Master-Servant rule. Conditions : Employer-employee relationship. Conduct occurs within the scope of employment. Incident occurs while on the job. Principal doctors can be held responsible for the negligence of their assistants.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 19, 20, 21

↑ *Back to this question in Part A*

@Neet_pg_bot

Q31: A 65-year-old female patient undergoes elective thyroidectomy due to hyperthyroidism. During the procedure, the surgeon inadvertently damages the recurrent laryngeal nerve, resulting in vocal cord paralysis. The patient had been fully informed of the risks involved and consented to the surgery. Which of the following best describes the outcome of this incident? (Q846947)

A. Therapeutic Misadventure

B. Borrowed Servant Doctrine

C. Products Liability

D. Composite Negligence

Correct Answer: A. Therapeutic Misadventure

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Therapeutic misadventure refers to a recognized and inherent complication that occurs as a result of a properly performed medical or surgical procedure, despite adherence to standard care and obtaining informed consent. In this case: Therapy performed: Elective thyroidectomy for hyperthyroidism Complication occurred : Injury to the recurrent laryngeal nerve (RLN) Result : Vocal cord paralysis The adverse outcome is categorized as a therapeutic misadventure , not malpractice. because: The procedure was medically indicated Standard surgical protocol was followed Recurrent laryngeal nerve injury is a well-known and accepted complication of thyroid

surgery, even when performed with due care Proper informed consent was obtained There is no evidence of negligence Borrowed Servant Doctrine (Option B) : This doctrine applies when a healthcare worker (e.g., nurse or technician) temporarily works under the control of another physician, and liability depends on who had supervisory control at the time of negligence. This scenario does not involve vicarious liability or shared employment responsibility . Products Liability (Option C) : This refers to injury caused by a defective medical product, drug, or device . No defective instrument or pharmaceutical product is involved here. Composite Negligence (Option D) : Composite negligence occurs when multiple parties are negligent , and their combined actions cause harm. In this case, there is no negligence established , either single or multiple.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Pages 20, 21

↑ *Back to this question in Part A*

@Neet_pg_bot

Q32: How long should the following types of medical records be retained in India: Outpatient Records (OPD), Inpatient Records (IPD), and Medico-legal Records? (Q846948)

A. 5 years, 15 years, 15 years

B. 10 years, 23 years, 25 years

C. 5 years,15 years, 10 years

D. 3 years, 10 years, 10 years

Correct Answer: C. 5 years,15 years, 10 years

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The option that most closely aligns with the standard minimum retention guidelines is: 5 years, 15 years, 10 years . Outpatient Records (OPD): 5 years (Falls within the common range of 3-5 years) Inpatient Records (IPD): 15 years (This is a conservative and safer period, as many major hospitals keep them for 10-15 years, exceeding the 5-10 year minimum.) Medico-legal Records: 10 years (While 25 years is ideal, 10 years is often the absolute minimum required to cover the standard statute of limitations for civil and criminal cases.)

References:

aihms.in/blog/medical-records-maintenance/

↑ *Back to this question in Part A*

@Neet_pg_bot

Q33: Which of the following statements is false regarding the Bolam Test and the Bolitho Test? (Q846949)

A. The Bolam Test allows a doctor to avoid negligence if their actions align with a responsible body of medical opinion.

B. The Bolitho Test requires that the accepted medical opinion is logically defensible.

C. The Bolam Test involves active scrutiny from the court regarding the logic of medical opinions.

D. The Bolitho Test allows a finding of negligence if an expert's opinion is indefensible, regardless of peer support.

Correct Answer: C. The Bolam Test involves active scrutiny from the court regarding the logic of medical opinions.

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The Bolam Test does not involve active scrutiny from the court regarding the logic of medical opinions; it primarily relies on the consensus of medical professionals. In contrast, the Bolitho Test includes this scrutiny. Feature Bolam Test Bolitho Test Core Principle A doctor is not negligent if their actions align with those of a responsible body of medical opinion. (Option A ruled out) No negligence if actions align with peer practice The court must ensure that the medical opinion is not only widely accepted but also logically defensible, considering risks and benefit. (Option B ruled out) If an expert's opinion fails to meet this logical standard, it may be deemed indefensible, leading to a finding of negligence regardless of peer support. (Option D ruled out) Requires logical defensibility of peer opinions Judicial Role Minimal scrutiny; relies on expert consensus Active scrutiny; court evaluates logic behind opinions Criticism Rigid; can uphold substandard care Adds complexity; requires robust expert justification

References:

www.pubtexto.com/article_pdf/6/1723/pubtexto_6_1723_05112022025616.pdf

www.ukcmls.co.uk/articles/tony-elliott/how-the-bolitho-test-changed-the-understanding-of-medical-negligence

www.apexhealth.net/post/bolam-to-bolitho

www.lawaudience.com/laws-on-medical-malpractice-to-medical-negligence-from-bolam-test-to-bolitho-test/

↑ *Back to this question in Part A*

@Neet_pg_bot

Q34: Match the following International Declarations with their guidelines. 1. Geneva a. Terminal Illness 2. Venice b. Therapeutic abortion 3. Ottawa c. Hippocratic Oath 4. Oslo d. Child health. (Q846950)

A. 1-d, 2-c, 3-b, 4-a

B. 1-c, 2-a, 3-d, 4-b

C. 1-a, 2-c, 3-b, 4-d

D. 1-b, 2-c, 3-d, 4-a

Correct Answer: B. 1-c, 2-a, 3-d, 4-b

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: International Declarations Description Geneva Hippocratic Oath Tokyo Torture Sydney Definition of death Oslo Therapeutic Abortion Helsinki Human experimentation Venice Terminal illness Lisbon Rights of patients Malta Hunger strike Washington Biological warfare Ottawa Child Health Hong Kong Old abuse

References:

www.wma.net/what-we-do/medical-ethics/

↑ *Back to this question in Part A*

@Neet_pg_bot

Q35: A 30-year-old male is accused of assaulting a neighbour. During the incident, he was under the delusion that the neighbour was a "demon" sent to kill him and believed he was acting in self-defence, completely unaware that his act was against the law. Under which section of the Bharatiya Nyaya Sanhita (BNS) can he claim the defence of legal insanity? (Q885694)

A. Section 20

B. Section 22

C. Section 24

D. Section 25

Correct Answer: B. Section 22

Explanation: Section 22 of the BNS (which replaces Section 84 of the IPC) provides that an act is not an offence if the person, at the time of the act, was incapable of knowing the nature of the act or that it was wrong/contrary to law due to unsoundness of mind. This is known as the McNaughten Rule. Section 20 (Option A) refers to the act of a child under seven years of age, which is unrelated to mental illness. Section 24 (Option C) refers to acts done by a person who is involuntarily intoxicated, not necessarily suffering from chronic unsoundness of mind. Section 25 (Option D) deals with acts not intended to cause death done by consent, which does not apply to the defence of insanity in an assault case.

References:

Modi's Textbook of Medical Jurisprudence and Toxicology, 27th Edition, Page 728

The Bharatiya Nyaya Sanhita, 2023, Section 22

↑ *Back to this question in Part A*

@Neet_pg_bot

Q36: A man establishes a sexual relationship with a woman by promising to marry her, despite having no intention of ever doing so. In another instance, he uses a false identity to secure her consent. Under the Bharatiya Nyaya Sanhita, which specific provision now separates such "deceitful means" from the general definition of rape? (Q885695)

A. Section 64

B. Section 70

C. Section 72

D. Section 74

Correct Answer: C. Section 72

Explanation: Section 72 of the BNS is a newly introduced provision. It specifically punishes sexual intercourse through deceitful means, such as a false promise to marry, false assurance of promotion, or suppression of identity. It carries a punishment of up to 10 years. Section 64 (Option A) prescribes the punishment for Rape, which was previously where "consent under a misconception of fact" was often argued, but Section 72 now provides a specific standalone charge. Section 70 (Option B) deals with punishment for gang rape, which involves multiple perpetrators rather than the specific element of deceit by an individual. Section 74 (Option D) relates to assault or criminal force to a woman with the intent to outrage her modesty, which does not necessarily involve sexual intercourse.

References:

The Bharatiya Nyaya Sanhita, 2023, Section 72

The Essentials of Forensic Medicine and Toxicology, K.S. Narayan Reddy, 35th Edition, Page 402

↑ *Back to this question in Part A*

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• [09_Medical Jurisprudence] 021 Previous Year Questions

« Back to Folder Directory

[09_Medical Jurisprudence] 021 Previous Year Questions — Quick Jump

Q1 (p. 1007)	*Q2 (p. 1008)*	*Q3 (p. 1009)*	*Q4 (p. 1010)*	*Q5 (p. 1011)*	*Q6 (p. 1012)*
Q7 (p. 1012)	*Q8 (p. 1013)*	*Q9 (p. 1014)*	*Q10 (p. 1015)*	*Q11 (p. 1016)*	*Q12 (p. 1016)*
Q13 (p. 1017)	*Q14 (p. 1018)*	*Q15 (p. 1019)*	*Q16 (p. 1020)*	*Q17 (p. 1021)*	*Q18 (p. 1022)*
Q19 (p. 1023)	*Q20 (p. 1024)*	*Q21 (p. 1025)*	*Q22 (p. 1025)*	*Q23 (p. 1026)*	*Q24 (p. 1027)*
Q25 (p. 1027)	*Q26 (p. 1028)*	*Q27 (p. 1029)*	*Q28 (p. 1030)*	*Q29 (p. 1031)*	*Q30 (p. 1032)*
Q31 (p. 1032)	*Q32 (p. 1033)*	*Q33 (p. 1034)*	*Q34 (p. 1035)*	*Q35 (p. 1035)*	*Q36 (p. 1036)*
Q37 (p. 1037)	*Q38 (p. 1038)*	*Q39 (p. 1039)*	*Q40 (p. 1039)*	*Q41 (p. 1040)*	*Q42 (p. 1041)*
Q43 (p. 1042)	*Q44 (p. 1043)*	*Q45 (p. 1043)*			

Q1: Who is responsible for handling the investigation in the case of a custodial death? (Q857952)

A. Police inspector

B. Jail superintendent

C. Superintendent of Police

D. Judicial magistrate

Correct Answer: D. Judicial magistrate

Explanation: Judicial magistrate Section 176 (l) of the Code of Criminal Procedure (CrPC) states that if a person in custody dies or disappears or a woman is raped in custody, the Judicial Magistrate (Executive Magistrate) has the power to order an inquiry. Conditions for Magistrate inquest: A - Death in Asylum B - Death in hostels C - Custodial death/rape D - Dowry death E - Exhumation Police Inquest Magistrate Inquest 174 CrPC 176 CrPC Most common inquest in India Best Inquest Type of magistrate Inquest: Judicial Executive In the court of law (for conducting trial) Appointed by high court In maintaining law & Order in the society Appointed by state Govt. Designated as District Magistrate (DM) Following govt officials can be appointed as executive magistrate: District Collector Tehsildar RDO Deputy collector

References:

Inquest

↑ *Back to this question in Part A*

@Neet_pg_bot

Q2: A married female died in unnatural condition within 3 years of marriage. Her father filed a report to police and inquiry will be done under which section? (Q852474)

A. 194 BNSS/174 CrPC

B. 296 BNSS/276 CrPC

C. 116 BNS & 194 BNSS

D. 106 BNS & 194 BNSS

Correct Answer: A. 194 BNSS/174 CrPC

Explanation: In cases of a married woman's unnatural death within 7 years of marriage, after a police inquest (section 194, BNSS) is followed by a Magistrate-led inquiry, is mandatory under Section 196 BNSS . This ensures a thorough and impartial investigation, especially when foul play, suicide, or dowry-related violence is suspected. In India, there are two types of inquests: police inquest and magistrate inquest. 1. Police Inquest (Section 194, BNSS) Most common type of inquest in India. Conducted by a police officer , generally not below the rank of Head Constable . The police officer, upon receiving information about the unnatural death, visits the site. ↓ Involves two or more witnesses from the local area, called panchas , to assist in the investigation. The report is referred to as a panchnama . ↓ If the cause of death appears to be accidental or non-suspicious, the body is handed over to the family for funeral proceedings. ↓ In case of suspicious circumstances , the police officer forwards the body for a postmortem to a certified medical officer and sends the report to the Magistrate . 2. Magistrate Inquest (Section 196, BNSS) Conducted by an Executive Magistrate , or Judicial Magistrate . It's mandatory in specific circumstances, including: Death, the disappearance of a person, or alleged rape in police custody or any custody authorized by the court Deaths due to police firing Deaths in jail Deaths of women within 7 years of marriage if, Commits suicide In any circumstances raising a reasonable suspicion that some other person committed an offence Any relative of the woman has made a request on this behalf There is any doubt regarding the cause of death Deaths where there's suspicion of rape before death Deaths with suspicion of foul play or where a relative of the deceased has made a request Also conducted if the case is referred by police due to suspicion arising during their investigation An inquiry by a Judicial Magistrate or Metropolitan Magistrate is required in instances of custodial death, disappearance, or custodial rape where foul play is suspected or there are allegations of an offense. In all other situations, the inquiry can be conducted by an Executive Magistrate. The magistrate is responsible for forwarding the body for postmortem examination to a Civil Surgeon or another authorized doctor within 24 hours of the death. Differences Between Police and Magistrate Inquests: Feature Police Inquest Magistrate Inquest Conducted by Police officer Magistrate (DM, SDM, Judicial, or Executive Magistrate) Involvement of witnesses Requires signatures of panchas Does not require witness signatures Witness statements Admissible in court Not admissible in court Can order arrest No, but can arrest in cognizable offenses Can issue arrest warrants Exhumation Cannot order exhumation Can order exhumation of a body Autopsy orders Sends bodies for autopsy indiscriminately Orders autopsy only when necessary Forensic analysis Cannot order chemical analysis of viscera Can order chemical analysis

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page. 43, 44. The Essentials of Forensic Medicine and Toxicology, K S Narayan Reddy, OP Murty, 35th Edition, Page. 5, 6. https://bprd.nic.in/uploads/pdf/COMPARISON%20SUMMARY%20BNS%20to%20IPC%20.pdf

↑ *Back to this question in Part A*

@Neet_pg_bot

Q3: Which of the following courts has the authority to commute a death sentence? (Q860121)

A. Session court

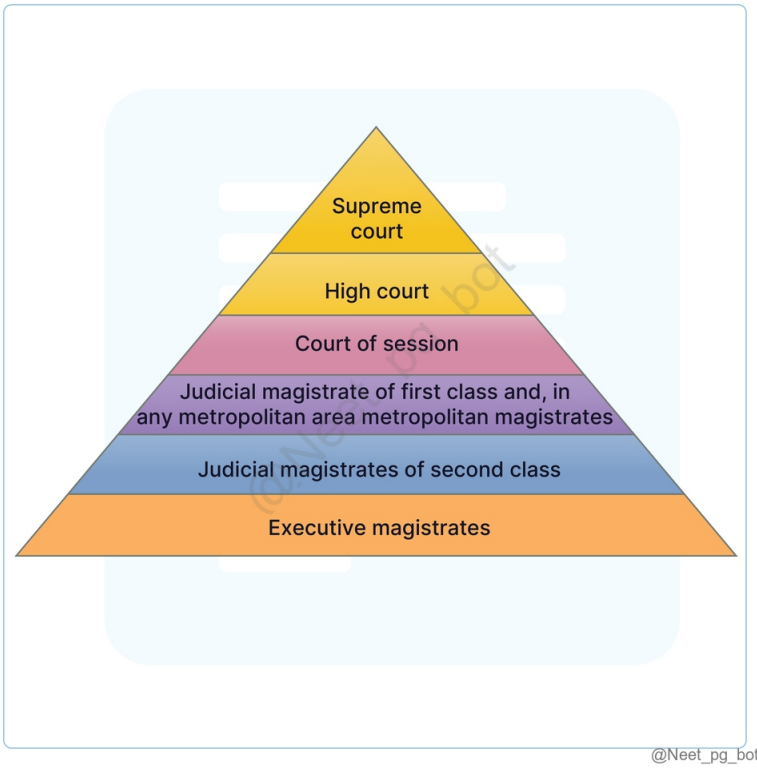
B. Additional session court

C. High court

D. Session court and additional session court

Correct Answer: C. High court

Explanation: High courts have the authority to review and hear appeals against death sentences imposed by lower courts. During the appeal process, a high court can confirm, reverse, or modify the sentence based on the merits of the case under article 226 and 227. If a high court finds that the death sentence was unjustly imposed, it has the power to commute the sentence to life imprisonment or another lesser sentence. Courts of Law Level Court/Judge Maximum Imprisonment Maximum Fine 1 (Highest) Supreme Court Any period, including death sentence Any amount 2 High Court Any period, including death sentence Any amount 3 District and Sessions Court (Option D) Any period, including death sentence (needs confirmation by High Court) Any amount 4 Assistant Sessions Judge (Option A and B) Up to 10 years Any amount 5 Chief Judicial/Chief Metropolitan Magistrate Up to 7 years Any amount 6 First Class Judicial/Metropolitan Magistrate Up to 3 years Up to ■ 10,000 7 (Lowest) Second Class Judicial Magistrate Up to 1 year Up to ■ 5,000



References:

Gautam Biswas Review of Forensic Medicine and Toxicology 3rd Edition Page 45, 46

↑ *Back to this question in Part A*

@Neet_pg_bot

Q4: A 13-year-old girl is brought to the OPD by her mother with a complaint of abdominal pain. The patient's urine pregnancy test (UPT) is positive. What should be the first step by you as a medical officer? (Q854644)

A. Start physical examination

B. Inform the police

C. Take consent from the patient's mother

D. Preserve the patient's clothes

Correct Answer: B. Inform the police

Explanation: In cases involving minors with a positive pregnancy test, suspicion of sexual assault or abuse must be considered. The first step is to notify the police , as per the Protection of Children from Sexual Offenses (POCSO) Act, which mandates mandatory reporting of such cases to protect the child and initiate an investigation. Protection of Children from Sexual Offences (POCSO) Act Enacted in 2012, it is law in India designed to protect children under the age of 18 from sexual abuse, sexual harassment, and pornography. Key Features of the POCSO Act: Gender-neutral law It covers penetrative and non-penetrative assault, sexual harassment, and use of children for pornography Burden of proof is on the accused, unlike many other criminal laws where the burden is on the prosecution Mandatory reporting by adults and failure to do so can be punishable Special courts for the trial of offenses to ensure a child-friendly environment Identity of the victim is to be protected, and the proceedings are to be conducted in camera to prevent exposure Recent Changes and Developments in the POCSO Act: 2019 Amendment Stricter Punishments: Death penalty for aggravated sexual assault against children The minimum punishment for penetrative sexual assault increased to 10 years, and for aggravated penetrative sexual assault increased to 20 years, with the possibility of life imprisonment or death in extreme cases. Fast-track Courts to ensure swift disposal of POCSO cases, given the backlog of pending cases. Clarifications on ‘Touch’ and Sexual Intent: The intent behind physical contact is crucial in determining whether it qualifies as an offense under POCSO. Digital Crimes Against Children: Provisions related to the use of children for pornographic and online exploitation purposes have been emphasized with stricter penalties.

References:

https://bnblegal.com/bareact/the-protection-of-children-from-sexual-offences-amendment-act-2019/

↑ *Back to this question in Part A*

@Neet_pg_bot

Q5: The authority who investigates the death of a 14-year-old girl who was abducted by a man and subsequently died while in police custody will be? (Q859873)

A. Coroner

B. Police

C. Medical examiner

D. Judicial magistrate

Correct Answer: D. Judicial magistrate

Explanation: As per Section 176 CrPC (Code of Criminal Procedure, India), / 1 96 BNSS when a person dies in police custody or under suspicious circumstances, the investigation must be conducted by a Judicial Magistrate. Key Reasons: Judicial Magistrate ensures an impartial and independent inquiry. Mandatory for cases involving: Death in police custody. Death of minors under suspicious circumstances. Death due to abduction or unnatural causes. Coroner (Option A): Outdated in India, previously investigated unnatural deaths. Police (Option B): Cannot investigate deaths occurring in their custody independently due to conflict of interest. Medical Examiner (Option C): Conducts autopsies but does not have legal authority for formal investigation.

References:

Inquest

↑ *Back to this question in Part A*

@Neet_pg_bot

Q6: What is the minimum age at which a woman can give valid consent for Medical Termination of Pregnancy (MTP) in India? (Q865254)

A. 18 years

B. 16 years

C. 25 years

D. 20 years

Correct Answer: A. 18 years

Explanation: In India, the minimum age at which a woman can provide valid consent for a Medical Termination of Pregnancy (MTP) is 18 years . According to the Medical Termination of Pregnancy (MTP) Act, 1971, a woman aged 18 years or older can consent to an abortion independently. Medical Termination of Pregnancy (MTP) Act: The original act was passed in 1971 and amended in 2021. Indications : Maternal Risk Fetal Risk: Spina bifida, Down syndrome. Eugenic Conditions: Risks to both mother and fetus. Humanitarian Cause: Pregnancy resulting from rape. Contraceptive Failure.

References:

Williams Obstetrics, 26th Edition, Page 212.

Medical Termination of Pregnancy Act, 2023 Amendment Guidelines, Page 1-5

↑ *Back to this question in Part A*

@Neet_pg_bot

Q7: As per the MTP (Amendment) Act, 2021, the opinion of two registered medical practitioners is required for termination of pregnancy at which gestational age? (Q865275)

A. 16-20 weeks

B. 20-24 weeks

C. Up to 12 weeks

D. 12-16 weeks

Correct Answer: B. 20-24 weeks

Explanation: As per the Medical Termination of Pregnancy (Amendment) Act, 2021 , the opinion of two registered medical practitioners is required for the termination of pregnancy between 20 and 24 weeks of gestation. Medical Termination of Pregnancy (MTP) Act: The original act was passed in 1971 and amended in 2021. Indications : Maternal Risk Fetal Risk: Spina bifida, Down syndrome. Eugenic Conditions: Risks to both mother and fetus. Humanitarian Cause: Pregnancy resulting from rape. Contraceptive Failure. Qualifications : MBBS, MD/DNB/DGO MBBS who has trained in gynaecology for 6 months MBBS who has performed 25 MTPs under supervision ASHA and AYUSH cannot perform MTP. The MTP Act 1971 and The MTP Act Amendments 2021: MTP Act 1971 The MTP Amendment Act 2021 Indications (Contraceptive failure) Only applies to married women. Unmarried women are also covered Gestational Age Limit 20 weeks for all indications 24 weeks for rape survivors. Beyond 24 weeks for substantial fetal abnormalities Medical practitioner opinions required before termination One RMP till 12 weeks Two RMPs till 20 weeks One RMP till 20 weeks Two RMPS 20-24 weeks Medical Board approval after 24 weeks Abortions >24 weeks in cases of significant fetal anomalies with no gestational upper limit - to be decided by a state medical board (gynecologist, pediatrician, radiologist). Breach of the woman's confidentiality Fine up to Rs 1000 Fine and/or Imprisonment of 1 year.

References:

Williams Obstetrics, 26th Edition, Page 212.

Medical Termination of Pregnancy Act, 2023 Amendment Guidelines, Page 1-5

MTP

↑ *Back to this question in Part A*

@Neet_pg_bot

Q8: Who conducts inquest in Police custodial death? (Q860431)

A. Higher police official

B. Judicial magistrate

C. Medical examiner

D. Coroner

Correct Answer: B. Judicial magistrate

Explanation: In cases of police custodial deaths, the inquest is conducted by a Judicial Magistrate. In India, there are two types of inquests: police inquest and magistrate inquest. 1. Police Inquest (Section 194, BNSS) (Option A) Most common type of inquest in India. Conducted by a police officer , generally not below the rank of Head Constable . The police officer, upon receiving information about the unnatural death, visits the site. ↓ Involves two or more witnesses from the local area, called panchas , to assist in the investigation. The report is referred to as a panchnama . ↓ If the cause of death appears to be accidental or non-suspicious, the body is handed over to the family for funeral proceedings. ↓ In case of suspicious circumstances , the police officer forwards the body for a postmortem to a certified medical officer and sends the report to the Magistrate . 2. Magistrate Inquest (Section 196, BNSS) Conducted by an Executive Magistrate , or Judicial Magistrate . It's mandatory in specific circumstances, including: Death, the disappearance of a person, or alleged rape in police custody (Option B) or any custody authorized by the court Deaths due to police firing Deaths in jail Deaths of women within 7 years of marriage if, Commits suicide In any circumstances raising a reasonable suspicion that some other person committed an offence Any relative of the woman has made a request on this behalf There is any doubt regarding the cause of death Deaths where there's suspicion of rape before death Deaths with suspicion of foul play or where a relative of the deceased has made a request Also conducted if the case is referred by police due to suspicion arising during their investigation An inquiry by a Judicial Magistrate or Metropolitan Magistrate is required in instances of custodial death, disappearance, or custodial rape where foul play is suspected or there are allegations of an offense. In all other situations, the inquiry can be conducted by an Executive Magistrate. The magistrate is responsible for forwarding the body for postmortem examination to a Civil Surgeon or another authorized doctor within 24 hours of the death. Feature Police Inquest Magistrate Inquest Conducted by Police officer Magistrate (DM, SDM, Judicial, or Executive Magistrate) Involvement of witnesses Requires signatures of panchas Does not require witness signatures Witness statements Admissible in court Not admissible in court Can order arrest No, but can arrest in cognizable offenses Can issue arrest warrants Exhumation Cannot order exhumation Can order exhumation of a body Autopsy orders Sends bodies for autopsy indiscriminately Orders autopsy only when necessary Forensic analysis Cannot order chemical analysis of viscera Can order chemical analysis Differences Between Police and Magistrate Inquests: Medical examiner (Option C) does not conduct inquests. Coroner (Option D) can not conduct an inquest in police custodial death

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page. 43, 44.

The Essentials of Forensic Medicine and Toxicology, K S Narayan Reddy, OP Murty, 35th Edition, Page. 5, 6.

https://bprd.nic.in/uploads/pdf/COMPARISON%20SUMMARY%20BNS%20to%20IPC%20.pdf

↑ *Back to this question in Part A*

@Neet_pg_bot

Q9: Section 314 IPC deals with (Q855262)

A. Causing miscarriage with the consent of the mother

B. Causing miscarriage without the consent of the mother

C. Death of the mother by act done with intent to cause miscarriage

D. Causing the death of the quick unborn child by an act amounting to culpable homicide

Correct Answer: C. Death of the mother by act done with intent to cause miscarriage

Explanation: Section 314 IPC When the woman dies due to an act intended to cause miscarriage (whether or not miscarriage actually occurs) Now it corresponds to BNS 90. IPC Section Description 312 Causing a miscarriage with consent. (Option A ruled out) 313 Causing miscarriage without a woman's consent. (Option B ruled out) 314 Death caused by an act done with intent to cause miscarriage, if act done without woman's consent. (Option C) 315 Act done with intent to prevent a child being born alive or to cause it to die after birth. 316 Causing death of a quick unborn child by act amounting to culpable homicide. (Option D ruled out)

References:

https://www.indiacode.nic.in/repealedfileopen?rfilename=A1860-45.pdf (page 8)

CORRESPONDENCE TABLE and COMPARISON SUMMARY OF THE BHARTATIYA NYAYA SANHITA, 2023 (BNS) to THE INDIAN PENAL CODE, 1860 (IPC)

↑ *Back to this question in Part A*

@Neet_pg_bot

Q10: The court summons a member of the public who witnessed the incident to provide testimony and document their account. What kind of evidence does the witness offer to the court? (Q857939)

A. Oral evidence

B. Hearsay evidence

C. Subpoena

D. Circumstantial evidence

Correct Answer: A. Oral evidence

Explanation: : Hearsay evidence refers to a testimony that is provided by a witness and is not based on any personal communication. Subpoena (Option C): Subpoena is a formal written order that requires a person to appear before a court, or other legal proceedings and testify, or produce documentation. Circumstantial evidence (Option D): Circumstantial evidence is evidence of facts that the court can draw conclusions from.

References:

Oral evidence

↑ *Back to this question in Part A*

@Neet_pg_bot

Q11: Who order the autopsy in case of RTA? (Q844176)

A. Forensic expert

B. Police

C. Lawyer

D. forensic doctor

Correct Answer: B. Police

Explanation: Correct Option B - Police: In cases of Road Traffic Accidents (RTA), the police are responsible for ordering an autopsy to determine the cause of death. This is part of their duty to investigate the circumstances surrounding the death and to ensure proper legal procedures are followed. The police will request an autopsy if there is a need to understand the cause of death more clearly or if it is required for legal reasons. Incorrect Options: Option A - Forensic expert: A forensic expert conducts the autopsy but does not order it. The role of the forensic expert is to perform the examination and provide a report based on their findings. Option C - Lawyer: A lawyer may request an autopsy as part of legal proceedings, but they do not have the authority to order an autopsy in cases of RTA. Their role is generally more related to the legal representation of the parties involved. Option D - Forensic doctor: Similar to the forensic expert, the forensic doctor performs the autopsy but does not order it. The forensic doctor provides medical expertise in the examination and interpretation of findings.

↑ *Back to this question in Part A*

@Neet_pg_bot

Q12: When an individual commences employment with a second employer, the new employer assumes responsibility for the individual's actions, under which doctrine? (Q856686)

A. Vicarious liability

B. Doctrine of negligent choice

C. Contributory negligence

D. Borrowed servant doctrine

Correct Answer: D. Borrowed servant doctrine

Explanation: The Borrowed Servant Doctrine refers to a situation where an employee is temporarily transferred from one employer to work under the direction and control of another employer. In this case, the new employer assumes responsibility for the employee's actions while they are under their supervision. Essentially, even though the employee remains on the payroll of the original employer, the new employer has control over the employee's work and, therefore, is liable for the employee's actions while they are working for them. Vicarious Liability/ Respondeat Superior Employers are liable for the negligent acts of their employees under certain conditions. Also called the Master-Servant rule. Conditions : Employer-employee relationship. Conduct occurs within the scope of employment. Incident occurs while on the job. Principal doctors can be held responsible for the negligence of their assistants. Temporary Relationships : Surgeons assisting each other may create an employer-employee relationship thus being liable for each other's actions. Borrowed Servant Doctrine : An employee can serve multiple employers (e.g., a nurse assisting a surgeon is a "borrowed servant" during surgery). Negligence occurring due to borrowing of temporary staff from another department. Hospital Liability : Hospitals are liable for the acts of employees under their supervision, but not for senior staff if due care in hiring is proven. Direct Supervision : Physicians are responsible for the acts of interns and residents they supervise. Defense Against Liability: Employers can avoid liability by proving the employee was not negligent or was acting outside the scope of employment. Incorrect Options: Vicarious liability (Option A) : While this doctrine does involve holding an employer responsible for the actions of an employee, it generally refers to the principal employer 's responsibility for their own employees' actions, rather than the responsibility when an employee is temporarily working for another employer. Doctrine of negligent choice (Option B) : This refers to the liability of an employer for hiring an individual who is unfit or negligent in their duties, leading to harm or injury. It does not relate to the responsibility of the new employer for the employee's actions once employed. Contributory negligence (Option C) : This is a defense in tort law where the injured party's own negligence contributes to their injury. It does not pertain to the responsibility of an employer for an employee's actions.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 21

↑ *Back to this question in Part A*

@Neet_pg_bot

Q13: While recording evidence in the court of law, the opposing lawyer asked the witness, "Did A kill B in your presence?" The witness said, "Yes". Which procedural route would this type of question be permitted in the court of law? (Q856324)

A. Examination-in-chief

B. Direct examination

C. Cross-examination

D. Re-direct examination

Correct Answer: C. Cross-examination

Explanation: Correct Option C - Cross-examination Cross-examination is the correct procedural route in the court of law for this type of question. Aspect Examination-in-Chief (Direct Examination) (Option A and B) Cross-Examination (Option C) Re-Examination (Option D) Conducted By Party who calls the witness (e.g., public prosecutor) Opposing party (typically defense) Party who called the witness Purpose Present all relevant facts Provide expert interpretation if applicable Challenge witness's credibility Elicit favorable facts Test accuracy Clarify issues raised during cross-examination Leading Questions Not allowed unless the witness is declared hostile Allowed (Sec. 146 BSA) Not allowed Nature of Questions Open-ended questions to elicit narrative Can include leading questions to control the narrative Generally clarifying questions Time Limit Typically structured and may have time constraints No set time limit; may last for hours or even days Generally limited to clarification purposes Judicial Oversight Judge may intervene to ensure questions are relevant and not leading Court can disallow indecent or scandalous questions (Sec. 154, BSA) Judge monitors to ensure focus remains on clarification

References:

Gautam Biswas Review of Forensic Medicine and Toxicology 3rd Edition Page 48, 49, 50

↑ *Back to this question in Part A*

@Neet_pg_bot

Q14: Which of the following defines rape under the Bharatiya Nyaya Sanhita (BNS)? (Q856887)

A. Section 63 BNS

B. Section 64 BNS

C. Section 65 BNS

D. Section 70 BNS

Correct Answer: A. Section 63 BNS

Explanation: Exceptions: Section 63 BNS: Defines rape as a man committing sexual penetration by penis, insertion of any body part or object, manipulation, or oral application involving a woman, with or without her consent under certain circumstances. Consent must be free, voluntary, informed, and unequivocal. Rape includes sexual acts done against her will, without consent, or when consent is obtained by putting the woman or someone she cares about in fear of death or hurt. Consent is invalid if the woman is under 18 years of age, or mentally incapacitated, or intoxicated to the extent of being unable to understand the act. Marital rape is exempted if the wife is 18 years or older. Medical procedures are excluded and do not constitute rape. Covers various scenarios such as deception, coercion, or lack of communication of consent. Provides a comprehensive and modernized definition of rape replacing IPC Section 375. Section 64 BNS (Option B): Prescribes punishment for the offence of rape, including rigorous imprisonment and fine depending on circumstances. Section 65 BNS (Option C): Specifies enhanced punishment for rape of a woman under certain ages (below 16 or 12 years), including life imprisonment or death penalty. Section 70 BNS (Option D): Deals with gang rape, prescribing stringent penalties for rape committed by a group or with common intention, with imprisonment terms and fines.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 367

The Essentials of Forensic Medicine & Toxicology, K. S. Narayan Reddy, 35th Edition, Page 320Section 63

↑ *Back to this question in Part A*

@Neet_pg_bot

Q15: A 30 year old apparently healthy man who was carrying laxatives and enema apparatus developed abdominal pain at the airport and an x-ray was done which appears as shown below. Which of the following is the likely diagnosis? (Q866695)

A. Bezoar syndrome

B. Pica due to anaemia

C. Body packer syndrome

D. Constipation due to fecalith



Correct Answer: C. Body packer syndrome

Explanation: Body packer's syndrome, also called the surgical mules syndrome is a planned activity to smuggle drugs. The drug to be smuggled is usually wrapped in polythene or condom, and swallowed/planted inside vagina or rectum. The x-ray shows cylindrical objects which may be containers for the drugs. Incorrect Options: Bezoar Syndrome (Option A): It is a syndrome in which there is a tightly packed collection of something inside the

stomach. Usually, bezoar occurs for a collection of hair inside the stomach, but it can be any indigestible natural/unnatural object. Pica due to anemia (Option B): It does not present as shown in the case history. Constipation due to fecalith (Option D): It mostly shows excessive bloating, not shown in the x ray.



↑ *Back to this question in Part A*

@Neet_pg_bot

Q16: A 68-year-old female presents with breathlessness, declining health, and is found to have multiple metastases. She is awake, alert, and visibly anxious. The medical team assesses that aggressive chemotherapy, radiotherapy, ICU care, and mechanical ventilation would not improve her condition and may cause harm. Despite this, the patient's daughter insists on pursuing all possible life-prolonging measures, including ICU admission. What is the most appropriate next step for the physician in managing this case? (Q866424)

A. Convene family meeting considering patient values and goals of care

B. Admit to ICU and initiate aggressive treatment

C. Discharge and shift to home palliative care

D. Start placebo treatment

Correct Answer: A. Convene family meeting considering patient values and goals of care

Explanation: The patient has advanced metastatic disease with poor prognosis. Aggressive treatments like ICU care or chemotherapy are unlikely to provide benefit. Ethical care emphasizes patient-centered, goal-directed discussions. A family meeting allows exploration of the patient's values and informed decision-making. This approach avoids futile interventions while providing compassionate care. Incorrect Options: Option B) Admit to ICU and initiate aggressive treatment – Futile, may cause harm, and does not improve outcomes. Option C) Discharge and shift to home palliative care – Premature without discussing prognosis and patient preferences. Option D) Start placebo treatment – Unethical, violates patient autonomy and informed consent.

References:

↑ *Back to this question in Part A*

@Neet_pg_bot

Q17: 'A' kills 'B' with a knife. Another person 'Z' saw 'A' with a knife in the park a few minutes before the murder. 'Z' gives this statement in a court of law. What kind of evidence is it? (Q855795)

A. Direct

B. Indirect

C. Hostile

D. Hearsay

Correct Answer: B. Indirect

Explanation: Indirect evidence, also known as circumstantial evidence, does not directly prove the fact in question but supports it through inference. In this case, 'Z' saw 'A' with a knife shortly before the murder, which does not directly prove that 'A' killed 'B', but it is a relevant circumstance that can be linked to the crime. Types of Evidences Feature Documentary Evidence Oral Evidence Expert Evidence Definition Written or printed documents produced for court inspection Statements made before the court by witnesses Opinion from a person specially skilled in the relevant field Legal Admissibility Admissible as primary evidence Admissible; allows cross-examination Admissible under specific conditions (Sec. 39, BSA) Reliability High, if properly maintained Can vary; subject to witness credibility High, if from a qualified expert Specific Medical Examples Medical certificates, hospital records, lab reports Doctor's testimony, nurse's account of patient care Medical examiner's report, specialist's opinion on treatment Circumstantial evidence or indirect evidence: It is the evidence consisting of collateral facts from which an inference may be drawn and are consistent with the direct evidence, such as finding blood on the clothes of the accused. Direct (Option A): Direct evidence provides immediate proof of a fact, such as an eyewitness seeing the murder occur. Here, 'Z' did not witness the murder itself, so the evidence is not direct. Hostile (Option C): A witness becomes hostile when they deviate from their original statement or intentionally withhold information to favor the accused. There is no indication that 'Z' was hostile in this case. Hearsay evidence (Option D): Any evidence that is offered by a witness of which he/she does not have direct knowledge but his/her testimony is based on what others have said. For example, a relative overhearing a conversation between doctors discussing a possible misdiagnosis. Since 'Z' personally saw 'A' with the knife, this

is not hearsay.

References:

Gautam Biswas Review of Forensic Medicine and Toxicology 3rd Edition Page 48, 49, 50

↑ *Back to this question in Part A*

@Neet_pg_bot

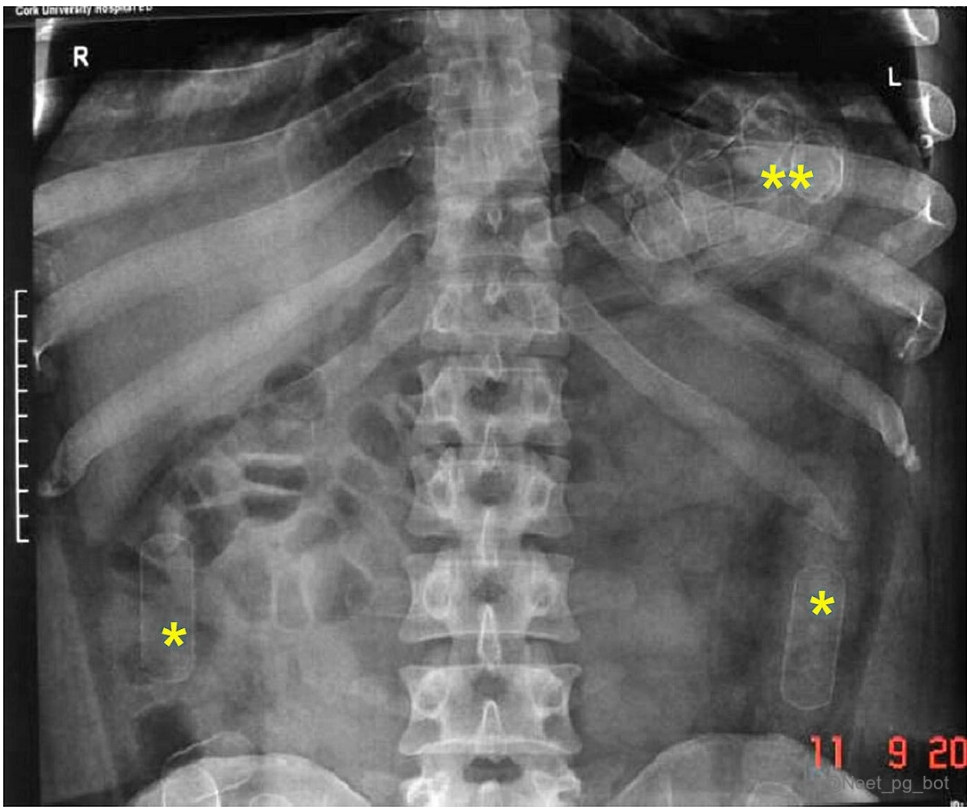
Q18: A 30-year-old apparently healthy man who was carrying laxatives and enema apparatus developed abdominal pain at the airport and an x-ray was done which appears as shown below. Which of the following is the likely diagnosis? (Q859418)

A. Bezoar syndrome

B. Pica due to anaemia

C. Body packer syndrome

D. Constipation due to fecalith



Correct Answer: C. Body packer syndrome

Explanation: Body packer's syndrome, also called the surgical mules syndrome is a planned activity to smuggle drugs. The drug to be smuggled is usually wrapped in polythene or condom, and swallowed/planted inside vagina or rectum. The x-ray shows cylindrical objects which may be containers for the drugs. {{caption_text}} Incorrect Options: Bezoar Syndrome (Option A): It is a syndrome in which there is a tightly packed collection of something inside the stomach. Usually, bezoar occurs for a collection of hair inside the stomach, but it can be any indigestible natural/unnatural object. Pica due to anemia (Option B): It does not present as shown in the case history. Constipation due to fecalith (Option D): It mostly shows excessive bloating, not shown in the x ray.



References:

Body packer syndrome

↑ *Back to this question in Part A*

@Neet_pg_bot

Q19: An 18 year old woman reports sexual assault by a 24 year old co-worker at her workplace. Her mother does not want to involve the police / medicolegal case. What is the appropriate course of action for a healthcare provider? (Q879130)

A. Take consent from the mother and proceed with examination

B. Take consent directly from the woman and proceed with examination

C. Document informed refused from parents

D. Don’t inform the police

Correct Answer: B. Take consent directly from the woman and proceed with examination

Explanation: The appropriate course of action for a healthcare provider is to take consent directly from the woman and proceed with the examination since she is an adult. Take consent from the mother and proceed with examination(Option A): Incorrect. The patient is an adult and the mother's consent is irrelevant. Document informed refused from parents (Option C): Incorrect. The patient is an adult, and the refusal or consent from the parents is not the critical documentation; the patient's own consent or refusal is. Don't inform the police (Option D): This part of the action is generally correct in terms of not initiating the police report without the adult victim's consent. However, the initial and most critical step is ensuring the patient receives the necessary medical and forensic care with her consent.

References:

Essentials of Forensic Medicine, K. S. Narayan Reddy, 35th Edition, Page 320-339

↑ *Back to this question in Part A*

@Neet_pg_bot

Q20: A patient was experiencing delusions of persecution and killed a person he believed was trying to harm him. He was later diagnosed with schizophrenia. According to the McNaughton rule, which of the following is correct regarding his criminal liability? (Q879154)

A. The patient is not criminally liable

B. The patient is exempt from trial

C. The patient's liability depends on provocation

D. The patient's liability depends on intent reframe

Correct Answer: A. The patient is not criminally liable

Explanation: Under the McNaughton rule (M'Naghten rules), a person is not criminally responsible if, at the time of the act, they were laboring under such a defect of reason (from mental disease) that they:Did not know the nature and quality of the act they were doing, or If they did know it, they did not know that what they were doing was wrong. In this case, the patient had delusions of persecution (a symptom of schizophrenia) and killed someone he believed was trying to harm him. If, because of his delusion, he believed he was acting in self-defense, he may not have understood that the act was morally/legally wrong. Thus, under the McNaughton rule, the patient is not criminally liable due to insanity.

↑ *Back to this question in Part A*

@Neet_pg_bot

Q21: In a civil negligence case against a doctor, who is responsible for providing evidence? (Q858468)

A. Patient

B. Police not under the rank of sub-inspector

C. Magistrate

D. Doctor

Correct Answer: A. Patient

Explanation: In a civil negligence case against a doctor, the burden of proof lies with the patient. The patient is the one making the claim against the doctor and alleging negligence. Therefore, it is the patient's responsibility to provide evidence and prove that the doctor's actions or omissions fell below the standard of care expected, resulting in harm or injury. · Feature Civil Negligence Criminal Negligence Offense No specific and clear violation of law Must have specifically violated a particular criminal law Negligence Simple absence of care and skill Gross negligence, inattention, or lack of competence Conduct of physician Compared to a generally accepted simple standard of conduct Not compared to a single test Consent for act Good defense, cannot recover damages Not a defense, can be prosecuted Trial by Civil court Criminal court Evidence Strong evidence is sufficient Guilt must be proved beyond reasonable doubt Punishment Liable to pay damages Imprisonment, fine, or both Contributory negligence Defense for doctor Not a defense Double jeopardy Cannot be tried twice for the same offense Can be tried twice for the same crime Damage Repairable damage or harm to patient Irreparable damage to the patient Dispute Between two parties in their individual capacities Between the State and the offending doctor Complainant Sufferer party is the complainant Public prosecutor on behalf of the State is the complainant Police not under the rank of sub-inspector (Option B) The police are not directly involved in civil negligence cases against doctors. Magistrate (Option C) In civil negligence cases against doctors, the burden of proof does not lie with the magistrate. Their role is to oversee the proceedings and apply the relevant laws. Doctor (Option D) is the defendant in a civil negligence case, meaning they are the party being accused of negligence. It is not the doctor's burden to prove their innocence

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page. 15-16.

The Essentials of Forensic Medicine and Toxicology, K S Narayan Reddy, OP Murty, 35th Edition, Page. 29-32.

↑ *Back to this question in Part A*

@Neet_pg_bot

Q22: To perform MTP for a mentally challenged female, consent is obtained from? (Q860130)

A. Husband/ partner

B. Legal guardian

C. Doctor

D. Magistrate

Correct Answer: B. Legal guardian

Explanation: In cases where a mentally challenged female is unable to provide consent for a medical procedure such as Medical Termination of Pregnancy (MTP), the consent of her legal guardian is typically required. Consent cannot be taken from: Husband/partner (not legally valid for MTP) Doctor (cannot give consent) Magistrate (not required for MTP) Options A, C and D are incorrect

References:

https://www.indiacode.nic.in/bitstream/123456789/1593/1/A1971-34.pdf

↑ *Back to this question in Part A*

@Neet_pg_bot

Q23: Which of the following is punishable under the MTP Act? (Q860134)

A. MTP done up to 24 weeks

B. Done by government-authorized center

C. Done by experienced RMP

D. Non-entry in MTP-register, not sending report to DDHS

Correct Answer: D. Non-entry in MTP-register, not sending report to DDHS

Explanation: Failure to maintain proper records or report abortions to the appropriate authorities can lead to legal consequences. Specifically, non-entry in the MTP register and failure to send a report to the District Deputy Health and Family Welfare Officer (DDHS) are considered punishable offenses under the MTP Act. Incorrect Options: MTP done up to 24 weeks (Option A) The Medical Termination of Pregnancy (MTP) Act allows for abortions to be performed up to 24 weeks of gestation under certain conditions, such as when there is a risk to the life or physical or mental health of the woman, or if there is a substantial risk that the child would be born with physical or mental abnormalities. Done by government-authorized center (Option B) The MTP Act permits abortions to be performed by registered medical practitioners (RMPs) in government-approved facilities, as well as by private practitioners in registered private clinics. Done by experienced RMP (Option C) Under the MTP Act, abortions can be performed by registered medical practitioners (RMPs) who have undergone training and certification in the provision of abortion services

References:

https://dhsfw.assam.gov.in/sites/default/files/swf_utility_folder/departments/dirfw_lipl_in_oid_5/do_u_want_2_know/Medical%20Termination%20of%20Pregnancy%20Act%2C%201971_0.pdf

↑ *Back to this question in Part A*

@Neet_pg_bot

Q24: Medical termination of pregnancy can be done upto 24 weeks in case of? (Q857925)

A. Congenital malformation

B. Minors

C. Contraception failure

D. Rape victim

Correct Answer: D. Rape victim

Explanation: Medical termination of pregnancy can be done upto 24 weeks in case of rape victims. The MTP Act 1971 and The MTP Act Amendments 2021: MTP Act 1971 The MTP Amendment Act 2021 Indications (Contraceptive failure) Only applies to married women. Unmarried women are also covered Gestational Age Limit 20 weeks for all indications 24 weeks for rape survivors. Beyond 24 weeks for substantial fetal abnormalities Medical practitioner opinions required before termination One RMP till 12 weeks Two RMPs till 20 weeks One RMP till 20 weeks Two RMPS 20-24 weeks Medical Board approval after 24 weeks Breach of the woman's confidentiality Fine up to Rs 1000 Fine and/or Imprisonment of 1 year.

References:

MTP

↑ *Back to this question in Part A*

@Neet_pg_bot

Q25: A doctor was summoned to the court to record his evidence in a medicolegal case . What is correct about this witness? (Q857926)

A. Oral evidence

B. Common witness

C. Expert witness

D. Hostile witness

Correct Answer: C. Expert witness

Explanation: to the court on medical matters, then they would be considered an expert witness. Oral evidence (Option A): Oral evidence refers to the testimony or statements provided by witnesses verbally in court. Common witness (Option B): The scenario doesn't provide enough information to suggest that the doctor in question is a common witness. Hostile witness (Option D): A hostile witness is a term used to describe a witness who is uncooperative or openly antagonistic towards the party that called them to testify.

References:

Expert witness

↑ *Back to this question in Part A*

@Neet_pg_bot

Q26: Death registration in India done within? (Q857041)

A. 21 days

B. 28 days

C. 30 days

D. 40 days

Correct Answer: A. 21 days

Explanation: According to the Births and Deaths Registration Act in India, any birth or death occurring in a hospital, medical institution, or at home must be reported to the concerned authorities within 21 days . Birth and Death Registration in India Government/Private Hospitals/Nursing Homes/Medical Institutions : The head of the institution must report births and deaths to the concerned Registrar within 21 days . Homes : The head of the family or any family member must report births and deaths to the Sub Registrar within 21 days . Incorrect Options: 28 days, 30 days, & 40 days (Options B, C, & D): This is not the correct time frame. Registration must happen within 21 days for compliance with the law.

References:

Directorate of Economics & Statistics and Office of Chief Registrar (Births & Deaths)

↑ *Back to this question in Part A*

@Neet_pg_bot

Q27: What is the responsibility of the doctor in recording the dying declaration of a victim affected by a fire? (Q857634)

A. To assess compos mentis

B. To record the statement even in the presence of magistrate

C. Cross-examine the person

D. Put the person under oath before declaration

Correct Answer: A. To assess compos mentis

Explanation: statement by a dying person about the cause or circumstances of their death due to an unlawful act. Legal Basis: Sec. 32 IEA allows dying declarations as evidence; corroboration strengthens its acceptance (Sec. 157 IEA). Flexibility: No specific form, format, or procedure prescribed by law. Who Can Record: Ideally a Magistrate, but in urgent situations, a doctor, police officer, or any witness may record it. Evidential value is highest when recorded by a Magistrate. Key Features and Procedure: Mental State: The person must be conscious and mentally fit (compos mentis). Certified by a doctor if possible, but not mandatory for admissibility. No Oath or Leading Questions: No oath is administered as the dying person is presumed truthful. Avoid leading questions. Narrative Recording: Statement should be recorded in simple narrative form without alterations. Interruptions (e.g., unconsciousness) should be noted, and partial declarations signed by the recorder. Witnesses: Presence of two witnesses strengthens credibility if the Magistrate is unavailable. Submission: Sent to the Magistrate in a sealed cover. Survival of Declarant: If the declarant survives, the statement holds corroborative value but cannot replace oral testimony. Doctor’s Duties: Certify Mental Fitness: Assess and document the declarant's ability to make a statement. Certification is preferred but not mandatory for the declaration's validity. Record Accurately: Write the statement verbatim in a simple narrative style. Note any interruptions (e.g., loss of consciousness). Act Promptly: Record the declaration without delay if death seems imminent. Presence of Witnesses: Ensure two witnesses are present if possible. Submission: Forward the declaration to the Magistrate in a sealed cover. Expert Opinion: Be cautious when commenting on a patient's ability to speak or act after a fatal injury. To record the statement even in the presence of a magistrate (Option B): Ideally, a Magistrate should record the dying declaration for it to carry the most weight. However, if the Magistrate is unavailable, a doctor can record the statement, but there is no legal requirement to do so in the Magistrate's presence. Cross-examine the person (Option C): Cross-examining the person is not part of the process of recording a dying declaration. The purpose is to record their statement, not to question them as a part of a legal cross-examination. Put the person under oath before declaration (Option D): The dying declaration does not require an oath to be administered because the person is presumed to be truthful when making a statement under the belief of impending death. The law does not mandate an oath or formal swearing before a dying declaration.

References:

Gautam Biswas Review of Forensic Medicine and Toxicology 3rd Edition Page 48, 49, 50

↑ *Back to this question in Part A*

@Neet_pg_bot

Q28: What is the appropriate course of action following the observation of cigarette burn marks on the forearm of a 14-year-old girl who presents to a doctor with a fractured forearm, claiming to have fallen and hit her hand? (Q856673)

A. To inform higher authorities

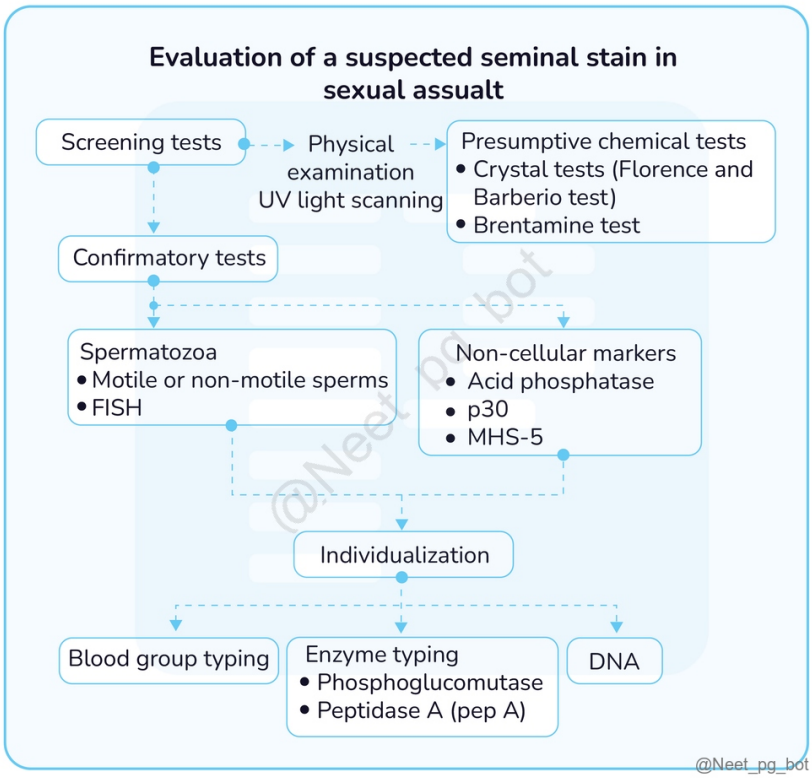
B. To do a complete physical examination

C. To tell or discuss with colleagues that she is a case of abuse

D. To call local social worker for help

Correct Answer: B. To do a complete physical examination

Explanation: The discovery of cigarette burns suggests the possibility of abuse. A complete physical examination is essential to assess all injuries and document any signs of abuse. This is the first step in ensuring the child's safety and gathering evidence for further investigation. Before reporting, the doctor must: Document all injuries thoroughly Look for additional signs of abuse Take a detailed history Ensure the child is protected medically Only after confirmation or strong suspicion should the doctor move to mandatory reporting to authorities or child protection services.



References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 431-433

↑ *Back to this question in Part A*

@Neet_pg_bot

Q29: Which organization is related to the Protection of Children from Sexual Offences (POCSO) Act? (Q856680)

A. Child and welfare committees

B. Women and child safety department

C. Children rights protection committee

D. All of the above

Correct Answer: A. Child and welfare committees

Explanation: Under the Protection of Children from Sexual Offences (POCSO) Act , Child and Welfare Committees play a key role in addressing and responding to cases of child sexual abuse. They are responsible for ensuring the safety and protection of children and ensuring that appropriate actions are taken when cases of abuse are reported. The committees work with various authorities to ensure the welfare of the child victim and provide necessary support services. Protection of Children from Sexual Offences (POCSO) Act Enacted in 2012, it is law in India designed to protect children under the age of 18 from sexual abuse, sexual harassment, and pornography. Key Features of the POCSO Act: Gender-neutral law It covers penetrative and non-penetrative assault, sexual harassment, and use of children for pornography Burden of proof is on the accused, unlike many other criminal laws where the burden is on the prosecution Mandatory reporting by adults and failure to do so can be punishable Special courts for the trial of offenses to ensure a child-friendly environment Identity of the victim is to be protected, and the proceedings are to be conducted in camera to prevent exposure Recent Changes and Developments in the POCSO Act: 2019 Amendment Stricter Punishments: Death penalty for aggravated sexual assault against children The minimum punishment for penetrative sexual assault increased to 10 years, and for aggravated penetrative sexual assault increased to 20 years, with the possibility of life imprisonment or death in extreme cases. Fast-track Courts to ensure swift disposal of POCSO cases, given the backlog of pending cases. Clarifications on ‘Touch’ and Sexual Intent: The intent behind physical contact is crucial in determining whether it qualifies as an offense under POCSO. Digital Crimes Against Children: Provisions related to the use of children for pornographic and online exploitation purposes have been emphasized with stricter penalties. Incorrect Options: Women and child safety department (Option B) : While this department focuses on general safety measures, it does not directly implement the POCSO Act . Children rights protection committee (Option C) : This committee works on children's rights but is not specifically responsible for the enforcement of the POCSO Act . All of the above (Option D) : Not all these organizations are directly linked to the POCSO Act , so this option is incorrect.

References:

The Protection of Children From Sexual Offences (Amendment) Act 2019

↑ *Back to this question in Part A*

@Neet_pg_bot

Q30: If a healthcare professional is found guilty of professional misconduct, they must provide the patient's records promptly upon request, within: (Q856683)

A. 72 hours

B. 48 hours

C. 24 hours

D. 7 days

Correct Answer: A. 72 hours

Explanation: If a healthcare professional is found guilty of professional misconduct, they are required to provide the patient’s records within 72 hours upon request. This timeframe is mandated to ensure that patients have timely access to their medical information when needed. If a healthcare professional fails to maintain medical records of indoor patients for 3 years and refuses to provide them within 72 hours upon the patient's request, it constitutes a violation of professional conduct and legal requirements. 48 hours (Option B), 24 hours (Option C), & 7 days (Option D) are all incorrect options. A 72-hour period is the correct legal limit for healthcare professionals to submit the records following misconduct allegations.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 12

↑ *Back to this question in Part A*

@Neet_pg_bot

Q31: A surgeon performs a hysterectomy for uterine fibroids after obtaining relevant informed consent from the patient. Despite adequate precautions, the ureter was injured intraoperatively. Under which of the following principles will the doctor not be held responsible for this act? (Q856331)

A. Novus actus interveniens

B. Medical maloccurrence

C. Res ipsa loquitur

D. Physician error

Correct Answer: B. Medical maloccurrence

Explanation: This incident represents a medical maloccurrence because the complication arose from an unavoidable risk associated with the surgery, despite the surgeon providing quality care and obtaining informed consent. Medical Maloccurrence A less than ideal medical outcome not linked to the quality of care. Types: Anticipated medical/surgical complications (unavoidable risks). Unpredictable complications (unavoidable). Complications from informed patient-doctor decisions that seem inappropriate in hindsight. Characteristics: Often unrelated to the quality of care. May occur despite good medical attention (e.g., idiosyncratic drug responses, nerve damage during surgery). Incorrect Options: Novus Actus Interveniens (Unrelated Intervening Action) (Option A): This refers to an event that breaks the chain of causation from the original negligent act. Negligence Element : Requires proof of negligence to establish a break in causation. Often applied in incidents like leaving surgical instruments inside a patient. Pleas are rarely accepted by courts. It is not applicable here, as there is no intervening act causing the injury. Doctrine of Res Ipsa Loquitur (Option C): Means "the thing speaks for itself"; Used when negligence is obvious. Expert Evidence : Patients don't need to prove negligence through expert testimony; the burden shifts to the doctor to prove innocence. Conditions : Injury would not have occurred without negligence. The doctor had exclusive control over the treatment or instrument causing injury. The patient was not contributory to negligence. Examples : Blood transfusion errors (infected blood, mismatches). Failure to administer necessary vaccines. Overprescribing medication. Wrong-site surgeries. Leaving surgical instruments inside the patient. Failing to remove swabs, leading to complications. Prolonged splinting causing loss of use of a limb. However, in this case, ureteral injury is a known risk of hysterectomy, so it does not inherently indicate negligence. Physician error (Option D): Physician error refers to a deviation from the standard of care. If the injury resulted from a genuine error or lack of skill, the doctor could be held responsible under this principle.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 19, 20, 21

↑ *Back to this question in Part A*

@Neet_pg_bot

Q32: What is the penalty for causing the death of a patient due to the use of counterfeit medication/spurious drug? (Q856336)

A. 5 years

B. 7 years

C. Life imprisonment

D. 1 year

Correct Answer: C. Life imprisonment

Explanation: Under the Drugs and Cosmetics Act, 1940 (Section 27A and 27B), if a patient dies due to the use of counterfeit/spurious drugs, the penalty includes life imprisonment and a fine of at least ■10 lakhs or three times

the value of the confiscated drugs, whichever is higher. Counterfeit drugs: Illegal. Given to cheat or harm a person. These drugs do not have the same therapeutic effect as genuine drugs and may lead to treatment failure. Counterfeit drugs are not subjected to proper quality control. People making illegal drugs are punished or jailed. Types Description Example Spurious Drugs Have no active ingredient 500 mg paracetamol tablet → when checked, it contains no paracetamol in it. Made by illegal people other than the manufacturer to copy the drug. Misbranded Drugs Low-quality drugs 500 mg tablet → when checked, it contains only 200 mg. Made by the same manufacturer to increase profit. Adulterated Drugs Addition of harmful or unwanted excipients Cough syrup made in India containing ethylene glycol → when checked, GMP guidelines do not approve these substances. Ethylene glycol is harmful and not approved as an excipient by GMP.

References:

Goodman and Gilman 14th Ed Page145.

Tackling Counterfeit Drugs: The Challenges and Possibilities - PMC

https://www.indiacode.nic.in/bitstream/123456789/15278/1/drug_cosmeticsa1940-23.pdf

↑ *Back to this question in Part A*

@Neet_pg_bot

Q33: In relation to the punishment of perjury, which specific section of the BNS addresses this matter? (Q854897)

A. BNS 227

B. BNS 228

C. BNS 229

D. BNS 234

Correct Answer: C. BNS 229

Explanation: · Punishment for False Evidence and Perjury: This section deals with the punishment for giving false evidence (perjury) in any stage of a judicial proceeding or fabricating false evidence for the purpose of being used in any stage of a judicial proceeding. BNS related to false evidence/false certificate/disappearance of evidence: BNS 227/ Section 191 (Option A) Giving false evidence/statement under oath by a witness (Perjury) BNS 228/ Section 192 (Option B) Fabrication of evidence BNS 229/ IPC 193 (Option C) Punishment for providing false evidence under oath (Punishment for perjury) (imprisonment of upto 7 years + fine) BNS 234/ Section 197 (Option D) Punishment for issuing a false certificate (imprisonment of upto 7 years + fine) BNS 238 Punishment for disappearance of vital evidence (imprisonment of upto 7 years + fine) BNS 239 Intentional omission of vital information by person legally bound to inform

References:

Gautam Biswas Review of Forensic Medicine & Toxicology pages- 48,51,471

↑ *Back to this question in Part A*

@Neet_pg_bot

Q34: A man with multiple stab wounds is brought to the emergency department in a critical condition. He is conscious but not expected to survive for long. The Magistrate is not immediately available. According to medico-legal procedure, what should be done regarding the dying declaration? (Q852472)

A. Wait for the Magistrate to arrive before recording the statement

B. The attending doctor should record the dying declaration after certifying the patient's consciousness

C. Ask the police officer on duty to record the declaration under oath

D. Leading questions should be asked to clarify facts quickly

Correct Answer: B. The attending doctor should record the dying declaration after certifying the patient's consciousness

Explanation: When a patient is conscious and likely to die soon, the dying declaration must be recorded immediately to preserve evidence. If a magistrate is not available, the attending doctor is authorized to record it. The doctor must certify that the patient is conscious, oriented, and capable of giving the statement, and record the declaration verbatim. This ensures the declaration is legally valid and admissible in court. Incorrect Options: Option A) Wait for the Magistrate to arrive before recording the statement : Incorrect because waiting may result in loss of the opportunity to record the declaration; the patient could die before the magistrate arrives. Option C) Ask the police officer on duty to record the declaration under oath: Incorrect because police officers cannot legally record a dying declaration. Only a magistrate or, if unavailable, a doctor can record it. Option D) Ask leading questions to clarify facts quickly: Incorrect because leading questions can compromise the voluntariness of the declaration. The statement must be recorded verbatim.

References:

Gautam Biswas Review of Forensic Medicine and Toxicology 3rd Edition Page 48, 49

↑ *Back to this question in Part A*

@Neet_pg_bot

Q35: What type of consent is obtained when a patient agrees to a procedure after being informed about its benefits and complications? (Q855840)

A. Informed consent

B. Implied consent

C. Opt-out

D. Passive consent

Correct Answer: A. Informed consent

Explanation: Informed consent involves providing the patient with all necessary information about a procedure, including its purpose, benefits, risks, and potential complications. The patient voluntarily agrees to the procedure after understanding this information. This is a key principle of medical ethics and legal practice. Informed consent is provided when a patient understands the nature of their condition, the proposed treatment , the outcomes of the suggested treatment, alternative treatment options, and the associated risks and benefits . The patient has the right to either accept or decline the procedure. Consent refers to a voluntary agreement , permission, or compliance, which may be either expressed or implied. It is exempt in certain circumstances. While patients with notifiable diseases (e.g., tuberculosis) may be treated to protect public health, using a placebo without the patient's knowledge violates ethical guidelines. Even in cases of public health concerns, deceptive treatment is not an acceptable practice and does not fall under exceptions to informed consent. Exceptions to Informed Consent : Emergencies Medical examination ordered by a police officer for an arrested individual [Sec 51 & 52 BNSS] Therapeutic privilege Therapeutic waiver Medico-legal postmortems Psychiatric examination or treatment mandated by a court order Use of placebos Prisoners A person suffering from disease under the ‘notified’ category (to notify the authorities only) Treatment of notifiable diseases for greater community interest. Implied consent (Option B): Occurs when consent is not explicitly stated or written but is inferred through actions. For example, when a patient visits a hospital for an illness, it is understood that they are consenting to a physical examination to determine the cause of their illness. This form of consent is legally valid. Presumed consent/opt-out (Option C): Refers to the patient's refusal of the procedure, test, or treatment. Passive Consent (Option D): Passive consent is not a standard or widely recognized type of consent in medical ethics. It implies consent by lack of objection, which is insufficient for significant medical interventions. Substituted consent: When a person is unable to provide informed consent for medical treatment, proxy consent must be obtained from a close relative. The typical order of priority is the spouse, followed by an adult child, then a parent, and finally a sibling.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page. 22-25.

The Essentials of Forensic Medicine and Toxicology, K S Narayan Reddy, OP Murty, 35th Edition, Page. 36-39.

Informed Consent - StatPearls

↑ *Back to this question in Part A*

@Neet_pg_bot

Q36: A surgeon returns home from a party after many pegs of alcohol and was called to perform an emergency operation. During the operation, the assisting staff noticed the surgeon's hand shaking and instruments falling. He eventually nicks an artery and the patient collapses. Under which of the following terms will this incident be tried? (Q855860)

A. Criminal negligence

B. Civil negligence not amounting to criminal negligence

C. Therapeutic misadventure

D. Dichotomy

Correct Answer: A. Criminal negligence

Explanation: The surgeon's decision to operate under the influence of alcohol constitutes criminal negligence, as it demonstrates reckless behavior leading to a fatal outcome. This is likely to be prosecuted under Section 304A of the Indian Penal Code (BNS Section 106), which deals with causing death by a negligent act. Civil Negligence Not Amounting to Criminal Negligence (Option B): Civil negligence involves a breach of duty leading to harm . The surgeon's actions, being willful, surpass the threshold of civil negligence. Therapeutic Misadventure (Option C): An unintended complication occurred during treatment, which was beyond the doctor's control. This does not apply, as the surgeon acted recklessly by operating while intoxicated. Dichotomy (Option D): Dichotomy refers to the unethical practice of sharing fees between doctors or professionals and is unrelated to the situation described.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page. 12, 13, 15-16.

The Essentials of Forensic Medicine and Toxicology, K S Narayan Reddy, OP Murty, 35th Edition, Page. 29-32.

IPC

CORRESPONDENCE TABLE and COMPARISON SUMMARY OF THE BHARTATIYA NYAYA SANHITA, 2023 (BNS) to THE INDIAN PENAL CODE, 1860 (IPC)

↑ *Back to this question in Part A*

@Neet_pg_bot

Q37: A doctor receives two summons, one to appear in court in a murder case and another to provide expert medical opinion. Which of the following should the doctor prioritise? (Q866616)

A. Appearance in the murder case

B. Appearance for providing medical expert opinion

C. The summon received first

D. None of the above

Correct Answer: A. Appearance in the murder case

Explanation: A criminal court summons in a murder case generally carries a legal imperative and higher priority; attendance is mandatory unless legally excused. Providing expert opinion is important, but when faced with a direct court order in a criminal case, the legal obligation to appear in court for the criminal matter is prioritized. Incorrect Options: Appearance for expert opinion (Option B): Important but typically subordinate to a direct criminal court summons. The summon received first (Option C) : The timing of receipt does not override the legal gravity of a murder case summons.

↑ *Back to this question in Part A*

@Neet_pg_bot

Q38: A man was abducted from his home, and his son subsequently claimed rights to his father's property. As per Section 111 of the Bharatiya Sakshya Adhiniyam (BSA), until when is the son not entitled to claim inheritance? (Q866685)

A. 5 years

B. 6 years

C. 7 years

D. 10 years

Correct Answer: C. 7 years

Explanation: Section 111 of the Bharatiya Sakshya Adhiniyam (BSA) states that a person who has been missing and not heard of for 7 years by those who would naturally have heard from them is presumed dead. Until those 7 years are completed, legal heirs cannot claim inheritance. The burden of proving the fact of the missing lies on the person claiming the benefit of this presumption. For 7 years, property rights remain with the missing person's estate, and heirs cannot take possession. Incorrect Options: 5 years (Option A): No legal presumption of death at 5 years; heirs cannot claim property before the statutory period. 6 years (Option B): Falls short of the legal requirement; property rights remain frozen until 7 years. 10 years (Option D): Longer than required by law; Section 111 specifically sets the period at 7 years, not 10.

↑ *Back to this question in Part A*

@Neet_pg_bot

Q39: According to the Bharatiya Nyay Sanhita (BNS), which of the following is not classified as grievous hurt? (Q865325)

A. Pain lasting for 5 days

B. Elbow dislocation

C. Emasculation

D. Fracture of a tooth

Correct Answer: A. Pain lasting for 5 days

Explanation: Pain lasting for 5 days is incorrect as it does not meet the criteria for grievous hurt, as the law specifies a minimum duration of 15 days of severe bodily pain or inability to follow ordinary pursuits. BNS 116 (Old Section 320 IPC) defines following injuries as grievous: Emasculation (cutting off the penis, castration, or causing loss of power of erection due to spinal injury). (Option C) Permanent privation of the sight of either eye. Permanent privation of the hearing of either ear. Privation of any member (part, organ, limb) or joints Destruction or permanent impairing of powers of any member or joint. Permanent disfiguration of head or face. Fracture or dislocation of a bone or a tooth. (Option B and D ruled out) Any hurt which endangers life, or which causes the sufferer to be, during the space of 15 days, in severe bodily pain, or unable to follow his daily routine. (Option A)

References:

Goutam Biswas Review of Forensic Medicine and Toxicology, 3rd edition, page 296

https://www.mha.gov.in/sites/default/files/250883_english_01042024.pdf

https://bprd.nic.in/uploads/pdf/COMPARISON%20SUMMARY%20BNS%20to%20IPC%20.pdf

↑ *Back to this question in Part A*

@Neet_pg_bot

Q40: A forensic expert received a summons from the district court to record his evidence in a criminal case, but two days prior, he already received a summons for a civil case in the same district court for the same date. What should the doctor do? (Q852468)

A. Inform both courts and wait.

B. Attend the court for which the summons came first.

C. Attend the court for the criminal case.

D. Do not attend either court.

Correct Answer: C. Attend the court for the criminal case.

Explanation: Criminal cases take precedence over civil cases due to their public importance and urgency. The forensic expert must attend the criminal case and inform the civil court about the conflict, requesting a rescheduled date. Ignoring a court summons can lead to legal consequences, so prioritizing the criminal case is mandatory. Summons/Subpoena: A subpoena is a legal order mandating a witness to appear before a court on a specific date, time, and location to provide testimony or evidence, under penalty. A subpoena is issued by the court in writing, signed by the presiding officer, and carries the court's official seal (Sec. 63 BNSS) . Delivered to the witness by a police officer, court official, or public servant. The witness must sign and return a duplicate copy of the subpoena to acknowledge receipt (Sec. 64 BNSS). Types of Subpoenas Subpoena duces tecum : The witness is required to bring specific documents or items to the court (e.g., medico-legal reports or postmortem findings). For expert witness. Subpoena ad testificandum : The witness is required to appear in court to provide oral testimony. For common witnesses. Punishment for Failing to Comply with a Subpoena/Summons: 1. Civil Cases: The witness may be ordered to pay damages for failing to attend court. This involves compensation for the inconvenience caused to the parties involved in the case. 2. Criminal Cases: If a witness fails to appear in court without a justified reason, the following actions can be taken: Under 63 – 71 BNSS , the court may issue a notice to the witness to explain their absence. The court may issue notice under Section 389, BNSS and after hearing the witness, if it finds that the witness neglected to attend the court without a justified reason, may punish him under Section 208 and 209, BNS , and sentence him/her to: A fine (Rs.1000/-), OR Imprisonment (6 months), OR Both fine and imprisonment. Also, the Court may issue bailable or non-bailable warrants to secure the presence of the witness (S.206 to 209, BNS and S.90, BNSS). Prioritization of Summons: Criminal vs. Civil Courts : If a witness is summoned by both criminal and civil courts for the same day, they must attend the criminal court , which takes precedence. Higher vs. Lower Courts : When summoned by two courts of the same jurisdiction (e.g., civil or criminal), the witness must attend the higher court first. Multiple Summons : If the witness receives multiple summonses from the same type of court, they should attend the court that issued the first summons and notify the other. Inform both courts and wait (Option A): While informing both courts is a good step, simply waiting without attending either court is not advisable, as it could lead to legal consequences. Attend the court for which the summons came first (Option B): The order in which the summons were received does not determine priority. The nature of the case (criminal vs. civil) takes precedence. Do not attend either court (Option D): Ignoring court summons can result in contempt of court or other legal penalties.

References:

The Essentials of Forensic Medicine and Toxicology, K S Narayan Reddy, OP Murty, 35th Edition, Page. 7.
Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page. 47, 48
https://prsindia.org/files/bills_acts/bills_parliament/2023/Bharatiya_Nagarik_Suraksha_Sanhita,_2023.pdf

↑ *Back to this question in Part A*

@Neet_pg_bot

Q41: Which of the following statements is incorrect regarding cross-examination in a court of law? (Q793564)

A. The witness is questioned by the defense lawyer

B. Leading questions are not permitted

C. The purpose is to challenge or weaken the opponent’s case

D. There is no fixed time limit for cross-examination

Correct Answer: B. Leading questions are not permitted

Explanation: Correct Option B - Leading questions are not permitted The statement " Leading questions are not allowed" is incorrect regarding cross-examination in a court of law. In fact, leading questions are often used during cross-examination to elicit specific information or to challenge the witness's testimony, under section 143 IEA. Therefore, the statement "Leading questions are not allowed" does not apply during cross-examination in a court of law. The witness is questioned by the defense lawyer (Option A): True - Cross-examination is conducted by the opposing party, often the defense if the prosecution presented the witness. The purpose is to challenge or weaken the opponent’s case (Option C): True - Cross-examination aims to test credibility and expose contradictions. There is no fixed time limit for cross-examination (Option D): True - Although judges may restrict excessive questioning, there is no predefined time limit .

References:

Prepladder Notes

↑ *Back to this question in Part A*

@Neet_pg_bot

Q42: As an internal medicine consultant at a private clinic, you are handling the case of a patient who has chronic renal disease and needs hemodialysis. You provide dietary and fluid management recommendations and closely monitor the patient. Unfortunately, the patient decides to take ayurvedic supplements and occasionally disregards your instructions without informing you. Consequently, the patient's condition deteriorates, leading to respiratory distress. Subsequently, the patient's attendant files a legal complaint, accusing the doctor of negligence. Which of the following can serve as a defense for the doctor in court? (Q793550)

A. Vicarious liability

B. Res Ipsa loquitur

C. Therapeutic misadventure

D. Contributory negligence

Correct Answer: D. Contributory negligence

Explanation: Contributory negligence is a valid legal defence in medical negligence cases. It applies when the patient (or their caregiver) fails to follow medical advice or engages in actions that contribute to their own harm , which reduces or nullifies the liability of the doctor. In this case: The doctor gave appropriate care and advice . The patient disregarded medical instructions and used alternative (ayurvedic) therapies . These actions directly contributed to the deterioration of the condition. Indian courts recognize contributory negligence as a valid defense in medical negligence cases. If it is shown that the patient's non-compliance or independent actions played a role in the adverse outcome, the doctor's liability can be reduced or even negated Thus, contributory negligence can protect the doctor from full liability. Vicarious liability (Option A): Refers to liability of an employer (e.g., hospital) for the actions of its employee. It does not apply to a private consultant being sued personally. Res Ipsa loquitur (Option B): Means "the thing speaks for itself". It is used when negligence is obvious , e.g., leaving a surgical instrument inside the body. In this case, the deterioration was not clearly due to the doctor's action. Therapeutic misadventure (Option C): Refers to an adverse event despite proper therapy , typically unavoidable or rare. Not applicable here as the decline was due to non-compliance , not an unexpected drug reaction or intervention.

References:

https://pmc.ncbi.nlm.nih.gov/articles/PMC5531144/

↑ *Back to this question in Part A*

@Neet_pg_bot

Q43: According to the amendment in the medical termination of pregnancy (MTP) Bill of 2020 , until what gestational age is it permissible to induce MTP in mentally ill rape victims? (Q793546)

A. 20 weeks

B. 22 weeks

C. 24 weeks

D. 28 weeks

Correct Answer: C. 24 weeks

Explanation: Correct Option C - 24 weeks: As per the Medical Termination of Pregnancy (Amendment) Bill, 2020, the limit for termination of pregnancy in a mentally ill woman or a woman who is a survivor of rape has been increased from 20 weeks to 24 weeks of gestation. Incorrect Options: Option A - 20 weeks: The Medical Termination of Pregnancy (Amendment) Bill, 2020, t, has increased the gestational limit for termination of pregnancy in certain cases from 20 weeks to 24 weeks. Option B - 22 weeks: As per the Medical Termination of Pregnancy (Amendment) Bill, 2020, the gestational age limit for termination of pregnancy in cases of rape, incest, and vulnerable women, including mentally ill women, has been increased from 20 weeks to 24 weeks. Option D -

28 weeks: Beyond 24 weeks, termination of pregnancy is only allowed in cases of substantial fetal abnormalities or if the continuation of the pregnancy poses a risk to the life of the mother.

References:

Prepladder Notes

↑ *Back to this question in Part A*

@Neet_pg_bot

Q44: A doctor was summoned as a public witness to appear and record his evidence in court. What is correct about this witness? (Q820282)

A. Oral evidence

B. Common witness

C. Expert witness

D. Hostile witness

Correct Answer: C. Expert witness

Explanation: to the court on medical matters, then they would be considered an expert witness Incorrect Options: Option A - Oral evidence: Oral evidence refers to the testimony or statements provided by witnesses verbally in court. This option does not accurately describe the scenario in which a doctor is summoned as a witness. The scenario mentioned doesn't specifically emphasize the mode of evidence (oral or written) but focuses on the role of the witness. Option B - Common witness: There is no standard term called "common witness." Witnesses can be categorized based on various factors, but this terminology isn't commonly used. The scenario doesn't provide enough information to suggest that the doctor in question is a "common witness." Option D - Hostile witness: A hostile witness is a term used to describe a witness who is uncooperative or openly antagonistic towards the party that called them to testify. This option is not applicable to the scenario provided, where a doctor is summoned as a public witness to record evidence in court.

↑ *Back to this question in Part A*

@Neet_pg_bot

Q45: Medical termination of pregnancy can be done upto 24 weeks in case of? (Q820252)

A. Congenital malformation

B. Minors

C. Contraception failure

D. Rape victim

Correct Answer: D. Rape victim

Explanation: Correct Option D -Rape victim: Medical termination of pregnancy can be done upto 24 weeks in case of rape victims Incorrect Options: Option A - Fetus malformation : Medical termination of pregnancy can be done beyond 24 weeks if the fetus is found to have severe malformations or abnormalities that are incompatible with life or would result in significant physical or mental challenges for the child. Option B - Minors : Minors generally require parental or guardian consent for medical procedures, including abortion. The laws regarding abortion for minors can vary by country and jurisdiction, but typically there are provisions for involving parents or guardians in the decision-making process. Option C - Contraception failure: Medical termination of pregnancy is not typically allowed solely due to contraception failure. However, if the failure of contraception leads to unwanted pregnancy and the woman's health or life is at risk, abortion might be considered based on medical assessment.

References:

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↑ *Back to this question in Part A*

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• [10_Infanticide] 022 Infanticide

« Back to Folder Directory

[10_Infanticide] 022 Infanticide — Quick Jump

Q1 (p. 1045) *Q2 (p. 1046)* *Q3 (p. 1046)* *Q4 (p. 1049)* *Q5 (p. 1050)* *Q6 (p. 1051)*
Q7 (p. 1052) *Q8 (p. 1053)* *Q9 (p. 1054)* *Q10 (p. 1055)*

Q1: Regarding infanticide, feticide, and filicide in India, which of the following statement is incorrect? (Q847031)

A. Infanticide is punishable by death or imprisonment for life

B. Feticide is the killing of a fetus at any time prior to birth

C. The killing of a living child in the mother's womb who has not yet breathed cannot be considered Feticide

D. Female feticide is the act of aborting a fetus because it is female

Correct Answer: C. The killing of a living child in the mother's womb who has not yet breathed cannot be considered Feticide

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The causing of death of a living child in the mother's womb may amount to culpable homicide, even though the child may not have breathed or been completely born (punishable under Sec. 299 IPC) . The various types of infanticides are listed in the table below: Term Definition Legal Aspects Infanticide Killing of an infant at any time from birth up to the age of 12 months Charged under Section (Option A) Punishable by death or imprisonment for life and fine Feticide (Option B) Killing of the fetus at any time prior to birth Causing the death of a quick unborn child amounts to culpable homicide Applies even if the child is killed in the womb and may not have breathed or been completely born (Culpable homicide- Sec.92 BNS) Punished with imprisonment up to 7 years and/or fine if with woman's consent.(Sec.88 BNS) If without the woman's consent up to 10 years with or without a fine. (Sec 89 BNS) Female Feticide (Option D) Act of aborting a fetus because it is female Covered under laws against feticide and sex determination Filicide The deliberate act of killing a child by the parents Treated as murder under Section 103 BNS

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 320

↑ *Back to this question in Part A*

@Neet_pg_bot

Q2: A stillborn fetus is discovered during a routine prenatal checkup. The fetus shows skin slippage on the face and back, soft and flaccid tissues, and a sweetish disagreeable smell, but no gas formation. The skull shows mild cranial compression but no overlapping of cranial sutures. Based on these findings, approximately how long ago did fetal death likely occur? (Q847036)

A. Less than 12 hours ago

B. Between 12-24 hours ago

C. Between 36-48 hours ago

D. More than 96 hours ago

Correct Answer: C. Between 36-48 hours ago

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The baby shows signs of maceration such as skin slippage (occurs as early as 12 hours) & cranial compression (occurs after 36 hours) but no overlapping of cranial sutures (occurs >96 hours), which indicates fetal demise occurred after 36 hours but before 96 hours. Maceration: It is a process of aseptic autolysis of dead fetus inside the womb. This occurs when the dead child remains in the uterus for about 3–4 days surrounded with liquor amnii and with exclusion of air. Maceration changes in intrauterine death Time Since Death Maceration changes observed 12 hours Earliest sign: Skin slippage of face, back, or abdomen 24 hours Skin becomes brown or purplish in color > 36 hours Cranial compression becomes visible 72 hours (3 days) Desquamation over 75% of body surface > 96 hours (4 days) Overlapping of cranial sutures > 1 week Mouth is widely open Throughout process Fetus is soft and flaccid Sweetish disagreeable smell No gas formation Internal organs show autolytic decomposition (except lungs and uterus)

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 328

↑ *Back to this question in Part A*

@Neet_pg_bot

Q3: A 35-year-old woman presents with suspected intrauterine fetal death at 36 weeks gestation. Which of the following findings would be LEAST useful in confirming recent fetal demise? (Q847040)

A. Spalding's sign on ultrasonography

B. Presence of skin slippage on the fetus's face and back

C. Robert's sign on ultrasonography

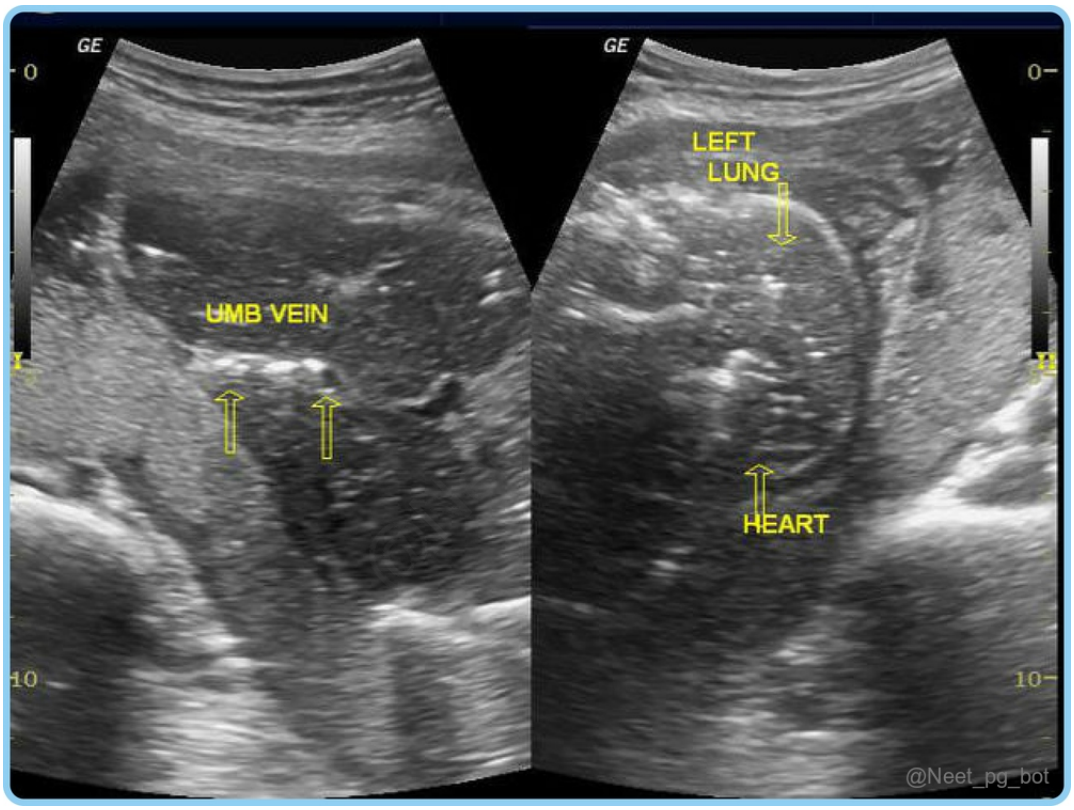
D. Absence of fetal heart sounds on electronic fetal monitoring

Correct Answer: A. Spalding's sign on ultrasonography

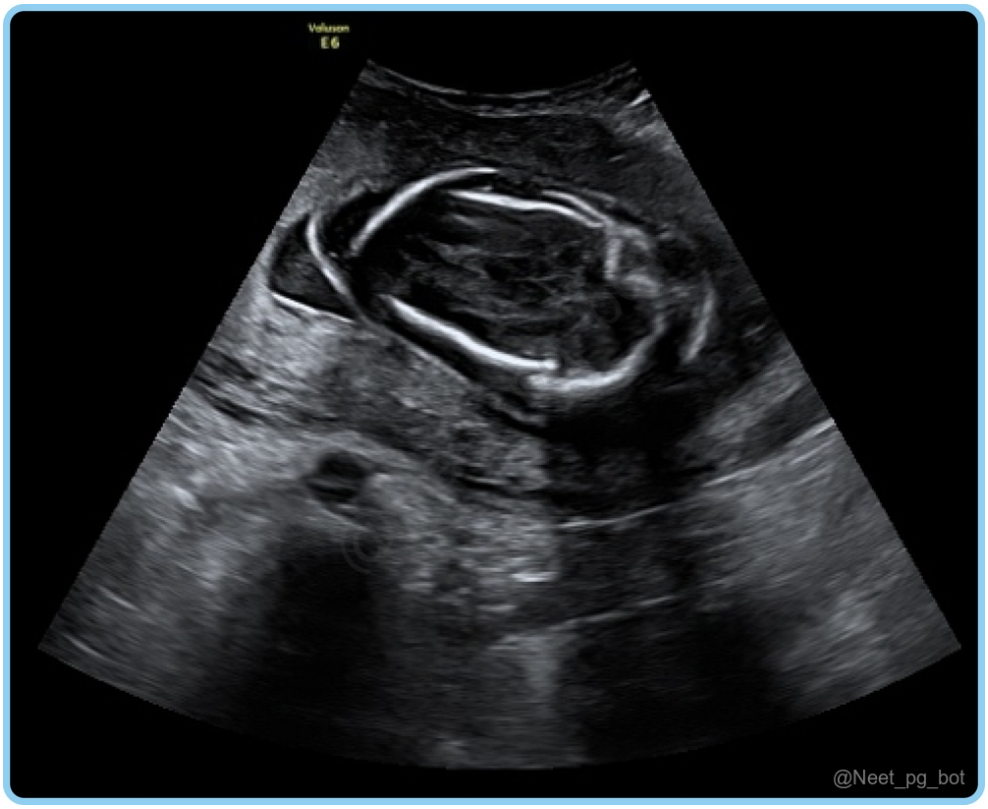
■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Spalding's sign on ultrasonography is the least useful for confirming recent fetal demise . It typically appears about 7 days after fetal death , indicating prolonged intrauterine retention. By the time this sign is visible, the fetal death is no longer recent. Radiological Signs of Dead-born fetus: Sign Imaging Modality Description Timeline Absence of Fetal Heart Motion (Option D) Ultrasound No detectable cardiac activity on real-time imaging Immediate indicator of fetal death- Absence of Fetal Movements Ultrasound No spontaneous or induced fetal movements during examination Immediate indicator of fetal death Robert's Sign (Option C) Ultrasound Gas bubbles in fetal heart chambers and great vessels May appear by 12 hours, but can be difficult to interpret Hyperflexion of Spine X-ray, Ultrasound Abnormal curvature of the fetal spine due to loss of muscle tone Variable, typically seen in later stages Spalding's Sign (Option A) Ultrasound Overlapping of fetal skull bones due to loss of brain tissue consistency Appears about 7 days after fetal death Loss of Rib Parallelism X-ray Ribs lose their normal parallel arrangement and overlap present Later sign, associated with collapse of thoracic cavity Deuel’s Halo Sign X-ray Indicates elevation of the subcutaneous fat layer from the underlying bone caused by edema Not reliable sign, as can be seen in both living and dead fetus Presence of skin slippage on the fetus's face and back (Option B): Skin slippage or maceration is a sign of fetal death that occurs after the fetus has been dead for several days, indicating the decomposition process.


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References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 328

www.ajog.org/article/0002-9378(63)90288-6/abstract

↑ *Back to this question in Part A*

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Q4: A newborn is delivered with no signs of life, and the forensic team must determine whether the baby was stillborn or liveborn. Which test is most appropriate for this purpose? (Q847042)

A. Hydrostatic test

B. Kleihauer–Betke test

C. Coombs test

D. Apgar score

Correct Answer: A. Hydrostatic test

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The hydrostatic test (lung flotation test) involves placing the lungs in water to see if they float. Floating lungs indicate that the baby breathed air, which means the infant was liveborn . Sinking lungs suggest that the baby was stillborn, as there was no respiration and air entry into the lungs. This test is widely used in forensic medicine to differentiate stillbirths from live births, especially in cases implicating neonaticide or infanticide. Kleihauer–Betke test (Option B): Used to detect fetomaternal hemorrhage , not to determine whether the baby breathed after birth. Coombs test (Option C): Detects immune-mediated hemolysis , unrelated to determining live birth. Apgar score (Option D): Assesses newborn vitality after birth , but cannot distinguish stillborn from liveborn retrospectively.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page. 326, 327

↑ *Back to this question in Part A*

@Neet_pg_bot

Q5: A forensic pathologist is examining the lungs of a newborn during an autopsy. The lungs appear mottled in color and occupy most of the thoracic cavity. However, when subjected to the hydrostatic test, portions of the lung tissue sink while others float. Microscopically, some areas show expanded alveoli lined with flat squamous cells, while other areas show closed alveoli lined with cuboidal cells. What is the most likely explanation for these conflicting findings? (Q847044)

A. The infant was stillborn, and the floating lung portions are due to putrefaction

B. The infant was live-born but suffered from severe respiratory distress syndrome

C. The infant was live-born and partially breathed before death

D. The findings are inconclusive and could be due to artificial respiration attempts

Correct Answer: C. The infant was live-born and partially breathed before death

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The findings support that the infant was live-born and partially respired before death , based on: Mottled appearance of lungs and partial thoracic cavity expansion , indicating some aeration. Mixed hydrostatic test results- some lung parts floated while others sank. Microscopy showed: Expanded alveoli lined with flat squamous cells (indicating respiration) Closed alveoli lined with cuboidal/columnar cells (indicating unrespired areas) Comparison: Respired vs. Unrespired Lung Feature Unrespired Lung (Stillborn) Respired Lung (Live-born) Color Bluish red Mottled Volume Small Large, covers heart Thoracic cavity Not full Fully occupied Pleura Loose,

wrinkled Taut, stretched Margins Sharp Rounded Surface Smooth Uneven Consistency Dense, firm, non-crepitant (liver-like) Soft, spongy, elastic, crepitant Ploucquet's test 1:70 1:35 Fodere's static test 30–40 g 60–70 g Diaphragm level 4th–5th rib 6th–7th rib Blood oozing Little, frothless Abundant, frothy Hydrostatic test Whole and parts sink in water Floats in water Alveoli Not expanded Expanded Microscopy Closed sacs with cuboidal/columnar lining Dilated sacs with flat squamous lining and vascularity

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 326

↑ *Back to this question in Part A*

@Neet_pg_bot

Q6: A forensic examiner is evaluating two fetuses found under different circumstances. The examiner performs Breslau's First Life Test on Baby A and Breslau's Second Life Test on Baby B. The findings are as follows: For Baby A, after performing the hydrostatic test, the lungs sink when compressed and placed back in water. For Baby B, air bubbles are observed escaping from the stomach and intestines after an incision is made underwater. What do these findings suggest about the live birth status of both babies? (Q847048)

A. Baby A was stillborn, while Baby B was born alive and breathed

B. Baby A was born alive and breathed, while Baby B was stillborn

C. Both Baby A and Baby B were born alive and breathed

D. Both tests are inconclusive due to potential contamination

Correct Answer: A. Baby A was stillborn, while Baby B was born alive and breathed

■ *Listen to Audio 1*

Explanation: The hydrostatic test showed that Baby A's lungs sank, indicating they were unrespired and thus confirming stillbirth. In contrast, Baby B showed air bubbles escaping from the stomach and intestines, suggesting that respiration occurred, confirming live birth. If the lung sample sinks after compression , it means the baby did not breathe and was stillborn. If the lungs had real respiratory air, external compression could not collapse the alveoli enough to expel it completely. Hydrostatic Test/ Raygat Test/ Breslau's First Life Test Principle: Based on the specific gravity of the lungs, before respiration, it is 1040–1050, and after respiration, it is 940-950, allowing the lungs to float. Procedure: ■■■■■■■ Open abdominal cavity carefully Ligate (tie) esophagus and rectum Remove stomach and intestines en bloc Place entire stomach–intestine mass in water If floating → cut into segments and test separately Inference: If they sink: Unrespired lung. If they float: Remove from water, cut into small pieces, and compress between sponges, then re-test in water. If they sink: Unrespired lung. If they float: Respired lung. Floating indicates residual air in the lungs from breathing after birth. False positive: Caused by

putrefying gasses or artificial inflation. False negative: Caused by conditions like atelectasis, edema, feeble respiration, pneumonia, or congenital syphilis. A hydrostatic test is not necessary if: The fetus shows congenital anomalies (e.g., anencephaly) The fetus is macerated or mummified The umbilical cord has separated and scarred The stomach contains milk Bruises on the lungs indicate artificial respiration efforts The fetus is born before 180 days of gestation Breslau's Second Life Test Steps: Remove the stomach and intestines, tying double ligatures at each end. Submerge them in water. Make an incision between the ligatures. Interpretation: If air bubbles emerge, it indicates that respiration has occurred, confirming live birth. The presence of milk in the stomach also serves as positive evidence of live birth.

References:

The Essentials of Forensic Medicine, KS Narayan Reddy, 35th Edition, Pages 341, 342

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 327

↑ *Back to this question in Part A*

@Neet_pg_bot

Q7: A newborn is examined shortly after delivery. The physician observes a localized swelling on the baby's head that appears several hours after birth. The swelling is confined to one side of the skull, is firm to the touch, and does not cross the suture lines. What is the most likely diagnosis for this condition? (Q847054)

A. Caput Succedaneum

B. Cephalhematoma

C. Hydrocephalus

D. Intracranial hemorrhage

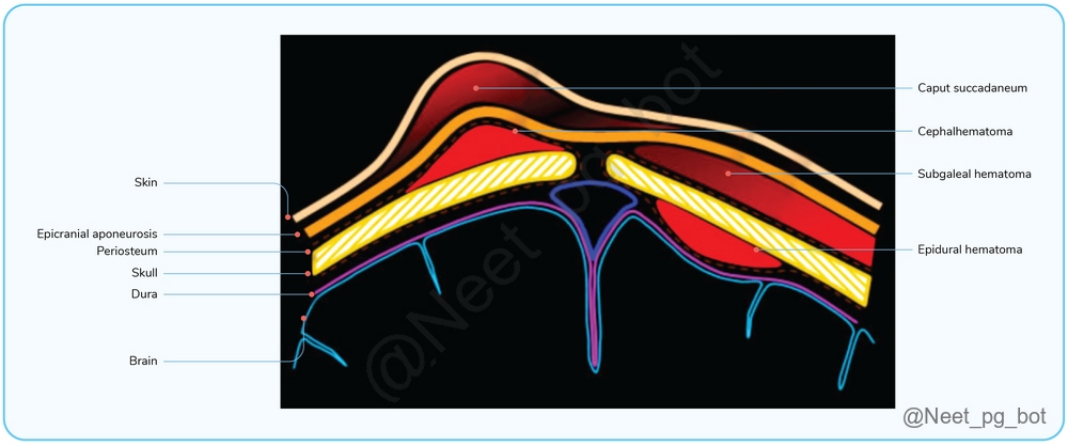
Correct Answer: B. Cephalhematoma

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Cephalohematoma refers to a localized collection of blood between the skull and the periosteum, often appearing several hours after birth. It is typically unilateral, firm to the touch, and confined by the suture lines, matching the characteristics noted in the scenario. Feature Cephalohematoma Caput Succedaneum (Option A) Definition Blood collection between the periosteum and skull due to a ruptured emissary vein, often from trauma (e.g., forceps delivery). Swelling from fluid accumulation between scalp layers, typically from prolonged pressure (e.g., during labor). Situation Generally unilateral, commonly over the parietal bone. Can be bilateral, covering a broader area of the scalp. Impulse on Crying (Seen in hydrocephalus) No impulse seen. No impulse seen. Limitation by Suture Line Confined by sutures. No restriction by sutures. Underlying Pathology May involve a skull fracture. Non-pathological; usually harmless. Occurrence Does not appear at birth, and usually develops

later. Present at birth. Development and Disappearance Appears 12–24 hours after birth, and resolves in 6–8 weeks. Maybe followed by jaundice. Disappears on its own within 24 hours. Maybe followed by jaundice. Medico-Legal Importance Can assist in determining how long the infant survived post-birth based on regression. Provides clear evidence of in-utero life, though, in prolonged labor, fetal death may occur before birth. Hydrocephalus (Option C) involves fluid accumulation in the brain ventricles, leading to overall head enlargement rather than localized swelling. Intracranial hemorrhage (Option D) involves bleeding within the skull, typically presenting with more severe symptoms and not as a confined scalp swelling.



References:

The Essentials of Forensic Medicine, KS Narayan Reddy, 35th Edition, Page 343

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 325, 326

↑ *Back to this question in Part A*

@Neet_pg_bot

Q8: A 3-month-old infant is found unresponsive in their crib by a caregiver early in the morning. The infant had been healthy and fed well the previous evening. The caregiver reports the baby typically sleeps on their stomach. An autopsy is performed, revealing no conclusive cause of death. Which of the following statements is most accurate based on the scenario? (Q847057)

A. Sleeping on the stomach significantly reduces the risk of death.

B. The autopsy typically reveals specific pathological findings.

C. Low birth weight or premature infants have an increased risk of sudden death.

D. Maternal smoking has no post-natal association with infant mortality.

Correct Answer: C. Low birth weight or premature infants have an increased risk of sudden death.

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Infants who are low birth weight or born prematurely are at a higher risk for sudden death due to various factors, including underdeveloped respiratory systems and increased vulnerability. Sudden Infant Death Syndrome (SIDS) The sudden and unexpected death of a seemingly healthy infant, with no

References:

The Essentials of Forensic Medicine, KS Narayan Reddy, 35th Edition, Page 346

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 333, 334

↑ *Back to this question in Part A*

@Neet_pg_bot

Q9: A 6-year-old child is frequently admitted with gastrointestinal distress, including vomiting and abdominal pain. The mother provides elaborate details about the symptoms and insists on multiple tests despite negative results. Symptoms appear only when the mother is present, and the child seems healthy when separated. What is the most likely diagnosis for the child's condition? (Q847067)

A. Gastroenteritis

B. Munchausen Syndrome by Proxy

C. Functional abdominal pain

D. Anxiety disorder

Correct Answer: B. Munchausen Syndrome by Proxy

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Munchausen Syndrome by Proxy Munchausen Syndrome by Proxy is a form of abuse where a caregiver fabricates or induces symptoms in a child for attention. Children may present with vague complaints like vomiting, diarrhea, fever, or seizures, often inflicted intentionally by the parent (e.g., using anticoagulants, suffocation, ipecac syrup). The caregiver derives personal benefit, such as attention or sympathy, at the child's expense. Diagnosis The illness does not conform to expected patterns or courses. Symptoms are not supported by lab or imaging results. Injuries or wounds may fail to heal properly. The child's condition may worsen in the presence of the caregiver and improve when separated. Positive drug tests for substances not prescribed to the child. The child may have been admitted to various hospitals and seen by numerous physicians. Gastroenteritis (Option A): This condition typically presents with clear, objective symptoms such as diarrhea and fever, which

would be consistent across different caregivers. The lack of objective findings in this scenario makes gastroenteritis unlikely. Functional Abdominal Pain (Option C): While this condition can cause recurrent abdominal pain, it usually lacks the distinct pattern of worsening in the presence of a caregiver. The clear connection to the mother's presence makes this diagnosis less likely. Anxiety Disorder (Option D): Although anxiety can manifest in physical symptoms, it wouldn't typically cause the specific pattern observed here, where the child's symptoms are linked to the presence of the mother. This option does not explain the mother's insistence on testing and the lack of objective findings.

References:

The Essentials of Forensic Medicine, KS Narayan Reddy, 35th Edition, Page 346

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 334

↑ *Back to this question in Part A*

@Neet_pg_bot

Q10: A 2-year-old girl presents with persistent crying, refusal to eat, and multiple bruises. The parents report frequent falls. On exam, there are bruises on the abdomen and back, a healing burn on the thigh, and rib tenderness. X-ray done is shown below. The parents give vague explanations and claim the child "bruises easily." A CT scan reveals subdural hematoma without a clear trauma history. What is the most likely diagnosis? (Q847070)

A. Osteogenesis imperfecta

B. Battered Baby Syndrome

C. Munchausen syndrome by proxy

D. Hemophilia

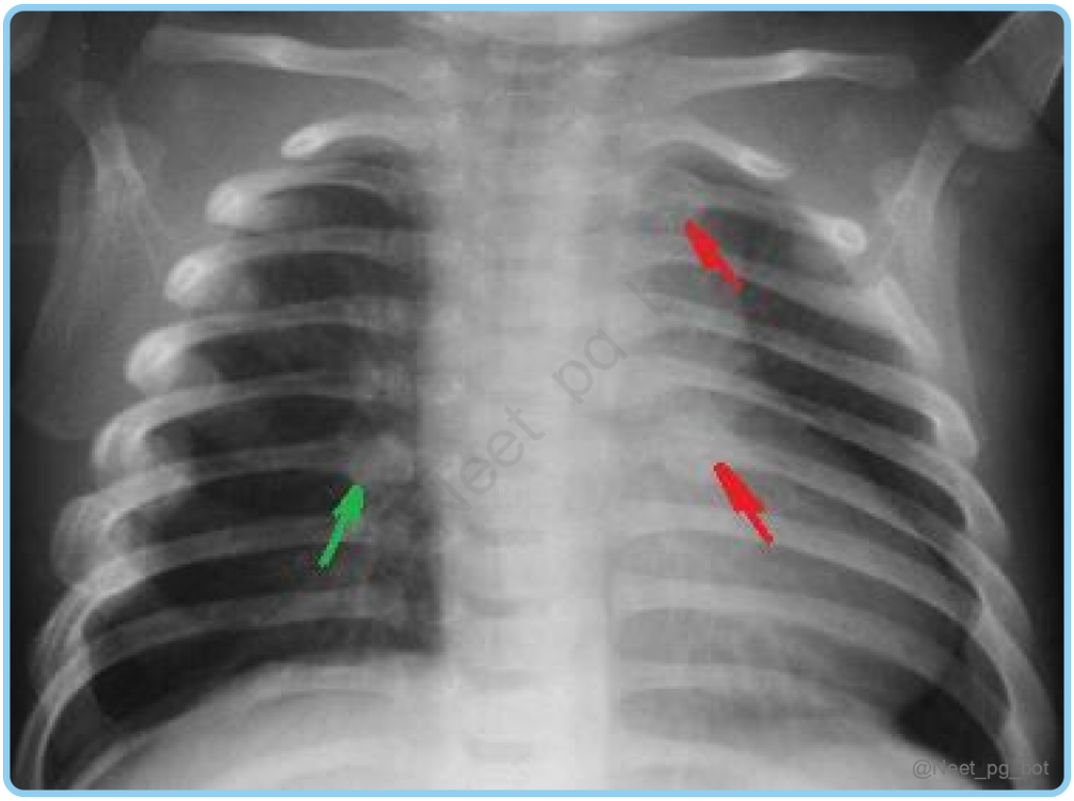


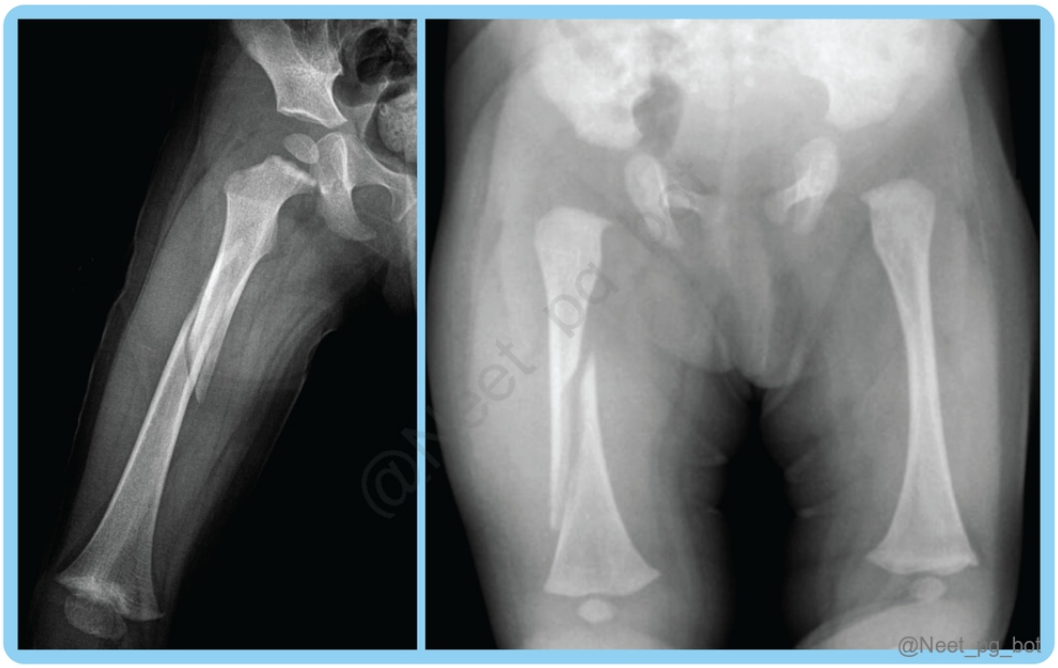
Correct Answer: B. Battered Baby Syndrome

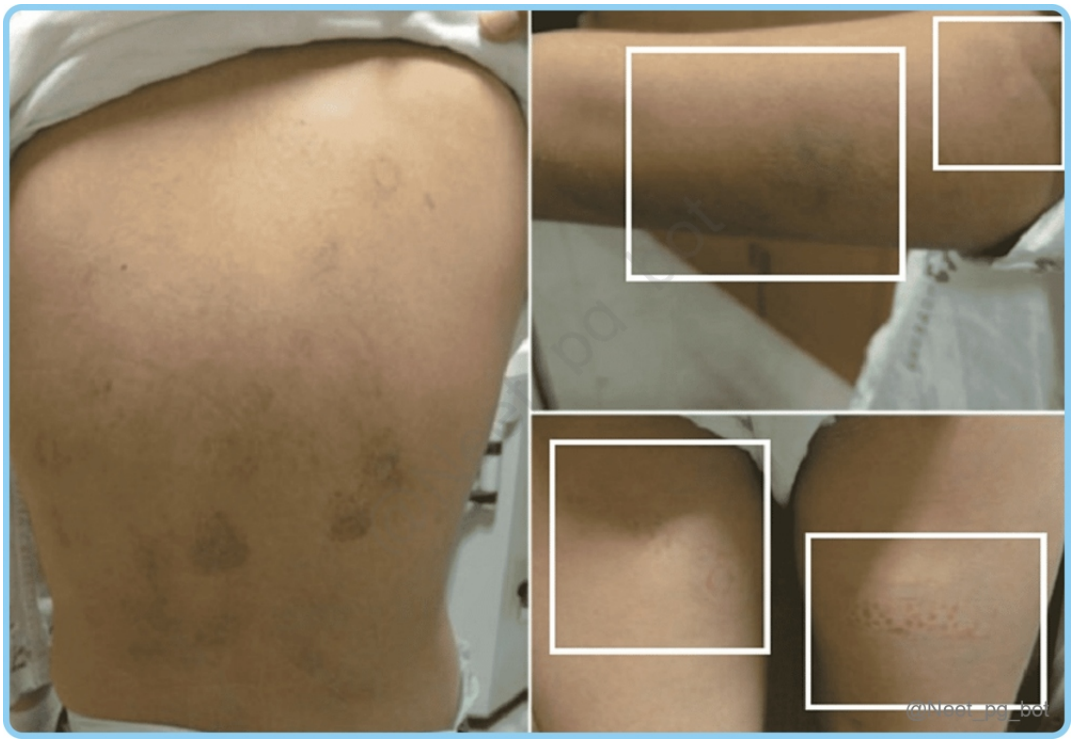
- *Listen (English)*
- *Listen (Hindi)*

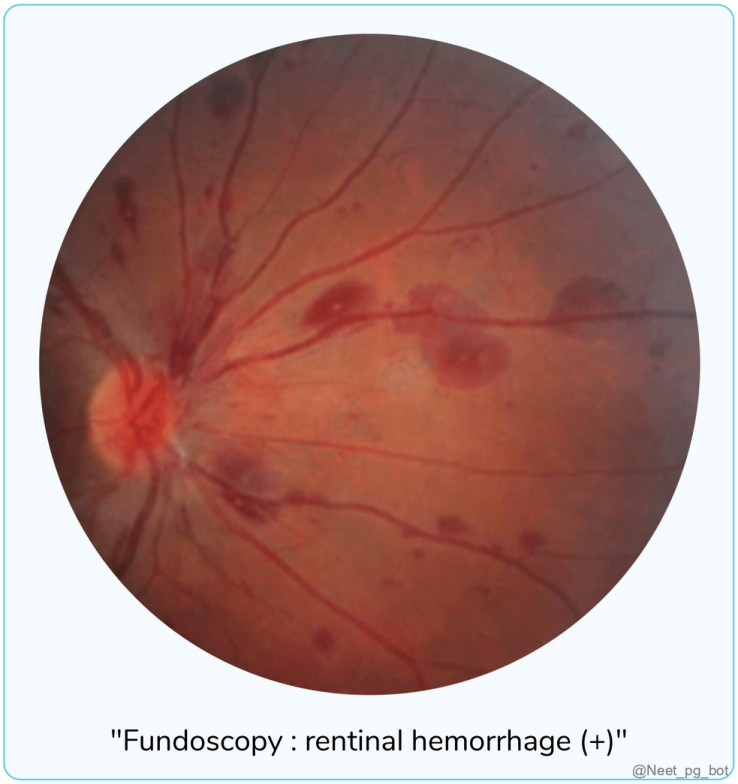
Explanation: Caffey syndrome or Battered Baby Syndrome is strongly suggested when a child presents with multiple injuries at different stages of healing, and the parents provide a vague or inconsistent






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References:

The Essentials of Forensic Medicine, KS Narayan Reddy, 35th Edition, Page 345, 346

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 331-333

↑ *Back to this question in Part A*

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• [11_Forensic Toxicology] 023 Forensic Toxicology 1

« Back to Folder Directory

[11_Forensic Toxicology] 023 Forensic Toxicology 1 — Quick Jump

Q1 (p. 1060)	*Q2 (p. 1061)*	*Q3 (p. 1062)*	*Q4 (p. 1063)*	*Q5 (p. 1065)*	*Q6 (p. 1066)*
Q7 (p. 1067)	*Q8 (p. 1070)*	*Q9 (p. 1072)*	*Q10 (p. 1073)*	*Q11 (p. 1074)*	*Q12 (p. 1077)*
Q13 (p. 1078)	*Q14 (p. 1080)*	*Q15 (p. 1081)*	*Q16 (p. 1082)*	*Q17 (p. 1083)*	*Q18 (p. 1085)*
Q19 (p. 1086)	*Q20 (p. 1088)*	*Q21 (p. 1089)*	*Q22 (p. 1092)*		

Q1: What is the treatment of choice for the sting of the organism given below? (Q846960)

A. Prazosin

B. Atropine

C. Calcium gluconate

D. Scorpion antevenom



Correct Answer: A. Prazosin

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The image is of the Indian Red Scorpion, Mesobuthus tamulus. Indian Red Scorpion (Mesobuthus tamulus) Nature of venom Clear, colorless proteinaceous toxalbumin Mechanism of action Acts on voltage-gated sodium channels and causes persistent depolarization, leading to a massive release of catecholamines and acetylcholine Pathophysiology Autonomic storm due to: Catecholamine surge (adrenal medulla): Hypertension, tachycardia Parasympathetic discharge: Salivation, sweating, vomiting Myocardial toxicity: Myocarditis and heart failure Increased vascular permeability: Pulmonary edema Local manifestations Severe pain at the sting site, erythema, swelling, paresthesia Autonomic manifestations Profuse sweating, salivation, lacrimation, vomiting, priapism Cardiovascular features Tachycardia, hypertension initially → later hypotension, myocarditis Respiratory features Pulmonary edema, respiratory distress Neurological features Restlessness, agitation Severe complications Cardiogenic shock Pulmonary edema Myocarditis Treatment The limb is mobilised, and a pressure bandage is applied proximal to the site of sting The site may be incised and washed with ammonia or borax Prazosin therapy: Treatment of choice (1mg for adults, 500■g for children) is given orally and then after every 3 hours till extremities are warm, dry, and peripheral veins are visible Scorpion antivenom (SAV) Specific antidote for scorpion venom Calcium gluconate 10 ml of 10% solution slow IV given for pain, cramps, and edema Barbiturates are given to sedate and control convulsions Atropine to prevent pulmonary edema



References:

Goutam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Page 534

↑ *Back to this question in Part A*

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Q2: In which poisoning is cherry red hypostasis seen on post-mortem examination? (Q876262)

A. CO Poisoning

B. Hydrogen sulphide

C. Yellow phosphorus

D. Hydrogen cyanide

Correct Answer: A. CO Poisoning

Explanation: Correct Option A - CO Poisoning: Carbon monoxide poisoning causes cherry red discoloration of the skin, mucus membranes, conjunctiva, nail beds, areas of hypostasis, blood tissues and internal organs. This coloration changes to dark green and then to brown as decomposition starts to occur. Incorrect Options: Option B - Hydrogen sulphide : Hydrogen Sulphide poisoning causes a rotten egg smell in the victim. The general signs of asphyxia are present along with signs of changing of the blood and viscera colour to greenish-purple and not cherry-red. Option C - Yellow Phosphorus: Yellow Phosphorus is a potent hepatotoxin. Post-mortem findings include garlicky odour along with icterus of the body due to liver failure as a part of multiple organ failure which causes the death of the victim. Option D - Hydrogen cyanide: Hydrogen cyanide is an extremely lethal poison. Post-mortem findings of hydrogen cyanide poisoning include glistening and prominent dilated pupils, frothy mouth, brick-red blood and cheeks due to impaired oxygenation of the tissues. The internal organs may be oedematous due to congestion.

References:

Prepladder Notes

↑ *Back to this question in Part A*

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Q3: In which poisoning is cherry red hypostasis seen on post-mortem examination? (Q876012)

A. CO Poisoning

B. Hydrogen sulphide

C. Yellow phosphorus

D. Hydrogen cyanide

Correct Answer: A. CO Poisoning

Explanation: Correct Option A - CO Poisoning: Carbon monoxide poisoning causes cherry red discoloration of the skin, mucus membranes, conjunctiva, nail beds, areas of hypostasis, blood tissues and internal organs. This coloration changes to dark green and then to brown as decomposition starts to occur. Incorrect Options: Option B -

Hydrogen sulphide : Hydrogen Sulphide poisoning causes a rotten egg smell in the victim. The general signs of asphyxia are present along with signs of changing of the blood and viscera colour to greenish-purple and not cherry-red. Option C - Yellow Phosphorus: Yellow Phosphorus is a potent hepatotoxin. Post-mortem findings include garlicky odour along with icterus of the body due to liver failure as a part of multiple organ failure which causes the death of the victim. Option D - Hydrogen cyanide: Hydrogen cyanide is an extremely lethal poison. Post-mortem findings of hydrogen cyanide poisoning include glistening and prominent dilated pupils, frothy mouth, brick-red blood and cheeks due to impaired oxygenation of the tissues. The internal organs may be oedematous due to congestion.

References:

Prepladder Notes

↑ *Back to this question in Part A*

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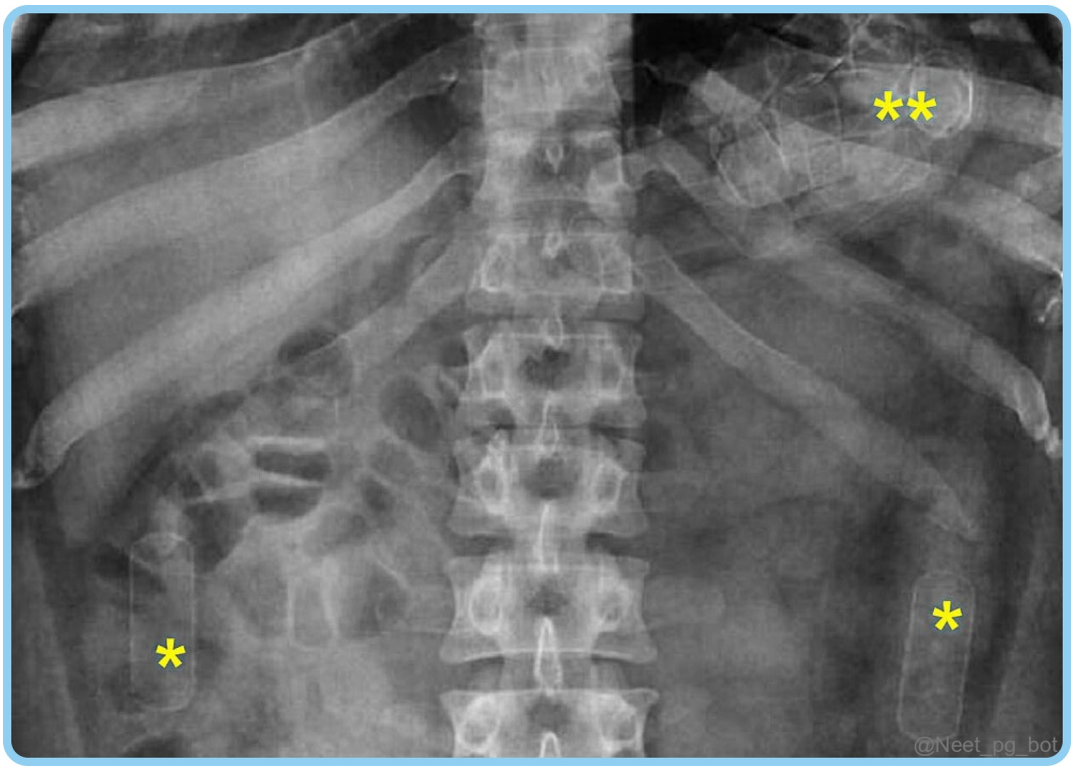
Q4: A police officer presents an X-ray of a suspect who is believed to be a body packer. Patient acts casual and his vitals are stable The X-ray is as given. What is the most critical initial management step for this patient? (Q847008)

A. Administer activated charcoal

B. Perform a laparotomy

C. Monitor and provide supportive care

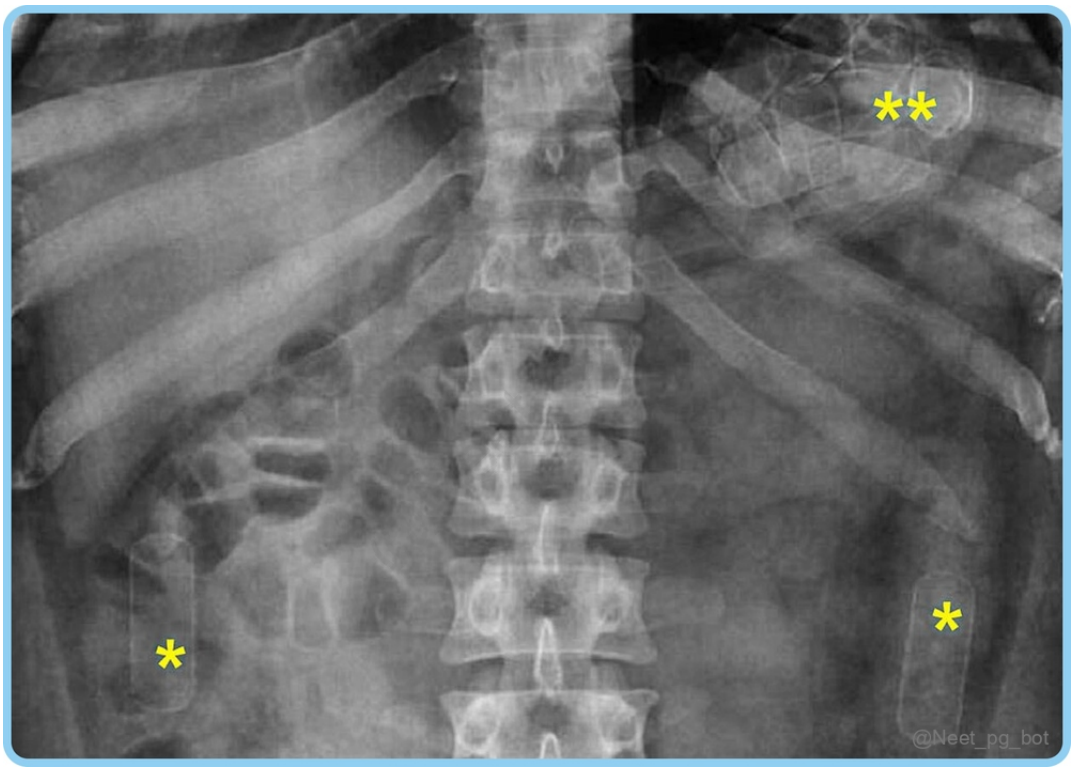
D. Do an urgent MRI



Correct Answer: C. Monitor and provide supportive care

- *Listen (English)*
- *Listen (Hindi)*

Explanation: X-ray is suggestive of an asymptomatic Heroin body packer . Most appropriate management would be to monitor and treat the patient symptomatically to excrete the packets. Body packers: Introduction People who illegally carry narcotic drugs (Cocaine/Heroin), either by swallowing or insertion in the vagina/rectum as sealed pellets/packages. Complications GI obstruction/hemorrhage (caused by packets) Packet rupture - Narcotic intoxication Imaging Abdominal X-ray (first-line) Ultrasound or CT Scan (if unclear) Management Asymptomatic Patient: Whole Bowel Irrigation (caution: potential rupture) Alternatives: Allow packages to move into the colon Administer Enemas (Low-Volume Phospho Soda Enemas/ High-Volume Saline Enemas) Avoid Food Ingestion: Until all packages are passed. Encouraging Gastric Emptying :Metoclopramide 10 mg, 8-hourly Symptomatic Patient: Continuous-infusion of Naloxone Whole bowel irrigation. Surgical intervention may be required.



References:

VV Pillay Modern Medical toxicology, Page 179

https://www.sciencedirect.com/science/article/abs/pii/S1752928X13000905#

↑ *Back to this question in Part A*

@Neet_pg_bot

Q5: A 40-year-old man is brought to the emergency department after taking an overdose of morphine. He is unresponsive with a respiratory rate of 6 breaths per minute. Which laboratory finding would you expect in this patient? (Q847005)

A. Elevated blood glucose levels

B. Hypoxemia

C. Metabolic alkalosis

D. Hypokalemia

Correct Answer: B. Hypoxemia

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Morphine, an alkaloid derived from opium, can cause hypoxemia . Morphine poisoning Mechanism of Action (MOA) Morphine is a μ-opioid receptor agonist in the CNS It inhibits adenylate cyclase → decreases cAMP → reduces neurotransmitter release (substance P, acetylcholine, norepinephrine) → causes analgesia, CNS depression, and respiratory depression . It also depresses the respiratory center in the medulla and reduces sensitivity to CO 2 Clinical Features (C/F) Classic triad: Pinpoint pupils (miosis) Respiratory depression Coma Other features: drowsiness, hypotension, bradycardia, hypothermia, cyanosis, decreased bowel motility (constipation), pulmonary edema, nausea, and vomiting Opioid Receptor Activation: Morphine binds to opioid receptors, particularly the mu-opioid receptors, which can influence various hormonal systems. This activation can lead to altered signaling pathways that may reduce gluconeogenic enzyme activity in the liver and can lead to hypoglycemia. Investigations (INV) Arterial blood gas: Respiratory acidosis Toxicology screening: morphine/opioids in blood or urine Pulse oximetry: Hypoxia Serum electrolytes: Hyperkalaemia occurs following an overdose, especially in the presence of rhabdomyolysis and acute renal failure and renal function tests to assess complications Chest X-ray: may show pulmonary edema Treatment (T/T) Airway management and oxygen Naloxone (opioid antagonist) is the specific antidote Ventilatory support if respiratory depression is severe Activated charcoal if ingestion is recent IV fluids and supportive care for hypotension and complications

References:

VV Pillay Modern Medical toxicology, Page 175-177

https://www.ncbi.nlm.nih.gov/books/NBK586388/#

↑ *Back to this question in Part A*

@Neet_pg_bot

Q6: A 24 year old female was brought to the emergency department in comatose state and on examination, the vitals were BP:80/40, HR:42/min, RR:8/min, Temperature 36 degree, Reflexes: sluggish, Miosis with conjunctival congestion, spO2:85%. Multiple skin scars were noted on her left forearm.The attenders gave a history of the frequent domestic strife and mood swings following which she would have a long unexplained absence from home. The duty doctor suspected drug abuse and started appropriate management. Which among the following chemical tests can be used for diagnosis in this case? (Q847001)

A. Marquis test

B. Marsh test

C. McNally’s test

D. Gutzeit test

Correct Answer: A. Marquis test

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: From the above clinical scenario,the triad of coma, pinpoint pupils, and respiratory depression is said to be almost pathognomonic for opiate poisoning . Such cases may be due to therapeutic overdose, accidental overdose (in addicts), or deliberate overdose (suicidal). The following tests are used for the diagnosis for opium poisoning (MDH): Test Purpose Principle / Result Marquis test Detects morphine, heroin, and opium alkaloids Produces purple/violet color with opiates Deninges test Confirms morphine presence Color reaction due to morphine derivatives Husemann test Specific confirmatory test for morphine Chemical oxidation reaction Marsh test (Option B): Used for the detection of Arsenic McNally's test (Option C): Used for the detection of Salicylates Gutzeit test (Option D): Used for the detection of Strychnine

References:

VV pillay Modern Medical Toxicology, Pages 175-177

Gautam Biswas Review of Forensic Medicine & Toxicology, Pages 513,538,539

↑ *Back to this question in Part A*

@Neet_pg_bot

Q7: All among the following are true regarding the image except: (Q846998)

A. Obtained from a plant called Paper somniferum

B. Extracted via vertical incision from unripe poppy

C. Addictive potential is due to its action on Kappa (κ) receptors

D. Pruritus is a common adverse effect



Correct Answer: C. Addictive potential is due to its action on Kappa (κ) receptors

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Opium Definition Narcotic (sleep-inducing) poison Synonyms Poppy, afim, kasoomba, madak chandu Source Papaver somniferum - an annual plant Toxic Part Opium is extracted from the unripe poppy capsule & latex juice Non-Toxic Part Seeds (khaskhas), used as a condiment in cooking Derivatives: Main narcotic constituents Natural Alkaloids Phenanthrene group: Morphine Codeine Thebaine Benzylisoquinoline group: Papaverine and Noscapine Semi-Synthetic Opioids - Produced by chemical modification of an opiate: Hydromorphone, diacetylmorphine (heroin, brown sugar, smack), oxymorphone, oxycodone Synthetic Opioids - Not derived from opiates but bind to opioid receptors: Methadone, fentanyl, pentazocine, tramadol, meperidine (pethidine) Mechanism of action (MOA) Exhibits action via 3 receptors mainly - Mu(μ), Delta(δ) and Kappa(κ) receptors and release Endorphins. Addictive potential is due to its action on Mu(μ) and Delta(δ) receptors Action on Kappa(κ) receptor causes dysphoria - no addictive potential Effects Tolerability, Addiction, Dysphoria (κ-receptor) Pruritus is a common adverse effect. Other effects: Constipation, Respiratory depression, Urinary retention. Tolerability is developed for all actions except: 3 Cs Constipation Convulsions Constriction of pupils (Miosis) Management Support vitals : Use a respirator and other emergency procedures. Decontamination : Stomach wash with 1:5000 KMnO■, leaving some solution in the stomach to oxidize any secreted alkaloid. Perform lavage even after IV/IM drug injection, as it is secreted in the stomach. Administer activated charcoal as the primary decontamination method. Enema with sodium sulfate twice daily. Whole-bowel irrigation for body packers. Antidote : Naloxone





References:

VV Pillay Modern Medical Toxicology, Page 173-175.

Parikh's Textbook of Medical Jurisprudence, Forensic Medicine and Toxicology, 8th Edition, Page 619

↑ *Back to this question in Part A*

@Neet_pg_bot

Q8: Patient was brought to ED after being bitten by a snake as shown below. Which of the following steps are part of management in this patient? 1) Immobilize the limb by applying crepe bandages 2) Cauterize the bite wound 3) No test dose to be given before starting ASV 4) Dose of ASV should be halved in children 5) ASV given until clotting time becomes normal (Q846993)

A. 1, 3

B. 3, 5

C. 2, 4, 5

D. 3, 4, 5



Correct Answer: B. 3, 5

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The snake shown in the image is a Russel's viper , which is hemotoxic. Immobilize the limb by applying crepe bandages (1): Pressure immobilization using crepe bandage (Sutherland wrap) is contraindicated in viper bites, including Russell's viper, due to risk of worsening local tissue necrosis. Cauterize the bite wound (2): Cauterization is not recommended because it causes additional tissue damage and infection. No test dose to be given before starting ASV (3): Current guidelines state that a test dose is unnecessary and not recommended before administering anti-snake venom. Dose of ASV should be halved in children (4): The dose of ASV is the same for adults and children because the amount of venom injected is independent of body weight. ASV is repeated until the clotting time becomes normal . ASV given until clotting time becomes normal (5): In viper bites, ASV administration is guided by coagulation parameters, particularly the 20-minute whole blood clotting test (WBCT). Treatment of snake bite: First Aid: Mnemonic ' CARRY NO RIGHT ' CARRY Do not allow the victim to walk on their own; they must be carried (in any form) to the hospital as soon as possible NO No Suction No Cautery No Ligature No Tourniquet RIGHT R: Reassure the patient I: Immobilize the limb: by application of crepe bandages (Sutherland wraps) GH: Get to the Hospital immediately T: Tell history/symptoms Pressure bandage Used for immobilization of the limb by application of crepe bandage - known as Sutherland wraps Contraindicated in viper bites Ideal pressure: 50-70 mm Hg ASV Mainstay of treatment. Used only when signs of systemic poisoning are present Polyvalent anti-snake venom (PAV) used in India can neutralize Cobra Krait Russel viper Saw-scaled viper bites Dose: 1-2 ml/kg (!0 vials) irrespective of sex/age Each vial neutralizes 6-8 mg of snake venom A test dose is not required/advised to be given before initiating ASV. Ideally to be given within 4 hours of a snake bite. To be given until clinical improvement (in cobra bites)/ Clotting time becomes normal (in viper bites). Adjuvant treatment Neostigmine 1.5mg: for neuroparalytic symptoms (cobra bite) . Atropine 0.5mg: To antagonize the muscarinic actions of Ach. Surgical debridement and FFP may be required in Viper bites.



References:

The Essentials of Forensic Medicine & Toxicology by KS Narayan Reddy, 35th Edition, Page 424-430

Parikh's Textbook of Medical Jurisprudence, Forensic Medicine and Toxicology, 8th Edition, Page 603

↑ *Back to this question in Part A*

@Neet_pg_bot

Q9: Which of the following snakes is known for its myotoxic venom? (Q846991)

A. King Cobra

B. Sea Snake

C. Russell’s Viper

D. Banded Krait

Correct Answer: B. Sea Snake

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Sea snake venom is highly myotoxic, causing significant muscle damage, which can lead to rhabdomyolysis and acute kidney injury. Clinical features of myotoxic snake venom: Common in Sea Snakes: Myotoxic venoms are characteristic of particularly sea snakes. Muscle necrosis (First finding): Myotoxic venoms cause direct damage to muscle fibers (skeletal muscle), leading to muscle cell death (necrosis). Rhabdomyolysis : Breakdown of muscle tissue results in the release of muscle contents, such as myoglobin, into the bloodstream. Elevated Creatine Kinase (CK): A marker of muscle damage, CK levels are significantly elevated in cases of myotoxic envenomation. Myoglobinuria : The release of myoglobin can overwhelm the kidneys, leading to myoglobin in urine, which can cause acute kidney injury. Muscle Weakness : Progressive muscle pain and weakness are common symptoms due to muscle breakdown. King cobra (Option A): Primarily neurotoxic. Russell’s Viper (Option C): Primarily vasculotoxic. Banded krait (Option D): Primarily neurotoxic.



References:

Goutam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Page 529

↑ *Back to this question in Part A*

@Neet_pg_bot

Q10: Which of the following is a key difference between neurotoxic and vasculotoxic snake venoms? (Q846983)

A. Neurotoxic venom local reaction is extensive and vasculotoxic venom local reaction is minimal

B. Tongue paralysis is seen in vasculotoxic snakes.

C. Neurotoxic venom leads to severe swelling at the bite site, while vasculotoxic venom causes respiratory paralysis.

D. Neurotoxic venom causes wet gangrene , while vasculotoxic venom causes dry gangrene.

Correct Answer: D. Neurotoxic venom causes wet gangrene , while vasculotoxic venom causes dry gangrene.

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Ophitoxaemia characterises the clinical spectrum of snakebite envenomation. Clinical features Neurotoxic snakes (Elapidae) Vasculotoxic (Viper) Causes muscular, weakness of legs and paralysis of muscles of face, throat and respiration. Causes enzymatic destruction of cell walls and coagulation disorders causing hemolysis. Ptosis: B/L drooping of eyelid -M/C DIC - Disseminated Intravascular Coagulopathy causing renal failure. Local reaction: Minimal (Option A) Local reaction: Extensive Tongue paralysis seen (Option B) Tongue not affected Descending paralysis, Respiratory paralysis with dysphagia, dysphonia and dysarthria. (Option C) Circulatory failure Wet gangrene, early onset (Option D) Dry gangrene, late onset Pulse: Initially normal, then irregular. Pulse: weak and irregular Coagulation not affected Coagulation with hemorrhagic manifestations Normal pupils Pupils dilated Hypersalivation Normal salivation Staggering gait Not affected specifically

References:

Goutam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Pages 527, 528.

↑ *Back to this question in Part A*

@Neet_pg_bot

Q11: Which of the following is not a physical feature of a poisonous snake? (Q846962)

A. Small belly scales

B. Small head scales

C. Long fang

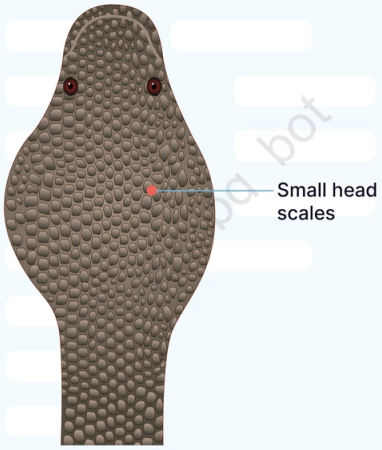
D. Compressed tail

Correct Answer: A. Small belly scales

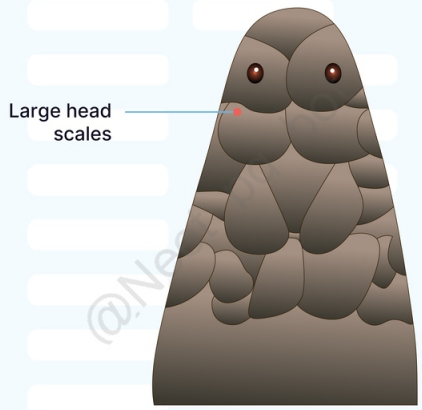
■ *Listen (English)*

■ *Listen (Hindi)*

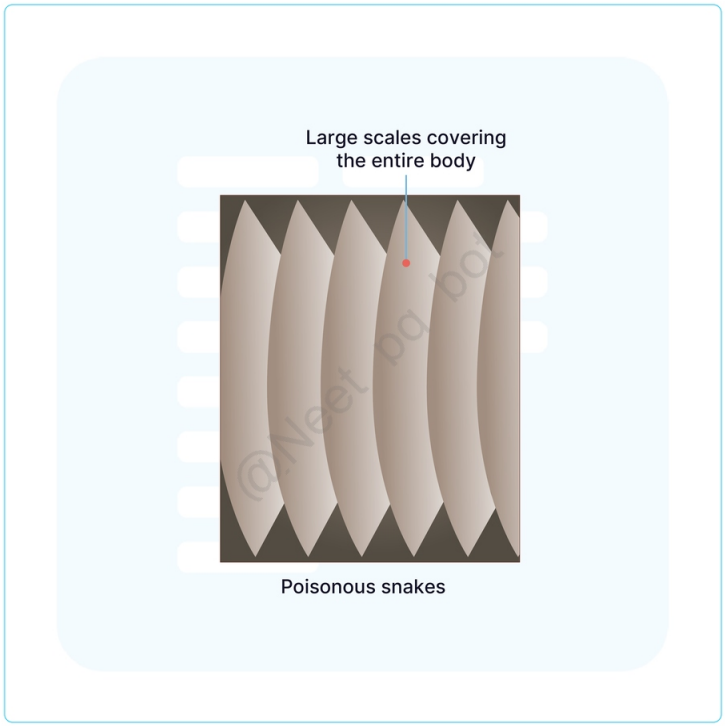
Explanation: Small belly scales are found in non-poisonous snakes Poisonous and non-poisonous snakes Poisonous snakes Non-poisonous snakes Head scales: Small, large scales seen with heat sensing pit antero-inferior to the eye. Head scales: Large with certain exceptions. Belly scales: Large and cover the entire breadth of belly. Belly scales: Small like those on the back and do not cover the entire breadth. Fangs: Long and canalized like a hypodermic needle. Fangs: Short and solid. Single row of scales. Double rows of scales. Tail compressed Tail not markedly compressed. Bite marks: Two fang marks, with or without small marks of other teeth. Bite marks: Number of small teeth marks in row. {{caption_text}}



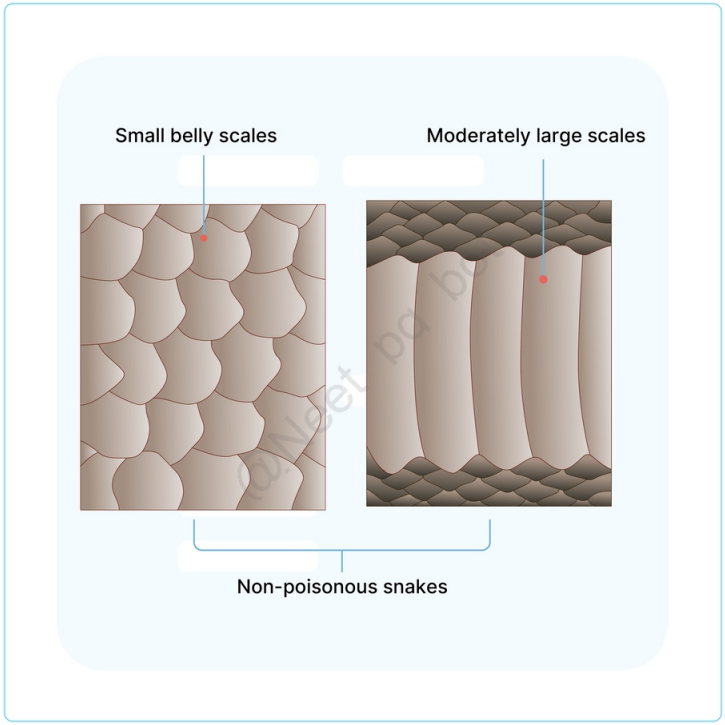
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References:

Goutam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Page 524-527

↑ *Back to this question in Part A*

@Neet_pg_bot

Q12: What is the mechanism of action of the poison found in these seeds (image)? (Q846903)

A. Stimulation of anterior horn cells of spinal cord

B. Inhibition of anterior horn cells of spinal cord

C. Stimulation of posterior horn of spinal cord

D. Inhibition of posterior horn of spinal cord



Correct Answer: A. Stimulation of anterior horn cells of spinal cord

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The seeds shown are from Strychnos nux-vomica , a poisonous plant commonly found in India. The active principle is strychnine , a powerful neurotoxin. Strychnine poisoning Strychnine poisoning It occurs only when the seeds are crushed or powdered , because the intact seeds have a very hard coat and usually pass through the gastrointestinal tract undigested . Therefore, toxicity typically occurs when the seeds are chewed or crushed

before ingestion . Source Seeds of Strychnos nux-vomica and other species of Strychnos plants found in India. Active Principle Strychnine (Potent spinal cord stimulant) Brucine (Less toxic alkaloid) Mechanism of Action Strychnine acts as a competitive antagonist of glycine receptors in the spinal cord and brainstem Normal physiology: Glycine is an inhibitory neurotransmitter in the spinal cord that suppresses reflex activity Strychnine blocks glycine receptors, removes normal inhibitory control of motor neurons and causes hyperexcitability of spinal reflexes which leads to powerful generalized muscle spasms Thus, strychnine stimulates the anterior horn cells of the spinal cord, producing exaggerated reflex activity Clinical Features Symptoms usually appear within 15–30 minutes of ingestion Anxiety and restlessness Increased reflex irritability Muscle stiffness Painful muscle spasms Opisthotonus Risus sardonicus Lockjaw (trismus) Consciousness preserved Death usually occurs due to respiratory muscle spasm or exhaustion Treatment Management focuses on controlling convulsions and preventing stimuli Diazepam/Barbiturates to control convulsions Muscle relaxants (e.g., pancuronium) to control severe spasms Dark quiet room to prevent stimulus-induced convulsions Activated charcoal Airway support and ventilation



References:

Parikh's Textbook of Medical Jurisprudence, Forensic Medicine and Toxicology, 8th Edition, Pages 666-667

↑ *Back to this question in Part A*

@Neet_pg_bot

Q13: Which of the following can cause priapism? (Q846958)

A. Spanish fly

B. Tumbu fly

C. Botfly

D. Screwworm fly

Correct Answer: A. Spanish fly

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Blister bees/Spanish fly/Cantharis vesicatoria/ Cantharide Active Principle Cantharidin Fatal dose: 10mg Action: Locally irritant and nephrotoxic agent Readily absorbed from all surfaces including skin Clinical features after skin contact Inflammation & Vesicle formation Clinical features on ingestion Burning in the mouth, throat, oesophagus, stomach, and abdomen Intense thirst, difficulty swallowing, and speaking Nausea, bloody vomiting, diarrhoea with blood and mucus Nephrotoxic effects: dull loin pain, desire to urinate, blood-stained urine Male: Priapism with frequent seminal emissions Female: Vulvar engorgement, possible abortion Severe cases: convulsions, coma, death Blister formation in contact areas within the alimentary tract Treatment Gastric lavage Demulcents(Not fat) Symptomatic treatment. Tumbu fly (Cordylobia anthropophaga) causes cutaneous myiasis , where the larvae penetrate the skin and develop in subcutaneous tissues. It produces boil-like skin lesions with a central punctum , but does not cause priapism . The condition mainly presents with painful nodules and discharge from skin lesions . (Option B) Botflies (Dermatobia hominis) also cause cutaneous myiasis , where larvae infest the skin forming furuncle-like lesions . Patients may feel movement of larvae inside the lesion , but systemic symptoms such as priapism are not associated with botfly infestation. (Option C) Screwworm flies (Cochliomyia species) cause wound myiasis , where larvae infest open wounds or necrotic tissue . The larvae feed on living tissue and can cause extensive tissue destruction , but they do not produce genitourinary irritation or priapism . (Option B)



References:

Goutam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Pages 533, 534

↑ *Back to this question in Part A*

@Neet_pg_bot

Q14: A forensic pathologist is conducting an autopsy on a 38-year-old male who died after an accidental exposure to hydrofluoric acid (HF) at an industrial plant. Which of the following postmortem findings is most characteristic of HF poisoning? (Q846956)

A. Cherry-red discoloration of the blood

B. Black tarry stool

C. Severe hypocalcemia and calcium deposits in tissues

D. Widespread gastric mucosal erosion

Correct Answer: C. Severe hypocalcemia and calcium deposits in tissues

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Hydrofluoric acid binds with calcium in the body, causing hypocalcemia and leading to the precipitation of calcium salts in tissues. This can be a characteristic finding in both clinical and postmortem evaluations of HF poisoning cases. Hydrofluoric Acid (HF) Chemical Properties Aqueous solution of hydrogen fluoride (HF) in concentrations from 0.5% (domestic) to 100% (industrial). Potent dehydrating agent; causes chemical burns. Sources and Uses Found in rust removers, detergents, cleaning agents. Used in glass etching, metal processing, fluorine compound production. Mechanism of Toxicity Corrosive: Hydrogen ions cause immediate tissue damage by coagulative necrosis. Fluoride ion toxicity: Fluoride ions penetrate tissues, leading to liquefactive necrosis and systemic toxicity. Routes of Exposure Dermal contact: Common, causes severe burns. Inhalation: Leads to respiratory distress. Ingestion: Causes gastrointestinal burns. Symptoms Dermal burns: Severe pain, redness, necrosis (may be delayed). Ocular injury: Conjunctivitis, corneal erosion, possible vision loss. Respiratory issues: Coughing, dyspnea, pulmonary edema (from inhalation). Gastrointestinal distress: Nausea, vomiting, abdominal pain (from ingestion). Neuromuscular: Confusion, seizures due to electrolyte imbalances (hypocalcemia, hyperkalemia). Autopsy Findings Severe burns in esophageal and gastric mucosa. Hyperemic lesions in the renal tubular system. Necrotic lesions in cardiac muscle. Management Promptly rinse the area with water or saline for at least 30 minutes. Apply 2.5% calcium gluconate gel every 10-15 minutes until pain subsides. Severe cases may require intravenous calcium gluconate, airway support, and monitoring of electrolytes in an ICU setting. Cherry-red discoloration of the blood (Option A): This is typically associated with carbon monoxide poisoning, not HF poisoning. Black tarry stool (melena) (Option B) : Melena is associated with upper gastrointestinal bleeding, which is unrelated to HF poisoning. Widespread gastric mucosal erosion (Option D): This finding is more typical of ingestion of strong acids or corrosives but is not specific to HF poisoning.

References:

https://www.ncbi.nlm.nih.gov/books/NBK441829/

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4098557/

N S Narayana Reddy and OP Murty, The Essentials of Forensic Medicine & toxicology, 35th Edition, Page 406

↑ *Back to this question in Part A*

@Neet_pg_bot

Q15: A 32-year-old man is found unconscious with a strong odor of antiseptic on his breath. He is rushed to the emergency department where he develops hypotension and renal failure. On examination, his angle of mouth is stained gray, and he has burns on his esophagus. The patient had a history of greenish discoloration of urine. What is the most likely cause of these findings? (Q846943)

A. Oxalic acid poisoning

B. Sulfuricacid poisoning

C. Carbolicacid poisoning

D. Nitricacid poisoning

Correct Answer: C. Carbolicacid poisoning

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Carbolic acid (phenol) poisoning presents with Gray/brown corrosions on mouth, esophageal burns, a strong antiseptic odor, CNS depression, hypotension and renal failure due to its toxic effects on the central nervous system, cardiovascular system and kidneys. Phenol Poisoning (Carbolism) Physical Properties Colorless, crystalline, turns pink on air exposure; slightly acidic, forms phenolate ion (C6H5O{). Uses Antiseptic/disinfectant; Lysol (50% cresol), Dettol (chlorinated phenol with turpineol). Fatal Dose 1-2 g phenol or 25-50 ml of household phenol. Fatal Period 3-4 hours. Tissue Discoloration Can lead to ochronosis (bluish-black discoloration in tissues like ears and sclera). Signs and symptoms Local Effects: Tingling → numbness → coagulation necrosis → painless white eschar, which turns brown and sloughs off Gastrointestinal: Initial burning/tingling, later anesthesia; diarrhea and abdominal pain, and vomiting Respiratory: Phenol odor on breath, laryngeal/pulmonary edema, stertorous breathing, cyanosis Metabolized by kidneys into hydroquinone/pyrocatechol; causes carboluria (dark green urine) Cardiovascular (CVS): Rapid, feeble, irregular pulse; cold, clammy skin; collapse, unconsciousness, coma Muscular: Muscle spasms, convulsions CNS: Headache, giddiness, tinnitus, contracted pupils Renal: Dark smoky green color of urine Postmortem Findings External: Gray/brown corrosion on mouth, body, hands; phenolic odor, delayed putrefaction due to antiseptic properties of phenol Internal: Leather bottle stomach appearance due to protein coagulation, corroded GIT

mucosa, pulmonary edema, hemorrhagic nephritis Medico-legal Aspects Used in suicides, accidental poisoning, rare for homicides (strong odor/taste), abortifacient. Management Decontamination: Gastric lavage can be done Adsorbents: Activated charcoal Neutralization: Vegetable oils or glycerin may reduce phenol absorption Supportive care: IV fluids, oxygen, correction of hypotension Renal protection: Maintain urine output Symptomatic treatment: Manage seizures, shock, and respiratory distress

References:

Goutam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Page 486, 487

Parikh's Textbook of Medical Jurisprudence, Forensic Medicine and Toxicology, 8th Edition, Page 557

↑ *Back to this question in Part A*

@Neet_pg_bot

Q16: A forensic pathologist is performing autopsies on two individuals who died from chemical poisoning. One case involves nitric acid and the other oxalic acid. Which of the following postmortem findings is most consistent with oxalic acid poisoning rather than nitric acid poisoning? (Q846942)

A. Yellow discoloration of the skin with congestion of the larynx and trachea

B. Perforation of stomach

C. Soft, friable stomach wall with ulceration

D. Gelatinous brown stomach content with swollen, congested kidneys showing necrosis

Correct Answer: D. Gelatinous brown stomach content with swollen, congested kidneys showing necrosis

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Oxalic acid causes hypocalcemia, renal stones, and renal damage, resulting in swollen, congested kidneys with tubular necrosis, along with gelatinous brown content in the stomach. Feature HNO■ (Nitric Acid) Oxalic Acid Physical Properties Colorless, pungent, choking, burning taste, fuming Colorless, transparent, prismatic crystals resemble MgSO■ and ZnSO■ Fatal Period 12–24 hours 1–2 hours (may extend to 2 days–2 weeks with renal failure) Signs and Symptoms Oropharyngeal burns, pain in throat and epigastrium Dysphagia, dyspnea, dysphonia Eructation, vomiting Thirst Fulminating: Immediate symptoms, coffee-ground vomiting, severe thirst, diarrhea, electrolyte imbalance, death within minutes Acute: Tingling, numbness, tetany, convulsions, renal failure Delayed: Nephritis, oxaluria, renal failure Vomitus Acidic, contains altered blood and mucous Coffee-ground vomitus Teeth Yellowish coating, not brittle No specific change Urination & Tenesmus Present Renal stones, renal failure, scanty urine, oxaluria Abdominal Findings Abdominal distension due to gas Tenderness Stiffness (due to distension) Burning pain, abdominal distension Skin and Mucosa Erosion Yellow

discoloration over angles of mouth, lips, and fingers No external findings Mucosal bleaching, corrosion in mouth, esophagus, and stomach Perforation of Stomach Less common No perforation, gelatinous brown content in stomach (Option D) (Option B ruled out) Postmortem Findings (Option A and D ruled out) Yellow discoloration of skin Congestion of larynx, trachea Soft, friable stomach wall, ulcerated Bleached mucosa (mouth, pharynx, esophagus) Red, velvety, or blackish stomach wall Swollen, congested kidneys with necrosis Medico-Legal Aspects Accidental or suicidal , homicide is rare Usually accidental (mistaken for MgSO■) , rare in suicides or homicides, occasionally used as an abortifacient Immediate management Dilution with water or milk if the patient is conscious Immediate calcium administration (calcium gluconate or calcium chloride) Gastric lavage Contraindicated (risk of perforation in corrosive poisoning) Early gastric lavage with lime water or calcium solution may be used to precipitate oxalate Specific antidote No specific antidote Neutralizing agent - Mild alkaline solutions (milk, antacids) to dilute acid Calcium gluconate/Calcium chloride - Calcium salts bind oxalic acid and form insoluble calcium oxalate Supportive treatment Airway protection, IV fluids, analgesics, treatment of shock IV fluids, correction of hypocalcemia , management of renal failure Complications Esophageal strictures, perforation, mediastinitis Acute kidney injury due to oxalate crystal deposition

References:

Goutam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Page 482, 483, 485, 486

↑ *Back to this question in Part A*

@Neet_pg_bot

Q17: A 40 year old man was found unconscious at home, with an open container of unknown acid nearby. He was rushed to the ER but died shortly after arrival. During autopsy, the police surgeon notes several injuries consistent with corrosive ingestion along with chalky white, brittleteeth. Which forensic finding would solidify the above finding in this case? (Q846914)

A. Bright red lividity

B. Blackish staining and necrosis of the lips and mouth

C. Greenish discoloration of the skin

D. Yellowish staining and necrosis of the lips and mouth

Correct Answer: B. Blackish staining and necrosis of the lips and mouth

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Sulfuric acid is highly corrosive and can cause characteristic blackish burns, particularly on the mucosal surfaces, such as the lips and mouth along with chalky white, brittle teeth. This is a key forensic finding in sulfuric acid ingestion cases. Sulfuric Acid (H■SO■) Signs and Symptoms Burning sensation and pain in the throat and epigastric region. Dysphagia, dyspnea, dysphonia Eructation and vomiting: Frequent belching and

vomiting. Thirst: Present (worsened vomiting by drinking fluids) Vomitus: Strongly acidic, contains altered blood and mucous shreds. Teeth: Become chalky white and brittle. Constipation: Usually present. Urination: Suppressed. Tenesmus present Nature of stool: Presence of mucus and altered blood. Tenderness over the abdomen Abdominal stiffness due to peritonitis Abdominal distension: Uncommon. Skin and mucous membrane erosion: Especially on the mouth, lips, and fingers; blackening and excoriation occur. Stomach Perforation: Frequently seen. Cause of Death Shock, stomach perforation, peritonitis, laryngeal spasm, and malnutrition from esophageal stricture. Postmortem Findings Erosion of skin and mouth angles, black charring of the stomach, stomach perforation, and swelling in the liver and kidneys. Perforation of stomach Thinning of posterior wall of the stomach Medico-Legal Aspects Often occurs accidentally (mistaken for glycerin) or in suicide cases. Rarely associated with homicide. May be used as an abortifacient or for vitriolage (acid attacks). Bright red lividity (Option A): This is typically associated with carbon monoxide poisoning, not sulfuric acid poisoning. Greenish discoloration of the skin (Option C): This is more typical of certain copper compounds , not sulfuric acid poisoning.. Yellowish staining and necrosis of the lips and mouth (Option D): This is typically associated with nitric acid poisoning.





References:

Goutam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Pages 482, 483

↑ *Back to this question in Part A*

@Neet_pg_bot

Q18: In cases of poisoning by corrosive substances, gastric lavage can be performed in which of the following situations? A) Sulphuric acid poisoning B) Hydrochloric acid poisoning C) Carbolic acid (Phenol) poisoning D) Ammonia poisoning E) Oxalic acid poisoning (Q846913)

A. All except D

B. All except A and B

C. Only C and E

D. Only E

Correct Answer: C. Only C and E

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Gastric lavage can be performed with caution for carbolic acid (Phenol) poisoning using lukewarm water, charcoal, olive oil, or magnesium sulfate. Care is taken to prevent further absorption of the corrosive substance. In oxalic acid poisoning, gastric lavage with calcium lactate (2 tsp/lavage) is done Type of Poison Management Mineral Acids (Sulphuric acid, Nitric acid, Hydrochloric acid) Avoid gastric lavage/emetics. Give milk or water for dilution. Administer aluminum hydroxide gel (4 tbsp). Provide demulcents (milk, egg white, olive oil, etc.). Avoid bicarbonate/neutralizers. Prednisolone 60 mg/day in divided doses. Treat shock with IV fluids, blood, antibiotics (if perforation). Tracheostomy for glottic edema. NPO for 1 week → IV nutrition → gradual oral intake. Morphine for pain; symptomatic care Organic Acids Oxalic Acid Gastric lavage with calcium lactate (2 tsp/lavage). Antidotes: Limewater, calcium lactate, calcium gluconate/chloride (150 mg/kg orally) to form insoluble calcium oxalate for excretion. Calcium gluconate: 10 ml of 10% solution IV frequently. Parathyroid extracts: 100 units IM. Bowel management: Demulcent drinks, enemas, purgatives. Hemodialysis/exchange transfusion if needed. Symptomatic treatment. Carbolic Acid (Phenol) Gastric lavage (done with caution) with lukewarm water, charcoal, olive oil, $MgSO_4$, or Na_2SO_4. Leave medicinal liquid paraffin or 30 g $MgSO_4$ in the stomach after lavage. Provide demulcents. IV saline with 7 g $NaHCO_3$/l to manage circulatory depression, dilute carbolic acid and promote diuresis. If phenol contacts the skin: Remove contaminated clothing, wash with soap and water, and apply olive oil/methylated spirit. Emetics have a limited role. Alkalis Gastric lavage/emetics contraindicated. Immediately dilute with water. Give demulcents (egg white, milk). Administer O_2 inhalation in case of ammonia vapor poisoning Maintain airway, tracheostomy if needed. Administer parenteral analgesics and antibiotics. Steroids contraindicated if esophageal perforation is present. Note: Alkali will cause liquefactive necrosis-more toxic Acid will cause coagulative necrosis

References:

Goutam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Page 483, 485, 487

↑ *Back to this question in Part A*

@Neet_pg_bot

Q19: What is the mechanism of action of the toxin present in this plant? (Q846910)

A. Causes extrasystoles

B. Paralyses respiratory muscles

C. Causes CNS depression

D. CNS hyperexcitation



Correct Answer: A. Causes extrasystoles

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The given plant is Digitalis Purpurea, which In toxic doses, increases cardiac excitability and causes extrasystoles. Digitalis Purpurea (Foxglove): Source Digitalis purpurea (Foxglove plant) Poisonous parts Leaves, roots, and seeds Active principles Digoxin, Digitoxin, Digitalin, Digitalein, Digitonin Target organ Heart (cardiac muscle) Mechanism of action Inhibition of Na■/K■ ATPase pump in cardiac myocytes, which causes increased intracellular Na■ , which reduces the activity of the Na■/Ca²■ exchanger . As a result, intracellular Ca²■ increases , leading to enhanced myocardial contractility (positive inotropic effect) Digoxin also increases vagal tone , which slows AV nodal conduction Net effects on the heart Positive inotropic effect – increased cardiac contractility Negative chronotropic effect – decreased heart rate Negative dromotropic effect – slowed AV conduction Mechanism of Toxicity Excess intracellular calcium leads to delayed after-depolarizations , increasing myocardial excitability . This results in ectopic beats and arrhythmias , particularly extrasystoles (premature ventricular contractions) . Thus, the toxin in digitalis poisoning causes extrasystoles due to increased cardiac excitability . Treatment ECG monitoring Gastric lavage with tannic acid solution Activated charcoal Purgatives if needed Atropine for bradycardia Potassium chloride to reduce extrasystoles Lignocaine, novocaine, or propranolol for cardiac arrhythmias Trisodium EDTA may help lower serum calcium Specific Antidote: Digoxin-specific antibody fragments (Digoxin immune Fab – Digibind / DigiFab) These antibodies bind free digoxin in the bloodstream , forming inactive complexes that are excreted by the kidneys . Indicated in life-threatening arrhythmias, severe hyperkalemia, or severe digoxin toxicity .

References:

Goutam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Page 578

↑ *Back to this question in Part A*

@Neet_pg_bot

Q20: Given is the image of a poisonous plant. Which part of this plant is poisonous? (Q846908)

A. Flower

B. All parts

C. Root

D. Seed



Correct Answer: B. All parts

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Given is the image of Cerbera Thevetia (Yellow Oleander, Pila Kaner); all of its parts are poisonous. Feature Yellow Oleander Pink Oleander Botanical name Thevetia peruviana / Cerbera thevetia Nerium oleander Common names Yellow oleander, Pila Kaner , Lucky nut tree Pink oleander, Kaner, Rose bay Poisonous parts All parts of the plant are poisonous (especially seeds) (Option B) All parts are poisonous Active principles Cardiac

glycosides: Thevetin A & B, Thevotoxin, Cerberin, Peruvoside Cardiac glycosides: Oleandrin, Neriine, Digitoxigenin-like glycosides Mechanism of action Digitalis-like effect → inhibition of Na■/K■ ATPase → increased intracellular calcium → cardiac arrhythmias Same cardiac glycoside action → inhibition of Na■/K■ ATPase, causing cardiotoxicity Toxic dose 1–2 crushed seeds may cause severe poisoning Small amounts of leaves/flowers can cause toxicity Local effects Sap causes skin and eye irritation Similar irritant effect on skin and mucosa Early symptoms Burning in mouth, tingling of tongue, dry throat, nausea, vomiting, diarrhea Nausea, vomiting, abdominal pain, diarrhea Cardiac manifestations Bradycardia, heart block, irregular pulse, hypotension Arrhythmias, heart block, bradycardia , ECG changes Neurological features Drowsiness, dizziness, muscle weakness Weakness, confusion Cause of death Fatal cardiac arrhythmia or circulatory failure Fatal arrhythmias due to cardiac glycoside toxicity Treatment Gastric lavage, activated charcoal, atropine for bradycardia, correction of electrolyte imbalance, digoxin-specific Fab antibodies in severe cases Same management: gastric decontamination, atropine for bradycardia, antiarrhythmics, digoxin Fab antibodies in severe poisoning



References:

Goutam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Pages 579-580

↑ *Back to this question in Part A*

@Neet_pg_bot

Q21: Which of the following statements on aconite is false? (Q846906)

A. All parts of the plant are poisonous

B. Easily detected postmortem

C. Affects voltage-sensitive sodium channels

D. 1-2 g of root is lethal

Correct Answer: B. Easily detected postmortem

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Aconite is difficult to detect postmortem Aconite: Species Aconitum napellus, Aconitum ferox Synonyms Monk’s hood , mitha zaher, bish, wolf’s bane, women’s bane, devil’s helmet, or blue rocket Source All parts of the plant are poisonous (Option A ruled out) Root and root tubers are the most potent (often mistaken for horseradish root) Active Principles Aconitine, pseudo-aconitine, indaconitine, picraconitine, aconine. Mechanism of Action Affects voltage-sensitive sodium channels, stimulates then paralyzes sensory nerves, secretory nerves, CNS, and myocardium. (Option C ruled out) Symptoms (by system) GIT: Nausea, vomiting, diarrhea, oral tingling,numbness. CVS: Hypotension, bradycardia, VT/VF. CNS: Vertigo, headache, restlessness. MS: Weakness, spasms. RS: Slow, labored breathing. Ocular: Hippus, diplopia, blurred vision. Others: Cold skin, yellow-green vision, tinnitus, facial paralysis. Death: Respiratory failure or VF. Fatal Dose Root: 1-2 g. (Option D ruled out) Treatment No specific antidote. Gastric lavage with tannic acid/activated charcoal. Inotropic therapy for hypotension, atropine for bradycardia. Ventricular arrhythmia treated with amiodarone, flecainide; cardiopulmonary bypass for refractory cases. Medico-legal Aspects Ideal homicidal poison: cheap, easily available, small lethal dose, short fatal period, difficult to detect postmortem. (Option B) Accidental poisoning: mistaken for horseradish





References:

Goutam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Page 576-577

↑ *Back to this question in Part A*

@Neet_pg_bot

Q22: Which of the following statements on strychnine poisoning is wrong? (Q846904)

A. Rigor mortis sets in late

B. Delayed putrefaction

C. Strychnine can be detected in putrefied bodies and viscera

D. Brain and spinal cord should be preserved for analysis

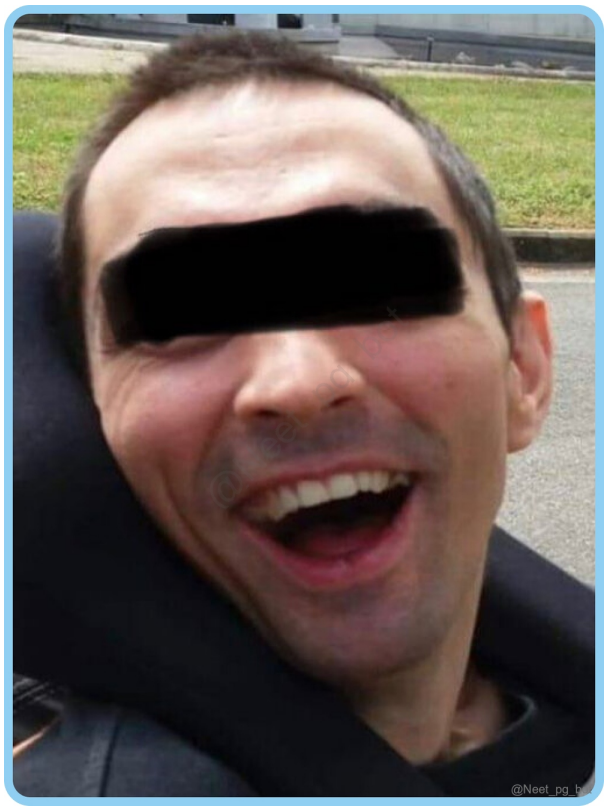
Correct Answer: A. Rigor mortis sets in late

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: In the case of Strychnine poisoning, rigor mortis sets in early Clinical Features Opisthotonos - arched body with only the back of the head and heels touching the ground: Emprosthotonos- forward curve Pleurothotonus- sideways curve Risus sardonicus- fixed grin: Treatment - Immediate Care: Place in a dark, quiet room. - Anesthesia: Chloroform or intravenous barbiturate if spasms allow. - Adsorption: Administer animal charcoal to absorb free strychnine, or tannic acid if charcoal is unavailable. - Antidotes: Intravenous barbiturates to stop convulsions. - Muscle relaxants: Mephenesin, intravenous diazepam for anticonvulsant effects. Autopsy Findings - Rigor mortis: Sets in almost immediately (Option A) and passes off early. - Stomach contents: Remains of seeds may be found. - Delayed putrefaction. (Option B ruled out) - Toxicological analysis: Strychnine can be detected in putrefied bodies and viscera (Option C ruled out) ; brain and spinal cord should be preserved for analysis. (Option D ruled out)





References:

Parikh's Textbook of Medical Jurisprudence, Forensic Medicine and Toxicology, 8th Edition, Page 666-668

↑ *Back to this question in Part A*

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• [11_Forensic Toxicology] 024 Forensic Toxicology 2

« Back to Folder Directory

[11_Forensic Toxicology] 024 Forensic Toxicology 2 — Quick Jump

Q1 (p. 1094)	*Q2 (p. 1095)*	*Q3 (p. 1096)*	*Q4 (p. 1097)*	*Q5 (p. 1098)*	*Q6 (p. 1098)*
Q7 (p. 1100)	*Q8 (p. 1101)*	*Q9 (p. 1103)*	*Q10 (p. 1105)*	*Q11 (p. 1110)*	*Q12 (p. 1116)*
Q13 (p. 1119)	*Q14 (p. 1120)*	*Q15 (p. 1121)*	*Q16 (p. 1127)*	*Q17 (p. 1129)*	*Q18 (p. 1130)*
Q19 (p. 1131)	*Q20 (p. 1132)*	*Q21 (p. 1133)*	*Q22 (p. 1135)*	*Q23 (p. 1138)*	*Q24 (p. 1138)*
Q25 (p. 1140)					

Q1: A 30 year old construction manager presented with persistent abdominal pain, nausea, fatigue, and episodes of vomiting and diarrhoea over several months. His symptoms progressively worsened, and he developed skin changes, including darkening and hyperkeratosis on his palms and soles. Blood tests confirmed heavy metal poisoning. Which of the following is the preferred test and treatment for this condition? (Q847195)

A. Neutron activation analysis and Naloxone

B. Marsh test and BAL

C. Atomic absorption spectroscopy and BAL

D. Gutzeit test and Naloxone

Correct Answer: C. Atomic absorption spectroscopy and BAL

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The scenario presents a case of Arsenic Poisoning , which can be detected using atomic absorption spectrometry and neutron activation analysis. Management involves the use of BAL (dimercaprol) , while Naloxone serves as the antidote for opioid poisoning. Mechanism of Toxicity (MOA) Inhibition of sulfhydryl (-SH) containing enzymes: Inactivates key enzymes of cellular respiration Inhibition of pyruvate dehydrogenase: Blocks oxidative phosphorylation and ATP production Interference with mitochondrial enzymes: Leads to cellular energy failure Binding to keratin-rich tissues: Accumulates in hair, skin, and nails causing dermatologic manifestations Clinical Features: Gastrointestinal: Severe abdominal pain, nausea, vomiting, profuse diarrhea (“rice water stools”) Skin changes: Hyperpigmentation (“raindrop pigmentation”) , hyperkeratosis of palms and soles Neurological: Peripheral neuropathy, paresthesia, weakness Cardiovascular: Hypotension, arrhythmias in severe toxicity Hematological: Anemia, leukopenia Chronic exposure signs: Mee’s lines (transverse white lines on nails), skin thickening Other features: Fatigue, weight loss, multisystem involvement Investigations of Arsenic

Poisoning Tests The following tests estimate the concentration of arsenic in hair, bone, and nails: Neutron activation analysis (NAA) (Option A) Atomic absorption spectroscopy (AAS) (Option C) The following tests are obsolete now: Marsh test (Option B) Reinsch test Gutzeit test (Option D) Urine levels >50 microns in 24 hours indicates arsenic poisoning (Best) Blood level Serum arsenic > 0.9 µg/dl Hair level Best sample: Pubic hair (used for long-term exposure detection). Radiography Abdominal X-ray : May show arsenic presence in the gastrointestinal tract in cases of acute poisoning. Management of Arsenic Poisoning Supportive treatment Gastric lavage, airway, breathing, and circulation management (intravenous fluids, cardiac monitoring, etc.). Medical treatment Freshly prepared hydrated ferric oxide (chemical antidote) Chelating agents BAL (Dimercaprol) (Option C) DMSA (Dimercapto succinic acid) or DMPS (Dimercapto propane sulfonic acid) Penicillamine Other measures Purgatives like Castor oil or Magnesium sulfate (remove unabsorbed poison from the intestine). Glucose-saline with sodium bicarbonate. Hemodialysis or exchange transfusion.

References:

Essentials of Forensic Medicine and Toxicology, KS Narayan Reddy, 35th Edition, Pages 408-410

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Pages 490, 491

Modern Medical Toxicology, by VV Pillai, 4th Edition, Pages 79-82

↑ *Back to this question in Part A*

@Neet_pg_bot

Q2: A 39 year old man presents to the emergency department after consuming homemade alcohol, showing headache, dizziness, nausea, vomiting, blurred vision, confusion, and metabolic acidosis. Methanol poisoning is suspected, and treatment with fomepizole is initiated. Which mechanism explains how fomepizole mitigates methanol toxicity? (Q847207)

A. It is a competitive inhibitor to Methanol

B. Increases the excretion of Formic acid

C. Used in treating Metabolic acidosis

D. It inhibits alcohol dehydrogenase

Correct Answer: D. It inhibits alcohol dehydrogenase

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Fomepizole, also known as 4-methylpyrazole, is a competitive inhibitor of alcohol dehydrogenase . It works by preventing the formation of formaldehyde and formic acid, which are toxic metabolites of methanol. Methanol Poisoning Other names for methanol Wood Alcohol/ Illicit Alcohol Hooch Tragedy It refers to mass

poisoning and deaths caused by the consumption of illicitly prepared alcohol contaminated with methanol. These incidents commonly occur when cheap homemade liquor (country liquor/illicit alcohol) is adulterated with methanol or industrial alcohol to increase potency or volume. Absorption and Metabolism Absorbed through the stomach, intestine, also lungs and skin Alcohol dehydrogenase helps in forming Formaldehyde from Methanol Formic acid from Formaldehyde Action It is a CNS depressant and causes high serum osmolality Formic acid is responsible for Metabolic acidosis and Retinal Toxicity Symptoms Initially similar to ethanol poisoning Severe Abdominal cramps (early symptom) Neck Stiffness Vertigo Dilated and fixed pupils Muscle Weakness Snowfield Vision and Optic neuritis Cardiac and CNS depression Coma Severe Metabolic Acidosis (Common cause of death) Treatment Gastric Lavage with 5% bicarbonate solution Activated Charcoal Antidote : Ethanol - Competitive inhibitor to Methanol Fomepizole - Competitive inhibitor of alcohol dehydrogenase Folinic or Folic acid : Increases excretion of Formic acid Sodium Bicarbonate: To manage acidosis Hemodialysis: Treatment of choice in severe poisoning

References:

Essentials of Forensic Medicine and toxicology, KS Narayan Reddy, 35th Edition, Pages 441, 442

Gautam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Pages 554, 555, 556

↑ *Back to this question in Part A*

@Neet_pg_bot

Q3: A 35 year old male presents with confusion, disorientation, nystagmus and impaired vision with a history of chronic alcoholism. On examination, he had ataxia and ophthalmoplegia. What is the likely condition that is causing these symptoms? (Q847206)

A. Mallory-Weiss Syndrome

B. MarChiafava's Syndrome

C. Korsakoff Psychosis

D. Wernicke's Encephalopathy

Correct Answer: D. Wernicke's Encephalopathy

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Wernicke's encephalopathy is characterised by a triad of Disorientation, ophthalmoplegia, and polyneuropathy (ataxia) due to thiamine (Vitamin B1) deficiency , commonly seen in chronic alcoholics. Chronic Alcoholism Manifestations Wernicke's Encephalopathy Caused by Thiamine Deficiency Mammillary bodies, medial thalamus, periaqueductal gray, floor of 4th ventricle are affected Symptoms Global confusion, ataxia and Apathy (early symptoms) Polyneuropathy Ophthalmoplegia Disorientation, recent memory loss and loss of

attention span Rx - IV Thiamine followed by oral thiamine. Korsakoff Psychosis (Option C) Caused by untreated Wernicke's Encephalopathy Mammillary bodies and the dorsomedial nucleus of the thalamus are affected Symptoms Confabulation Retrograde and Anterograde Amnesia Difficulty in learning new things Severe Disorientation. Rx - IV Thiamine followed by oral thiamine MarChiafava's Syndrome (Option B) Corpus callosum (especially body and splenium) is degenrated Symptoms Intellectual Disorientation Epilepsy, Ataxia Dysarthria Hallucinations Spastic paralysis of the limb Dementia Rx: Thiamine supplementation (especially in alcohol-related cases), antiepileptic drugs for seizures, and supportive therapies like physical and speech therapy for motor and speech deficits. Alcohol Paranoia Paranoid delusions are present with no hallucinations Mallory Weiss Syndrome (Option A) It involves tears in the esophageal mucosa caused by severe vomiting or retching, which can lead to gastrointestinal bleeding and mediastinitis.

References:

Essentials of forensic medicine and toxicology, KS Narayan Reddy, 35th edition, Page no 440

Gautam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Page 548

↑ *Back to this question in Part A*

@Neet_pg_bot

Q4: A 45 year old man with a history of chronic alcohol use presents to the emergency department after abrupt cessation of drinking for three days. He exhibits agitation and tremors. On examination, he has diaphoresis. Which of the following symptoms may also occur in alcohol withdrawal 72 hours after cessation? (Q847205)

A. Hypotension

B. Severe Bradycardia

C. Sedation

D. Disorientation

Correct Answer: D. Disorientation

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The above-mentioned symptoms and timeline align with Delirium Tremens, which is common 2 to 4 days after complete cessation of alcohol in chronic alcoholics. Alcohol Withdrawal Symptoms Symptom Time since the last drink

References:

Essentials of forensic medicine and toxicology, KS Narayan Reddy, 35th edition, Page no 440 Gautam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Page 570 Modern Medical Toxicology, by VV Pillai,

4th Edition, Page 187, 188

↑ *Back to this question in Part A*

@Neet_pg_bot

Q5: A 32-year-old male weighing 100 kg was arrested for disorderly conduct at a market. Upon questioning, he confesses to consuming 100 grams of alcohol. Using the Widmark formula, calculate his Blood Alcohol Concentration (BAC). (The Widmark constant for men is 0.68) (Q847204)

A. 167 mg%

B. 127 mg%

C. 137 mg%

D. 147 mg%

Correct Answer: D. 147 mg%

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Widmark Formula is A = PCR A - Weight of alcohol P - Body weight C - Blood Alcohol Concentration R - is a constant (Fat- water ratio), Men - 0.68, Women - 0.55 Alcohol Consumed = 100 g Body Weight = 100 kg r (Widmark factor for men) = 0.68 Now, substitute the values into the formu la: C = A/ PR = 100g/ 1,00,000g x 0.68 = 100/ 68000 g/ml = 0.00147 g/ml. 0.00147 g/ml = 0.00147/ 100 g% = 0.147 g% = 0.147/1000 mg% = 147 mg% Widmark's Formula is widely used in Blood alcohol analysis for multiple purposes using the type of alcohol, Sex of the person and body weight. The widmark formula for Urine = ¾ PCR Blood is the commonly used means to calculate the level of alcohol consumption and intoxication, other than Breath, Urine, and Saliva. Preservatives used while collecting blood are Sodium fluoride Potassium oxalate

References:

Essentials of forensic medicine and toxicology, KS Narayan Reddy, 35th edition, Page 439, 438, 437

↑ *Back to this question in Part A*

@Neet_pg_bot

Q6: A 28 year old male was brought to the ED after multiple episodes of vomiting, confusion, and irritability following alcohol consumption at a party. He had a flushed face, sensory impairment, and a heart rate of 105. He was suspected to be in the 2nd

phase of intoxication. What is the likely blood alcohol concentration (BAC)? (Q847203)

A. 100 mg%

B. 300 mg%

C. 80 mg%

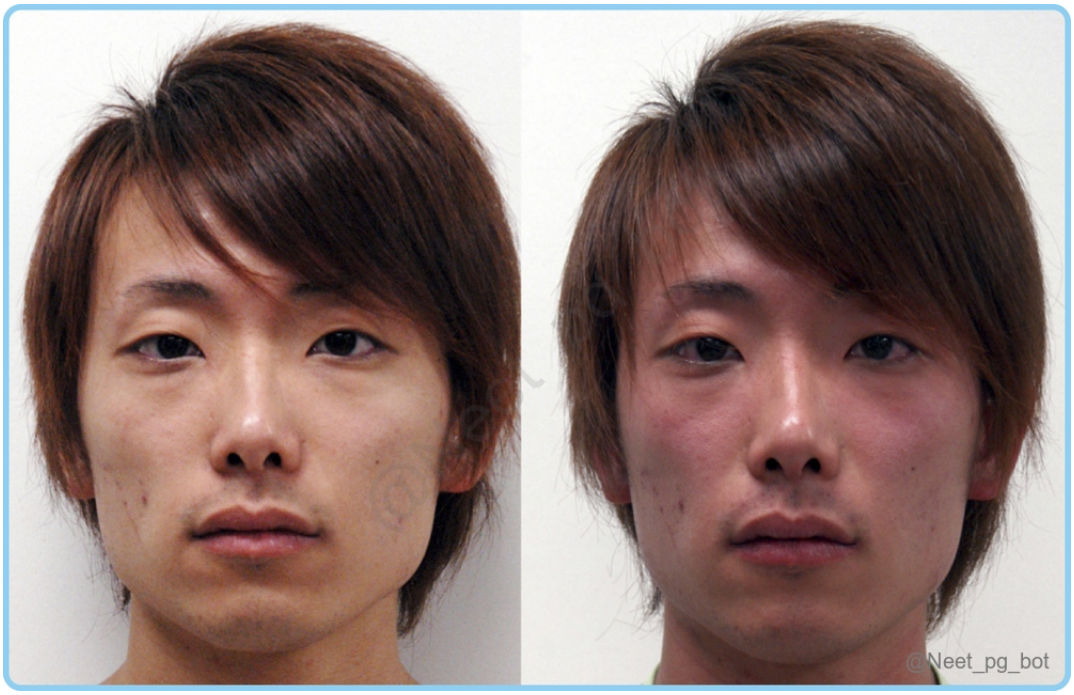
D. 150 mg%

Correct Answer: D. 150 mg%

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: In the second phase of intoxication, i.e. Stage of Incoordination, the BAC is usually between 150 mg% to 250 mg%. Stages of intoxication Stages BAC in mg% Symptoms Excitement 30 - 150 There is slight impairment in the cognitive, sensory and motor functions at 30 mg% Impaired reaction time at 50 mg% Alcohol gaze nystagmus, low pain sensitivity, and poor concentration at 80 - 100mg% Nausea and slight movement incoordination is seen from 100 - 150 mg% Incoordination 150 - 250 Nausea and Vomiting Sensory, Fine, and Skilled motor impairment Elevated heart rate Flushed face Coma > 300 Markedly affected speech (Thick and slurred speech), as well as sensory and motor functions. Extreme dizziness and a sense of fall are present. Positive McEwan’s sign : The patient's pupils are contracted, which dilate on a stimulus like a pinch or a slap and later return to the contracted phase. Usually recovers in 8 to 10 hours with a hangover.



References:

Essential of forensic medicine and toxicology, KS Narayan Reddy, 35th edition, Page 432, 433, 434

↑ *Back to this question in Part A*

@Neet_pg_bot

Q7: A 30 year old male is brought to the emergency department by friends after acting erratically in public, hallucinating, and showing aggressive behaviour. He is agitated and confused and has dilated pupils and a rapid heart rate. While his vital signs are stable, he becomes more aggressive when approached. Which substance might be abused in this case? (Q847202)

A. Hemlock

B. Chloral hydrate

C. Cocaine

D. Phencyclidine

Correct Answer: D. Phencyclidine

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The scenario suggests features consistent with the abuse of "Love Boat," which refers to Cannabis dipped in Phencyclidine (PCP) . Source Synthesised from piperazine, cyclohexanone, and potassium cyanide Street names Angel dust. Mode of intake Smoking; Insufflation; Ingestion; Parenteral (rare) Combination Mixed with parsley, mint, oregano, or marijuana. Tragic magico: Crack (cocaine) is dipped in PCP and smoked Love boat: Cannabis is dipped in PCP and smoked. Mechanism Blocking NMDA receptor-mediated neurotransmission and presynaptic monoamine reuptake, increasing dopamine and noradrenaline synaptic levels. Clinical features Acute psychosis & agitation: PCP: Confusion, disorientation, amnesia, catatonia, dystonia, mydriasis, tachycardia, hallucinations, nystagmus, blurred vision. Cannabis: Euphoria, disorientation, hallucinations, sedation/dysphoria, tachycardia, palpitations, hypotension, increased appetite. Management Supportive Care: Sedation: Benzodiazepines (lorazepam/diazepam) for agitation, anxiety, seizures; avoid antipsychotics. Hydration & Renal Support: IV fluids to maintain hydration and protect kidneys, especially with myoglobinuria or acute renal failure. Hemlock (Option A): Hemlock (Conium maculatum) contains coniine , a neurotoxin that causes neuromuscular paralysis . Typical features include muscle weakness, ascending paralysis, respiratory failure , and eventually death due to respiratory paralysis. It does not produce agitation, hallucinations, or aggressive psychotic behaviour , making it inconsistent with the scenario. Chloral Hydrate (Option B): Chloral hydrate is a sedative-hypnotic drug historically used for insomnia and sedation. Toxicity produces CNS depression, drowsiness, confusion, respiratory depression, hypotension , and coma. Patients are usually sedated or obtunded , not agitated or aggressive , so this option does not match the presentation. Cocaine (Option C): Although cocaine can cause tachycardia, mydriasis, agitation, and tactile hallucinations , it usually produces stimulant toxicity with paranoia and euphoria , whereas PCP intoxication is more strongly associated with severe confusion, violent aggression, dissociative behaviour,

and nystagmus . Feature Cocaine PCP Behaviour Euphoria, agitation, paranoia Extreme aggression, violent behaviour, dissociation Hallucinations Often tactile hallucinations (formication – “cocaine bugs”) Severe psychosis with confusion and disorientation Eye findings Mydriasis Characteristic nystagmus Pain perception Normal Marked analgesia and reduced pain perception Mental state Stimulant intoxication Dissociative delirium with confusion and amnesia

References:

Essentials of Forensic Medicine and Toxicology, KS Narayan Reddy, 35th Edition, Page 453

Modern Medical Toxicology, by VV Pillai, 4th Edition, Page 574, 575

↑ *Back to this question in Part A*

@Neet_pg_bot

Q8: A 25 year old male presents to the emergency department exhibiting severe agitation, hallucinations, and a heightened sense of paranoia after attending a rave. He reports feelings of overwhelming anxiety and visual distortions, claiming he sees colours and shapes that aren't there. Based on his symptoms, which substance is most likely responsible for his bad trip? (Q847201)

A. MDMA

B. Amphetamine

C. LSD

D. Heroin

Correct Answer: C. LSD

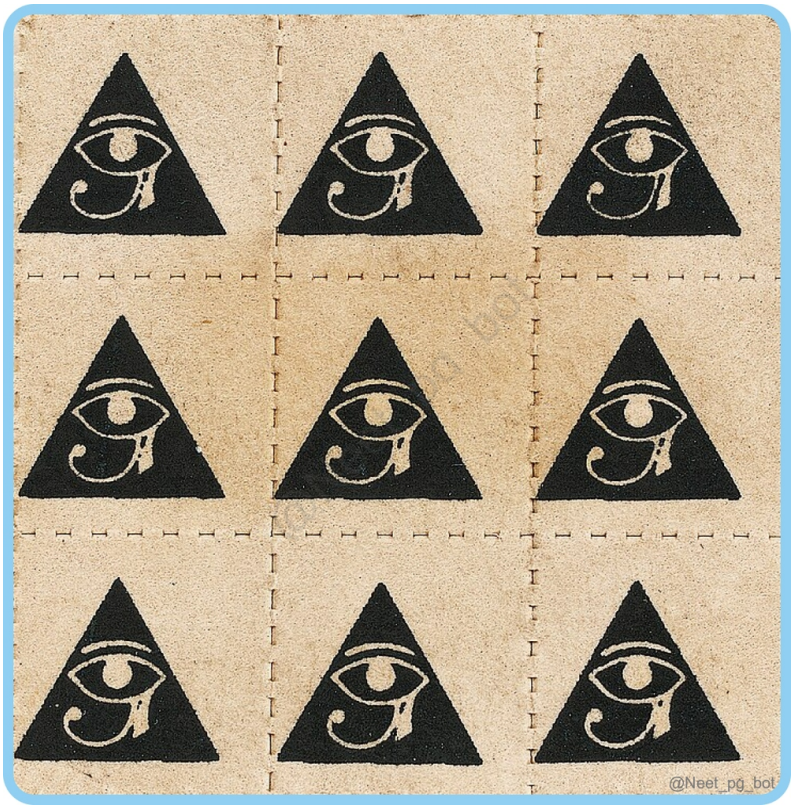
■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The symptoms described, including hallucinations, paranoia, and severe agitation, are commonly associated with a "bad trip" on LSD (lysergic acid diethylamide) . Lysergic acid diethylamide Source Claviceps purpurea or rye fungus (ergot alkaloid). Sold as Acid blotter Paper stamp Tiny tablets (microdots) Gelatin squares (window panes) Liquid or powder Mode Oral intake; Smoke (rare); Parenteral (rare) Mechanism 5HT-1 receptor agonist (increases serotonin level) Fatal dose 14 mg Clinical manifestations Good trip : Psychotropic effect consisting of euphoria including visual hallucinations, illusions, sensations of synesthesia (seeing smell or hearing colours) Bad trip : Psychotropic effect consisting of an acute panic reaction as paranoid delusion, violent behaviour, anxiety, automatism, or depersonalisation. Symptoms like sweating, dry mouth, mydriasis, hypertension, tachycardia, mood change, etc. Bizarre perceptual changes: Faces and body parts appear distorted, objects undulate, sounds may be amplified and distorted, and colours seem brighter with halos around them. Flashback phenomenon: The individual experiences a recurrence of the emotional and psychological aspects from

the previous LSD trip. Management Anti-anxiety drugs (Low dose) Benzodiazepines (Diazepam) Prolonged talking involves verbal reassurance to keep the person grounded and reduce paranoia. Psychotherapy





References:

Essentials of Forensic Medicine and Toxicology, KS Narayan Reddy, 35th Edition, Page 452. Modern Medical Toxicology, by VV Pillai, 4th Edition, Page 284, 285, 286.

↑ *Back to this question in Part A*

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Q9: A 35 year old man who works in a jewelry factory is brought to the emergency department drowsy, with sudden irritability, confusion, and vomiting over 24 hours. Examination shows a bluish line on his gums and pallor, and blood tests confirm acute heavy metal poisoning with cerebral oedema on the CT scan. Along with maintenance ofairway, breathing, and circulation, what is the immediate management? (Q847200)

A. Calcium gluconate

B. DMSA

C. D-penicillamine

D. Dimercaprol

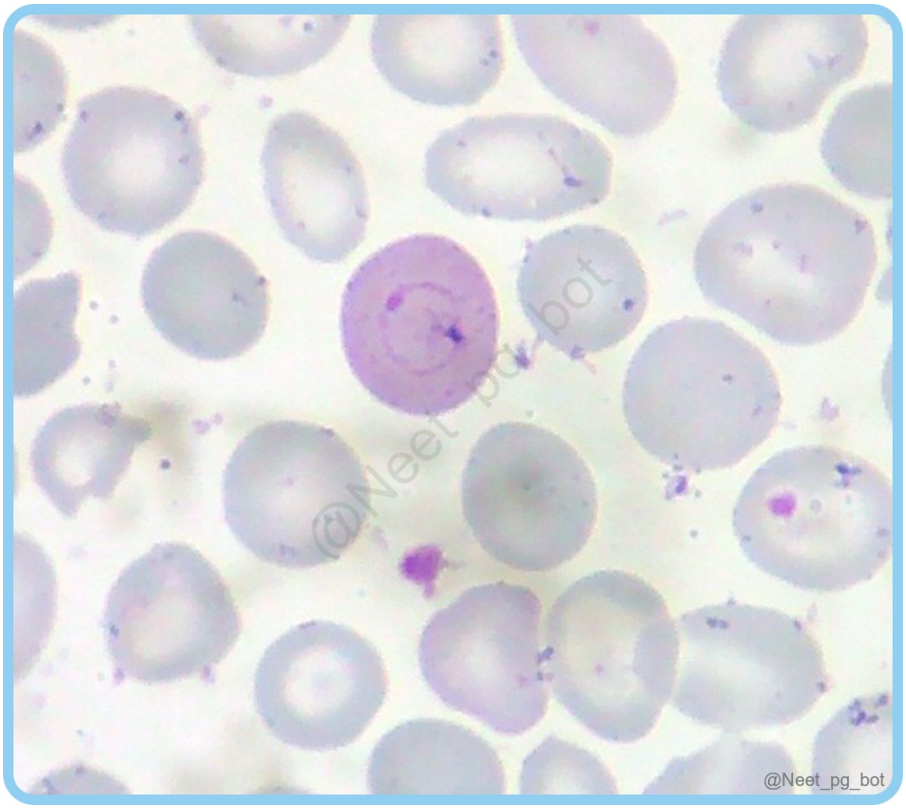
Correct Answer: D. Dimercaprol

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The case is diagnosed as severe acute lead poisoning with encephalopathy, where BAL (Dimercaprol) is administered immediately alongside supportive measures. Acute Lead Poisoning Onset Usually occurs after sudden ingestion or inhalation of large amounts of lead (industrial exposure, contaminated food/water, accidental ingestion). Acute episodes may also occur as exacerbations of chronic lead poisoning . Early Symptoms Metallic/astringent taste , dry throat, intense thirst, malaise, headache, irritability Gastrointestinal Features Burning abdominal pain , nausea, vomiting, diarrhea, abdominal cramps Neurological Manifestations Lead encephalopathy (more common in children): irritability, delirium, seizures, confusion, coma Cardiovascular Features Peripheral circulatory collapse, hypotension, tachycardia Neuromuscular Features Paresthesia, muscle weakness, tremors Severe Toxicity Convulsions, severe encephalopathy, respiratory depression, coma, death Blood Lead Level (BLL) Markedly elevated (often >70 µg/dL in severe poisoning) Hematological Findings Early hemolysis or anemia ; basophilic stippling may appear Biochemical Markers ↑ Delta-ALA , ↑ free erythrocyte protoporphyrin , ↑ zinc protoporphyrin Urinary Findings ↑ urinary lead , coproporphyrin , and ALA Radiology Bone changes are usually absent initially in acute poisoning (lead lines occur in chronic exposure) Management of Acute Lead Poisoning Severe acute poisoning with encephalopathy BAL or Dimercaprol (administered immediately) (Option D) CaNa2EDTA (calcium disodium edetate) (contraindicated in renal failure) For Cerebral edema: Mannitol Furosemide Corticosteroids (Dexamethasone) Continue until the patient is asymptomatic, then start oral chelation (D-penicillamine or DMSA). Severe acute poisoning without encephalopathy (Blood Lead level >70 mcg/100 ml)

BAL EDTA When BL <40 mcg/100 ml Discontinue BAL Continue EDTA Change to oral chelation (D-penicillamine or DMSA). Moderate poisoning (Blood Lead level: 45-70 mcg/100 ml) EDTA When BL <40 mcg/100ml: Oral chelation (D-penicillamine or DMSA) Mild poisoning (Blood Lead level: 20-35 mcg/100 ml) D-penicillamine (Option C) or DMSA (dimercaptosuccinic acid) (Option B) Supportive measures Thiamine Calcium gluconate (Option A) Magnesium sulphate DMSA (succimer) BAL (dimercaprol) and EDTA are used together because EDTA can redistribute lead to the brain, while BAL helps to prevent this redistribution.





References:

Essentials of Forensic Medicine and Toxicology, KS Narayan Reddy, 35th Edition, Page 413, 414

Modern Medical Toxicology, by VV Pillai, 4th Edition, 88, 89

↑ *Back to this question in Part A*

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Q10: A 5-year-old child presents with developmental delay, irritability, and abdominal pain. Laboratory investigations for lead poisoning are ordered. Which of the following is the definitive indicator of lead poisoning? (Q847199)

A. Microcytic-hypochromic anaemia with basophilic stippling

B. Increased levels of urinary coproporphyrin (>150 mcg/litre)

C. Blood lead level >40 micrograms/100 ml

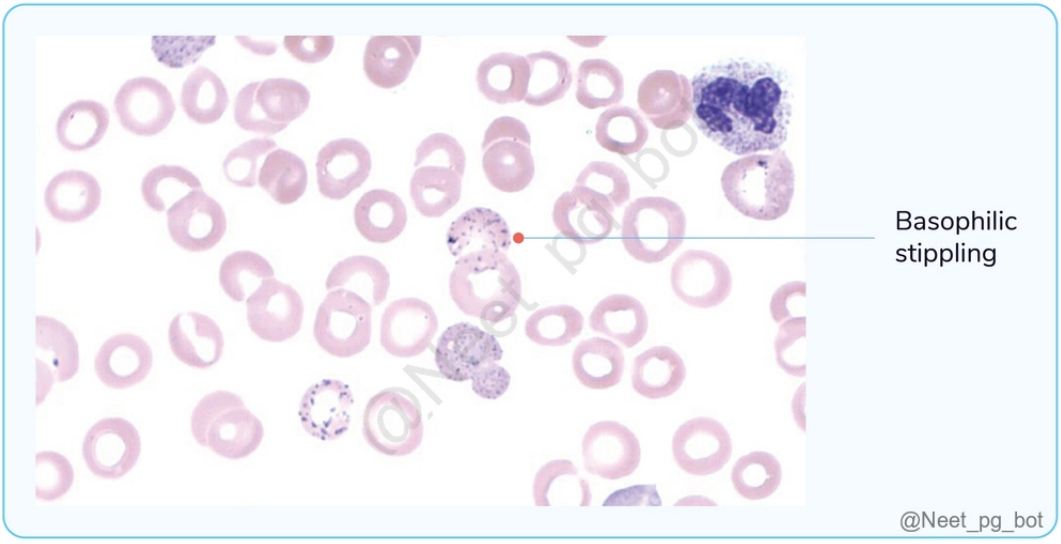
D. Elevated Free Erythrocyte Protoporphyrin (FEP) levels

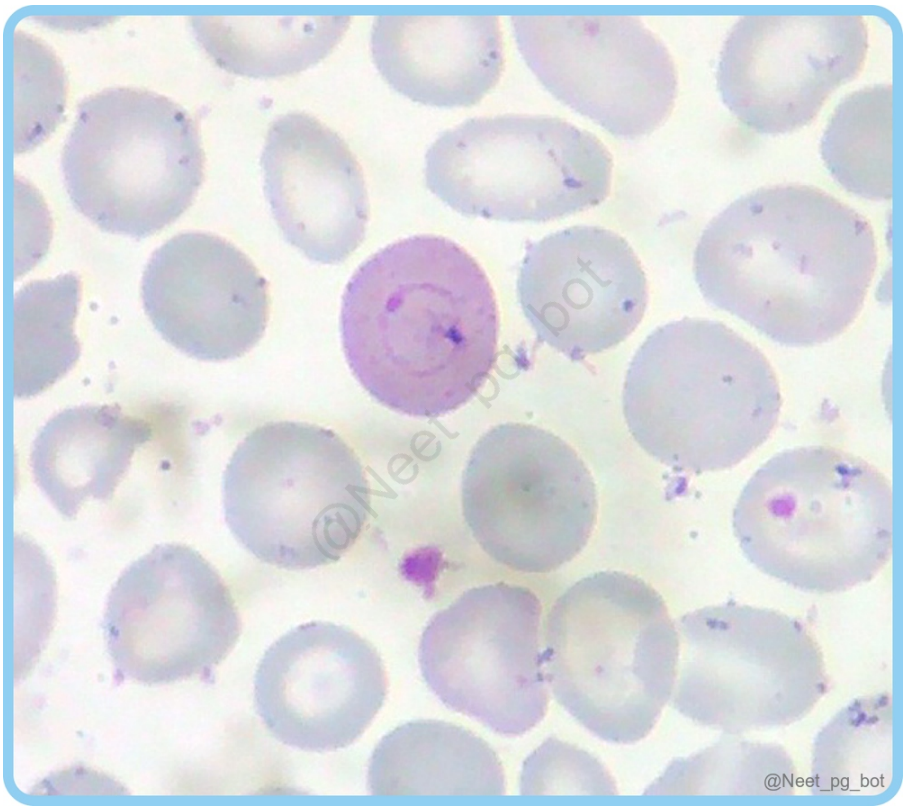
Correct Answer: C. Blood lead level >40 micrograms/100 ml

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Blood lead level >40 micrograms/100 ml is the definitive diagnostic criterion for lead poisoning, indicating significant exposure requiring intervention. Microcytic-hypochromic anaemia with basophilic stippling (Option A) , Increased urinary Coproporphyrin (Option B), and Free Erythrocyte Protoporphyrin (FEP) (Option C) are indicators of lead exposure or impaired heme synthesis but are not definitive diagnostic markers. Laboratory findings of Lead poisoning: Blood analysis CBC and Peripheral Blood Smear Microcytic-hypochromic anemia Anisocytosis Poikilocytosis and Polycythemia Basophilic stippling (Option B) and Cabot rings in RBCs Blood lead levels (BL) >5 microgram/ 100 ml (lead exposure) >40 micrograms (appearance of signs and symptoms) ZnP (Zinc Protoporphyrin) levels 35-50 microgram/ 100 ml. FEP (Free Erythrocyte Protoporphyrin) Elevated Urine analysis ALA (Amino Levulinic Acid) levels >5 micrograms/L Urinary coproporphyrin level >150 mcg /litre Urine lead level 0.25 milligram/ litre Calcium disodium EDTA mobilisation test This test is primarily conducted in children to determine whether they will respond to chelation therapy with a significant lead diuresis. Clinical manifestations Facial pallor It is caused by vasospasm and specifically occurs circumorally , which is the earliest and most specific feature. Lead line or Burtonian lines The stippled blue line observed on the gums, resulting from a subepithelial deposit of granules that develops within one week, is seen in 50-70% of cases and is more common in individuals with carious teeth (bacteria form lead sulfide). Lead osteopathy/Lead line (Bone-line) In children, calcium deposition occurs at the growth plates of bones (specifically the lower end of the femur and the upper end of the tibia), which appears as a radiopaque band and occurs over 4 weeks due to the inhibition of osteoclastic activity. Colic and constipation (Painter's Colic or Devonshire colic) Late presentation occurs in 85% of cases, typically at night, and is characterised by spasmodic pain relieved by pressure Lead palsy Predominantly motor features include: Dry bellyache Wrist drop (Radial nerve) Foot drop (Common peroneal nerve) Encephalopathy This condition is seen in nearly all cases, is associated with tetraethyl lead exposure, primarily affects children, results in permanent brain damage in 85% of cases, and accounts for 25% of fatalities Reproductive system Amenorrhea Dysmenorrhea Abortion Sterility derangements (both sexes) Cardiovascular system and Kidneys Hypertension (vascular constriction) Permanent arteriolar degeneration Nephritis Gout Saturnine gout (due to decreased excretion of uric acid) Others These include generalised weakness, anorexia, dyspepsia, emaciation, exhaustion, irritability, foul breath, headache, vertigo, alopecia, and dizziness.



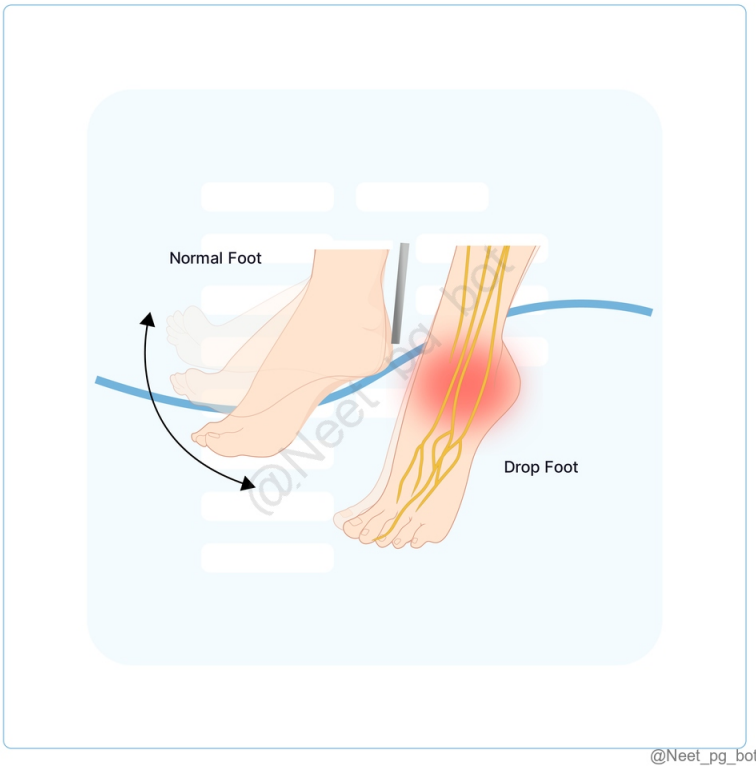

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References:

Essentials of Forensic Medicine and Toxicology, KS Narayan Reddy, 35th Edition, Page 412. 413

Modern Medical Toxicology, by VV Pillai, 4th Edition, Pages 87, 88

↑ *Back to this question in Part A*

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Q11: A 5-year-old girl is brought to the paediatrician due to irritability, decreased appetite, abdominal pain, and difficulty concentrating. She exhibits signs of anaemia and pallor, as depicted in the image below. Blood tests confirm heavy metal poisoning. Which clinical manifestations are not typically associated with this condition? (Q847198)

A. Burtonian lines

B. Basophilic stippling

C. Phossy jaw

D. Calcium deposition in bone ends



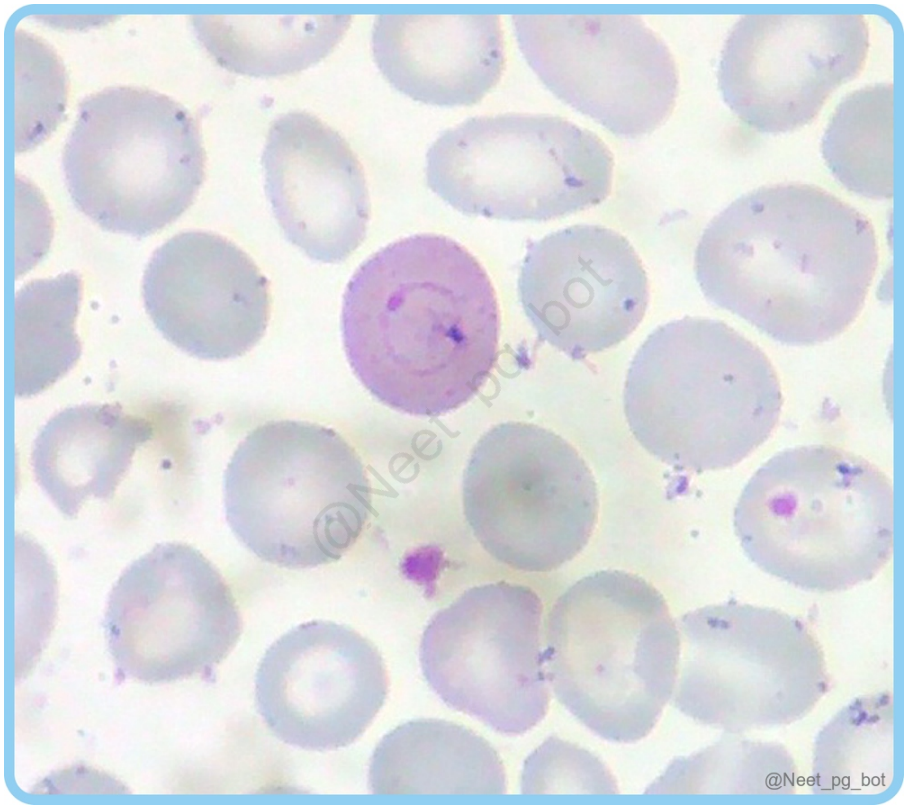
Correct Answer: C. Phossy jaw

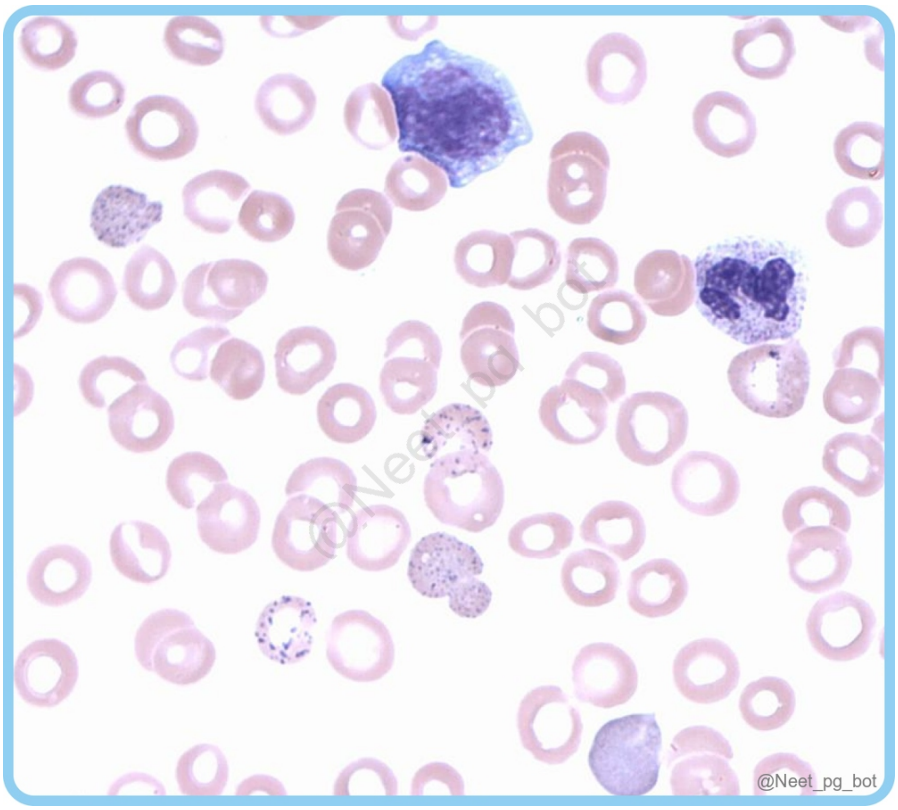
■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The described scenario, with symptoms and an image showing circumoral pallor, indicates lead poisoning. In this condition, Burton's lines, basophilic stippling, and calcium deposition at bone ends are observed, while phossy jaw (seen in phosphorus poisoning) is absent. Acute lead poisoning It’s rare, and there may be exacerbations of chronic lead poisoning. Symptoms: Astringent or metallic taste, dry throat, thirst, burning abdominal pain, nausea, vomiting, diarrhoea, peripheral circulatory collapse, paraesthesia, depression, coma, and death. Chronic lead poisoning (Plumbism or Saturnism) Clinical manifestations Facial pallor It is caused by vasospasm and specifically occurs circumorally , which is the earliest and most specific feature. Anemia Type: Microcytic-hypochromic . Enzymes inhibited: Ferrochelatase ALA-dehydratase Coproporphyrinogen oxidase Blood picture: Cabot rings in RBCs Microcytic-hypochromic Sideroblasts (nucleated red cells) Anisocytosis Poikilocytosis Polycythemia Basophilic stippling or Punctate basophilia (Option B) Multiple blue-coloured pinhead dots in RBCs due to the toxic action of lead on porphyrin metabolism (inhibition of enzyme 5- Pyrimidine nucleotidase) (PNN). Accumulation of ribosomes in RBC Lead line or Burtonian lines (Option A) The stippled blue line observed on the gums, resulting from a subepithelial deposit of granules that develops within one week, is seen in 50-70% of cases and is more common in individuals with carious teeth (bacteria form lead sulfide). Lead osteopathy/Lead line (Bone-line) (Option D) In children, calcium deposition occurs at the growth plates of bones (specifically the lower end of the femur and the upper end of the tibia), which appears as a radiopaque band and occurs over 4 weeks due to the inhibition of osteoclastic activity. Colic and constipation (Painter's Colic or Devonshire colic) Late presentation occurs in 85% of cases, typically at night, and is characterised by spasmodic pain relieved by pressure. Lead palsy Predominantly motor features include: Dry belly ache Wrist drop (Radial nerve) Foot drop (Common peroneal nerve) Encephalopathy This condition is seen in nearly all cases, is associated with tetraethyl lead exposure, primarily affects children, results in permanent brain damage in 85% of cases, and accounts for 25% of fatalities. Reproductive system Amenorrhea Dysmenorrhea Abortion Sterility derangements (both sexes) Cardiovascular system and Kidneys Hypertension (vascular constriction) Permanent arteriolar degeneration Nephritis Gout Saturnine gout (due to decreased excretion of uric acid) Others These include generalised weakness, anorexia, dyspepsia, emaciation, exhaustion, irritability, foul breath, headache, vertigo, alopecia, and dizziness. Diagnosis & Management Key Enzymes Inhibited ALA-dehydratase , Ferrochelatase , Coproporphyrinogen oxidase , Pyrimidine nucleotidase Laboratory findings– Blood Lead Level (BLL) Elevated (>5 µg/dL abnormal in children; >45 µg/dL → chelation therapy) Peripheral Blood Findings Microcytic hypochromic anemia, basophilic stippling , anisocytosis, poikilocytosis Biochemical Markers ↑ Free erythrocyte protoporphyrin (FEP) , ↑ Zinc protoporphyrin , ↑ urinary ALA, and coproporphyrin Radiology X-ray long bones → R adiopaque metaphyseal lead lines (distal femur, proximal tibia) Urine Findings Increased lead excretion after chelation Initial Management Remove source of exposure (paint, contaminated dust, batteries, industrial exposure) Chelation Therapy Succimer (DMSA) – oral drug of choice in moderate poisoning (especially children) Calcium disodium EDTA – parenteral chelator for moderate–severe poisoning Dimercaprol (BAL) – used with EDTA in severe poisoning with encephalopathy Penicillamine – alternative chelating agent Supportive Management Treat seizures, maintain hydration, correct anemia, nutritional support (iron, calcium) Phossy jaw (Option C) , also known as glass jaw or Lucifer’s jaw, refers to osteonecrosis of the jawbone . This condition is associated with phosphorus poisoning.


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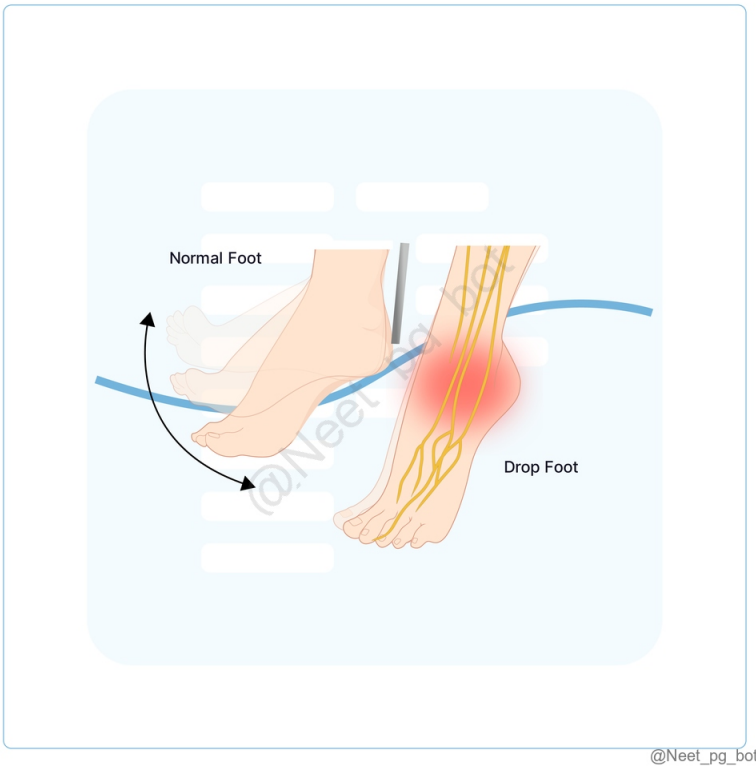

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References:

The Essentials of Forensic Medicine and Toxicology, KS Narayan Reddy, 35th Edition, Pages 412, 413

Modern Medical Toxicology, by VV Pillai, 4th Edition, Pages 85, 86

↑ *Back to this question in Part A*

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Q12: A 4-year-old boy is brought to the clinic for irritability, poor appetite, and stomach pain. The family recently moved into an old house that is under renovation. Examination reveals pallor and a blue line on the gums. Blood smear findings are noted. What is the most likely finding on the blood smear in this child with suspected lead poisoning? (Q847197)

A. Target cell

B. Basophilic stippling

C. Spherocytes

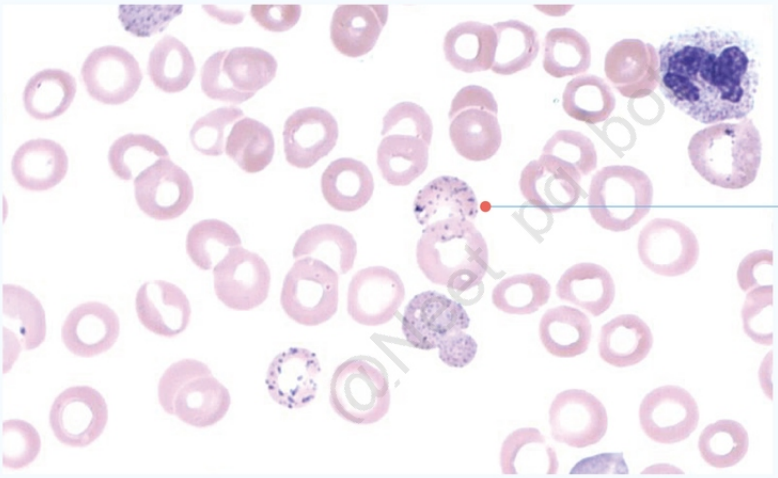
D. Rouleaux formation

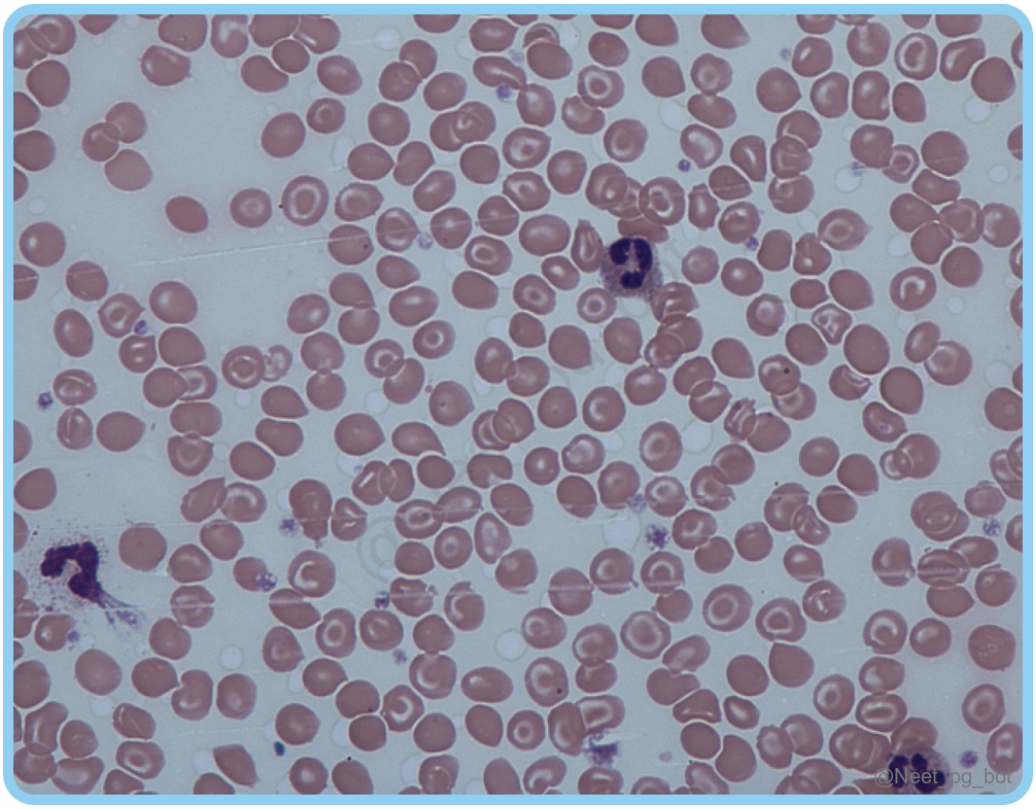
Correct Answer: B. Basophilic stippling

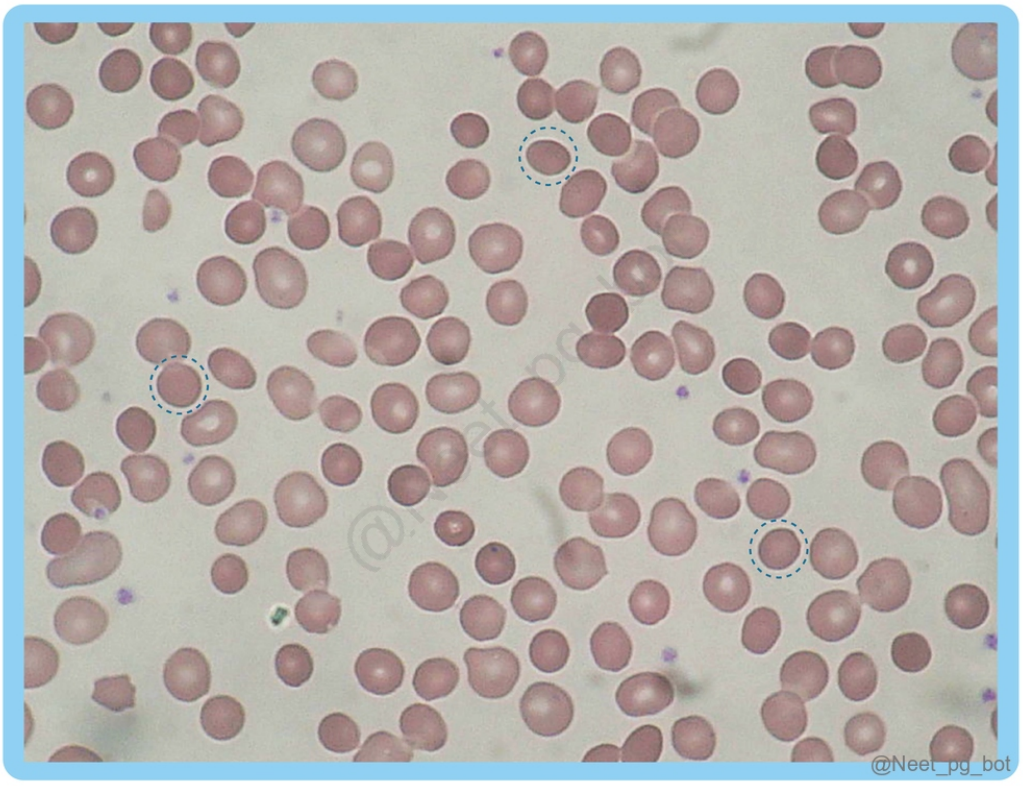
■ *Listen (English)*

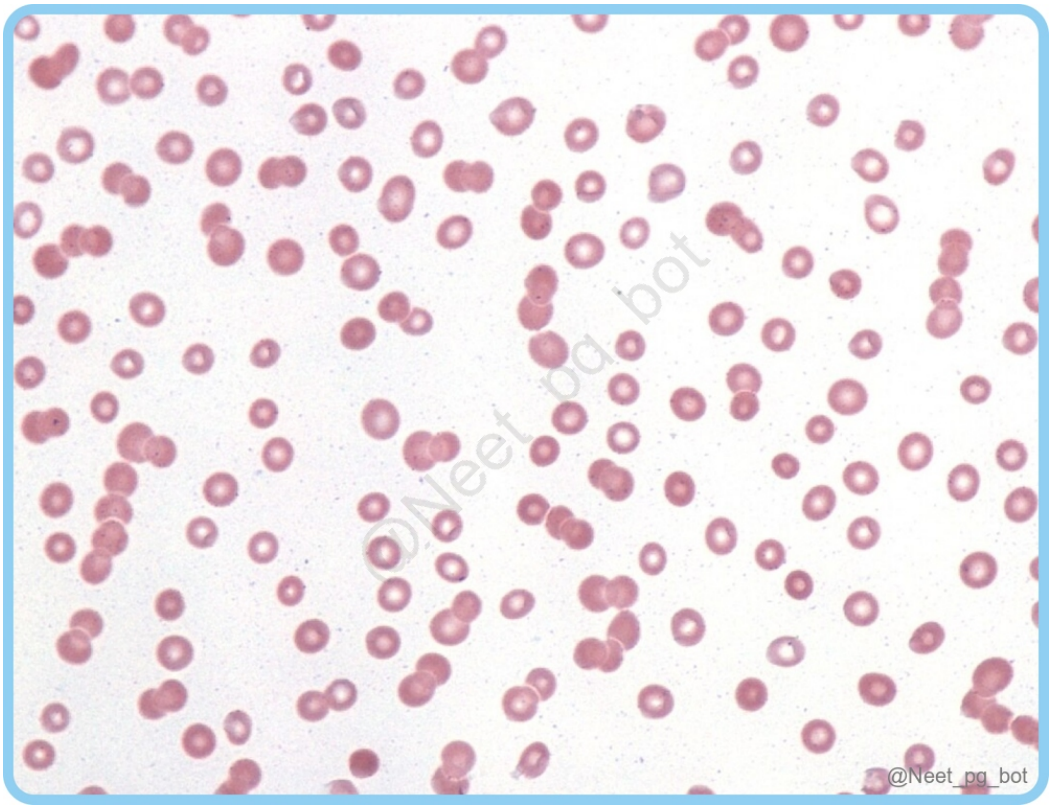
■ *Listen (Hindi)*

Explanation: The scenario, featuring symptoms such as irritability, stomach pain, and the presence of blue gum lines (Burtonian lines), indicates chronic lead poisoning. The image shows basophilic stippling , a characteristic haematological finding in lead toxicity. Hematological manifestations of Lead poisoning: Microcytic-Hypochromic Anemia Basophilic Stippling Anisocytosis Poikilocytosis Elevated Free Erythrocyte Protoporphyrin (FEP) Increased Zinc Protoporphyrin (ZnP) Target cells (Option A) are characterised by a central area of haemoglobin encircled by a pale ring, creating a target-like appearance. They are seen in liver disease, thalassemia, haemoglobin C disease, and post-splenectomy. Spherocytes (Option C) are dense cells lacking central pallor, seen in conditions like autoimmune hemolytic anaemia, hereditary spherocytosis, and post-splenectomy. Rouleaux formation (Option D) is the sticking together of red blood cells in linear arrays, commonly caused by high blood M protein levels. It is seen in various conditions, such as multiple myeloma, systemic lupus erythematosus (SLE), malaria, and HIV.


Basophilic
stippling
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References:

Essentials of Forensic Medicine and Toxicology, KS Narayan Reddy, 35th Edition, Page 412. 413. Modern Medical Toxicology, by VV Pillai, 4th Edition, Page, 87, 88.

↑ *Back to this question in Part A*

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Q13: A 6 year old girl was brought to the clinic by her parents, who reported symptoms including irritability, stomach pain, difficulty concentrating, decreased appetite, and fatigue. The examination showed signs of anaemia and facial circumoral pallor, leading the doctor to suspect heavy metal poisoning. What is the most common route of exposure to this poison in children? (Q847196)

A. Inhalation of lead-contaminated air

B. Ingestion of lead-contaminated water

C. Ingestion of lead dust or paint chips

D. Absorption through skin

Correct Answer: C. Ingestion of lead dust or paint chips

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The most common route of childhood lead exposure is ingestion of lead paint chips or lead-contaminated household dust. Older homes with deteriorating lead-based paint shed flakes and fine dust into the environment. Children frequently play on floors and surfaces where this dust accumulates. Natural hand-to-mouth behavior causes them to ingest significant amounts unintentionally. Lead dust also settles on toys, furniture, and objects that children put in their mouths. Young children absorb a much higher fraction of ingested lead compared to adults. Thus, ingestion of lead dust/paint chips remains the primary and most important exposure pathway in pediatric lead poisoning. Incorrect Options: Option A) Inhalation of lead-contaminated air : This route is more important in occupational or industrial settings (battery factories, smelting, welding). Environmental air levels are usually too low to cause significant poisoning in children. Not the primary route in household exposure. Option B) Ingestion of lead-contaminated water : Can occur through lead plumbing or pipes, but this is far less common than ingestion of lead dust/paint chips. Water usually contributes a smaller percentage of total lead burden in children. Option D) Absorption through skin : Lead is not significantly absorbed through intact skin, especially in inorganic forms (the usual household type). Therefore, dermal exposure does not contribute meaningfully to lead toxicity in children.

References:

Essentials of Forensic Medicine and Toxicology, KS Narayan Reddy, 35th Edition, Page 412. Modern Medical Toxicology, by VV Pillai, 4th Edition, Page, 83, 84.

↑ *Back to this question in Part A*

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Q14: A 32-year-old male presents to the emergency department after ingesting the seeds given in the image. He has severe abdominal pain, bloody vomiting, dizziness, and a rapid, weak pulse. What is the mechanism of action of the toxic compound present in the seeds? (Q847014)

A. Inhibits calcium ion channels, causing cell death.

B. Blocks RNA polymerase, preventing protein synthesis

C. Binds to ribosomal RNA, inhibiting protein synthesis.

D. Disrupts mitochondrial function, leading to energy failure.



Correct Answer: B. Blocks RNA polymerase, preventing protein synthesis

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The clinical scenario and given image suggest ingestion of Ricinus seeds. Ricin , a highly toxic protein derived from the seeds of Ricinus communis , blocks RNA Polymerase and inhibits protein synthesis. Ricinus Communis (Castor): Seeds: Smooth, flattened-oval, mottled brown with a polished surface. Toxin: Contains ricin , a water-soluble toxalbumin (highest in seeds). Seeds are toxic when crushed , not intact. Action: Ricin inhibits protein synthesis by blocking RNA polymerase. Clinical features (within 10 hrs): GIT: Burning throat, cramps, nausea, vomiting, bloody diarrhea. CNS: Vertigo, drowsiness, delirium, convulsions, coma. Others: Jaundice, uremia, weak pulse, cold skin, dehydration. Consciousness may persist until death. Fatal dose: ~10–20 seeds (2 mg/kg); fatal period: 3–5 days. Pregnancy: Castor oil may cause teratogenic effects (growth, limb, craniofacial defects). Treatment: No antidote. Perform gastric lavage , give activated charcoal , cathartics , IV fluids , manage hypoglycemia/hypovolemia ; urine alkalinisation may help in severe cases



References:

Gautam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Pages 517,518

↑ *Back to this question in Part A*

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Q15: A 45-year-old construction worker presented with severe health issues over several weeks, including abdominal pain, persistent nausea, throat pain, fatigue, and intermittent diarrhoea. During hospitalisation, he developed confusion, slurred speech, and distinctive skin changes (shown in the image below) indicative of heavy

metal poisoning. Which of the following clinical features is commonly associated with this condition? (Q847194)

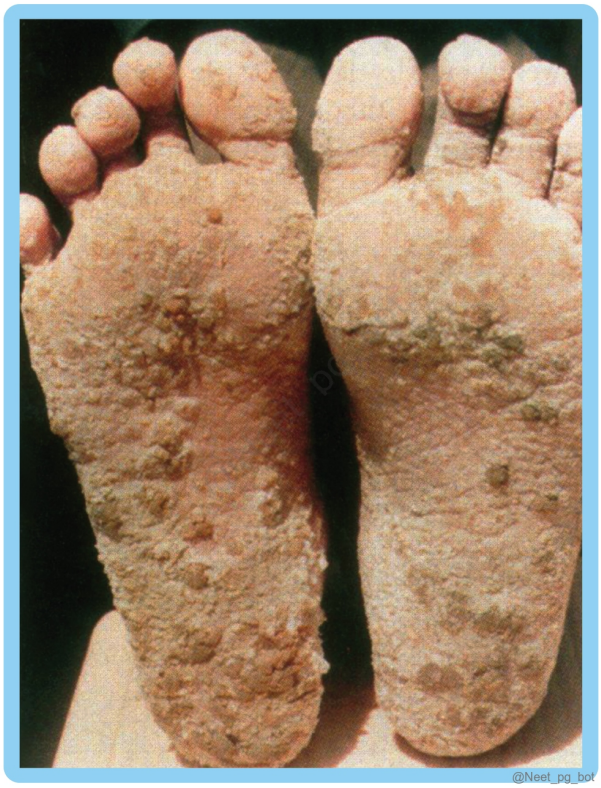


Correct Answer: Unknown

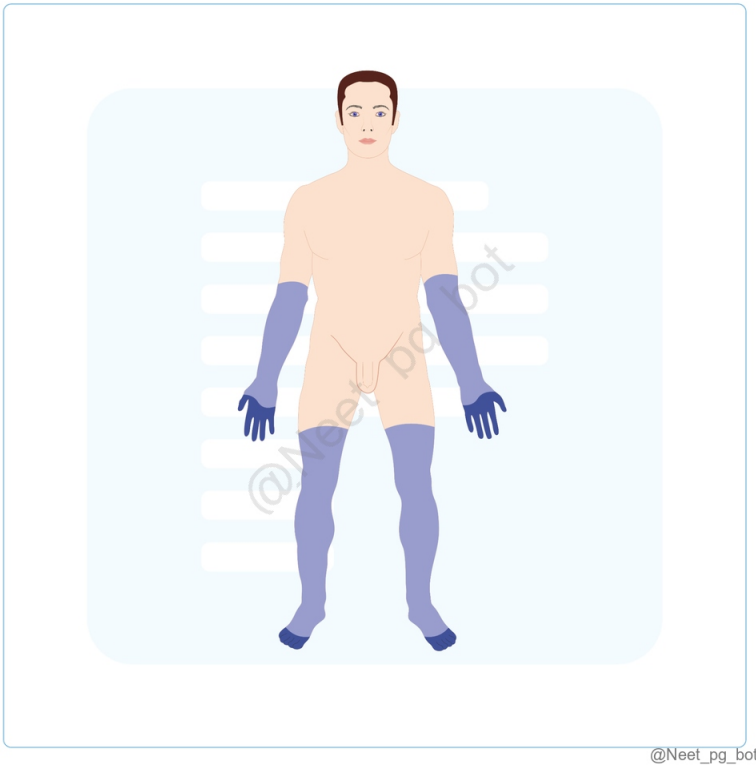
■ *Listen to Audio 1*

Explanation: The scenario indicates chronic Arsenic Poisoning , characterized by anemia, polyneuritis, and hyperpigmentation in a raindrop pattern , along with radiopaque lines on the nails known as Aldrich-Mees lines, as shown in the image. Clinical manifestations of Arsenic Poisoning: Acute Arsenic Poisoning Chronic Arsenic Poisoning Dermal Hair loss Mees lines (Aldrich-Mees line or Reynold's line): Transverse bands of opacity in nails. (Option C) Melanosis (neck, eyelids, nipples) Bowen's disease Facial oedema Hyperkeratosis Black foot disease (Peripheral gangrene) Hyperpigmentation (raindrop pattern) Skin cancer (commonly squamous cell carcinoma). Ocular Conjunctivitis Lacrimation Dimension of Vision Gastrointestinal Abdominal pain Metallic taste Garlicky odour Dysphagia Vomiting Diarrhoea (bloody or rice water) Anorexia Nausea Vomiting Diarrhea Weight loss Airway Upper airway irritation Nasal septum perforation Laryngitis Bronchitis Liver Fatty degeneration Hepatomegaly Jaundice Cirrhosis Kidney Oliguria Uraemia Nephritic changes Neurological Hyperpyrexia Convulsions Coma Encephalopathy Polyneuritis (glove & stocking type) Tremor Ataxia Limb tenderness Difficulty in walking Haematological – Anaemia Leucopenia Thrombocytopenia Basophilic stippling (Rare in arsenic poisoning and common in lead poisoning) Karyorrhexis Pancytopenia Burtonian lines (Option A) are stippled blue lines seen on the gums, resulting from subepithelial deposits of granules. They are particularly indicative of lead poisoning but may also occur in cases of silver, bismuth, copper, and iron poisoning. Kayser-Fleischer ring (Option B) is a greenish-brown deposit of copper that forms around the cornea of the eye, and it is observed in Copper poisoning and Wilson's disease . Circumoral facial pallor (Option D) resulting from vasospasm associated with lead poisoning.

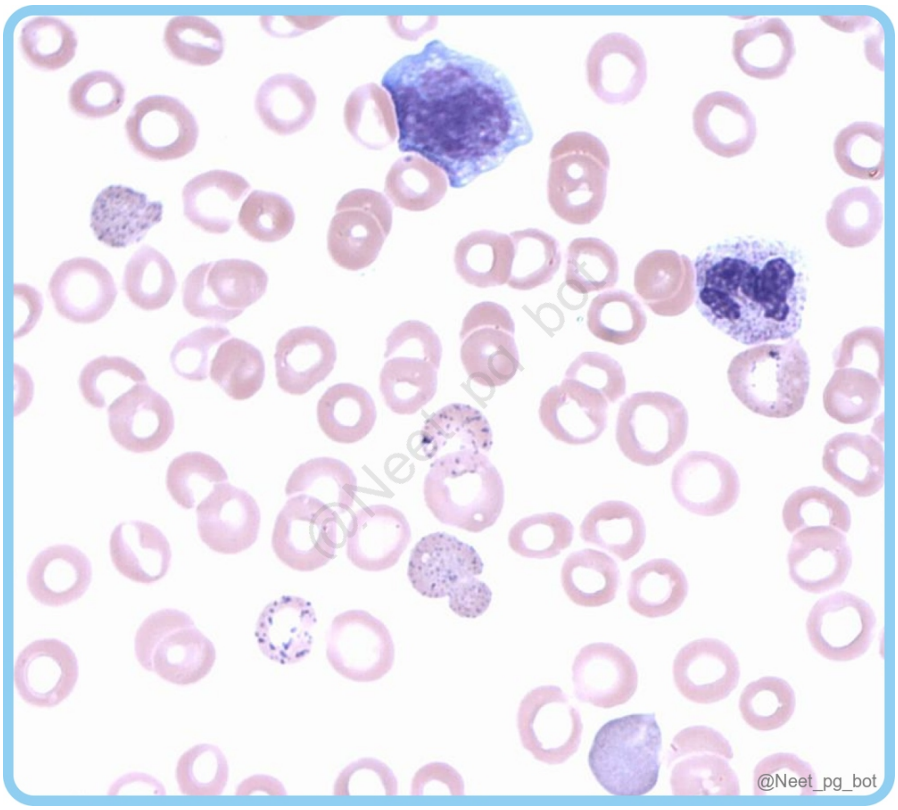

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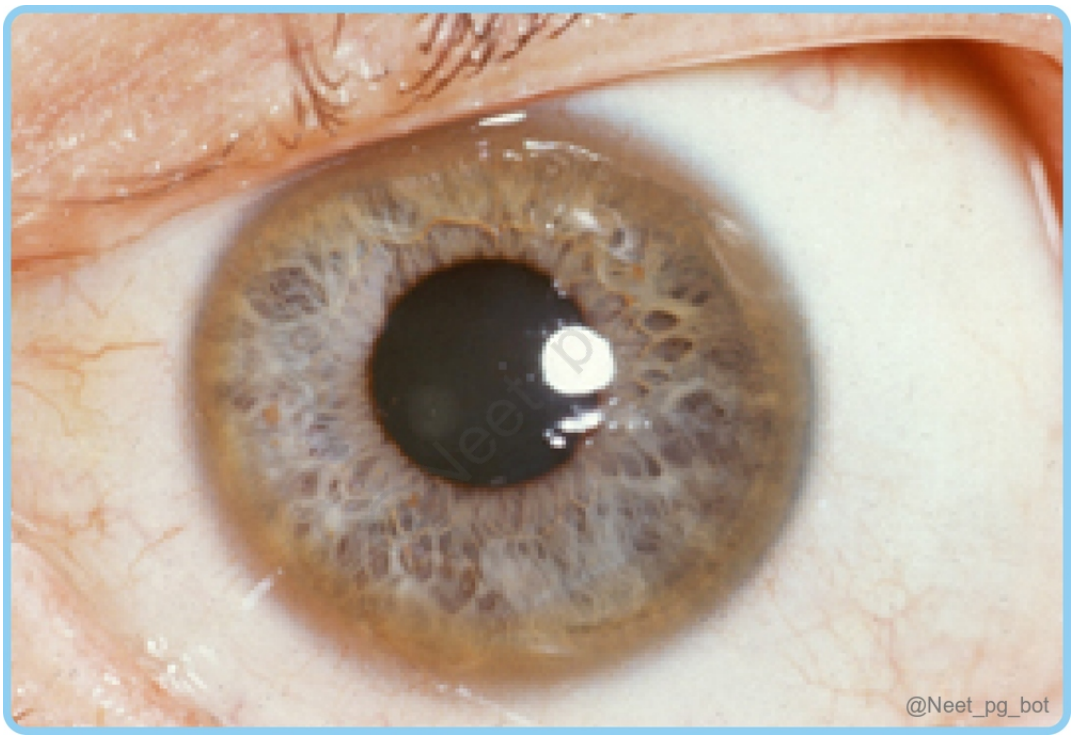

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References:

The Essentials of Forensic Medicine and Toxicology, KS Narayan Reddy, 35th Edition, Page 410. Modern Medical Toxicology, by VV Pillai, 4th Edition, Page 80.

↑ *Back to this question in Part A*

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Q16: A 40-year-old man was found dead in his home with no signs of forced entry. Family members reported he had been unwell for weeks, experiencing throat and abdominal pain, vomiting, and purging. Autopsy findings indicated emaciation, keratosis, and white streaks on his nails, suggesting heavy metal poisoning. Which of the following postmortem findings is not true in this case? (Q847193)

A. Rigor mortis sets in quickly

B. Red velvety mucosa in the stomach

C. Subendocardial hemorrhage

D. Multiple haemorrhages in the stomach

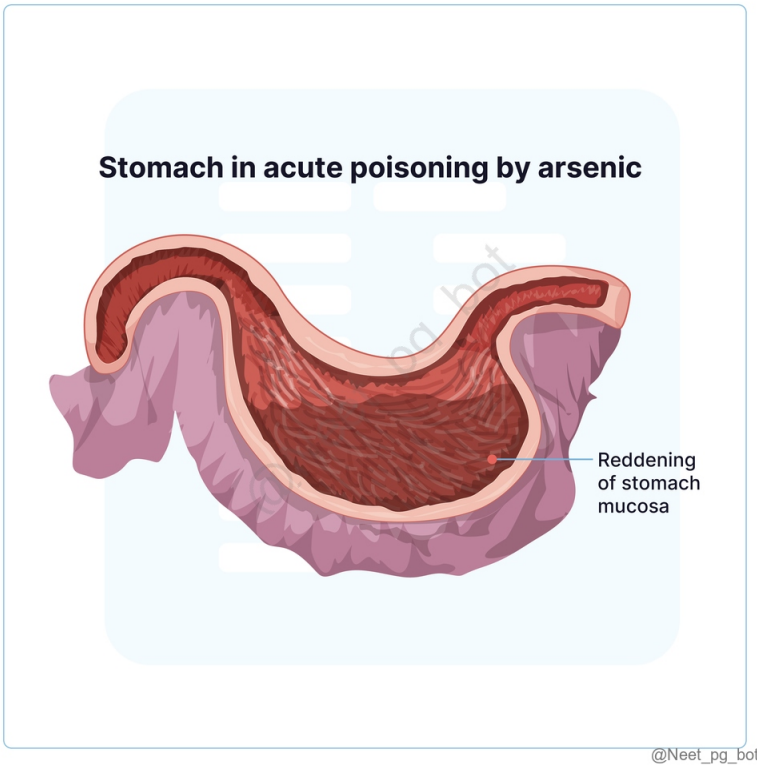
Correct Answer: A. Rigor mortis sets in quickly

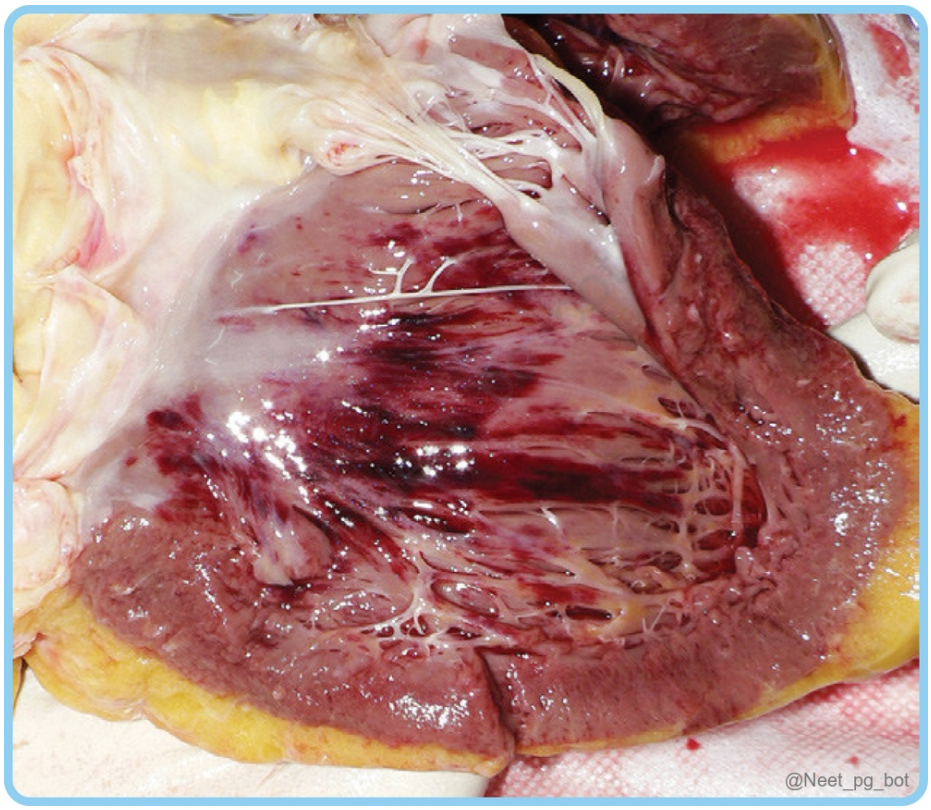
■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The scenario, featuring throat pain, vomiting, and purging, along with autopsy findings of keratosis and white streaks on the nails, suggests Arsenic Poisoning , where rigor mortis sets in late and lasts for an extended period. Postmortem findings of Arsenic Poisoning External findings Internal findings Emaciation Raindrop pigmentation Keratosis Alopecia White streaks on nails (Aldrich Mees' lines) Jaundice and muscle wasting, Nasal septum ulceration. Sunken eyeballs Cyanosed and shrunken body. Rigor mortis (sets in late and persists for a prolonged duration) (Option A) Reddening of stomach mucosa (red velvet or strawberry) due to gastrointestinal congestion. (Option B) Flea-bitten appearance of the stomach (due to focal haemorrhages). (Option D) The inflammation and presence of "rice water" contents in the intestines. Subendocardial haemorrhages in the heart. (Option C) Fatty degeneration of the heart, liver, and kidneys. Along with routine viscera and body fluids, the items preserved for chemical analysis are: A piece of long bone (preferably femur) A bunch of pulled scalp hair A wedge of muscle A small portion of skin (from the back of the trunk)


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Stomach in acute poisoning by arsenic
Reddening of stomach mucosa
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References:

Essentials of Forensic Medicine and Toxicology, KS Narayan Reddy, 35th Edition, Page 409 Gautam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Page 492 Modern Medical Toxicology, by VV Pillai, 4th Edition, Page 82

↑ *Back to this question in Part A*

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Q17: A 28 year old man is brought to the emergency department in an altered mental state after reportedly using a speedball for a more intense high. His friends mention he often combines a powerful stimulant with another drug to enhance his experience. What is the composition of a speedball that he is likely using? (Q847192)

A. Heroin + LSD

B. Cocaine + Morphine

C. Cocaine + LSD

D. Heroin + Cocaine

Correct Answer: D. Heroin + Cocaine

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The scenario describes the effects of Speedball addiction, which is a combination of Heroin and Cocaine. Composition Heroin + Cocaine Route Injected, Smoked (Moon Rock) Effects Produce a double effect of the initial high “kick” of cocaine, followed by the subsequent euphoric “rush” of heroin. Clinical features The presence of needle marks along with the features of: Cocaine: Tachypnea, tachycardia, restlessness, anxiety, loss of appetite, insomnia, hypertension, tremors, fever, mydriasis , and hallucinations. Heroin: It is an opioid & causes reduced respiration, hypotension, bradycardia, delirium, hallucinations, slurred speech, sedation, coma, ataxia, muscle weakness, hypothermia, miosis , and needle marks.

References:

Essentials of Forensic Medicine and Toxicology, KS Narayan Reddy, 35th Edition, Page 445

Modern Medical Toxicology, by VV Pillai, 4th Edition, Pages 222, 556

↑ *Back to this question in Part A*

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Q18: A 30 year old male is brought to the emergency department after experiencing severe anxiety and chest pain following a night of partying. He reports using cocaine, and the medical team notes his elevated blood pressure and signs of agitation. Which of the following is the most likely complication of cocaine use? (Q847191)

A. Respiratory depression

B. Cardiac arrhythmia

C. Urinary retention

D. Optic neuritis and atrophy

Correct Answer: B. Cardiac arrhythmia

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Cardiac arrhythmia is a fatal complication of cocaine use. Cocaine Origin Leaves of Erythroxylum coca Signs of abuse Septal perforation Crack hands (multiple blackened, hyperkeratotic lesions on the fingers and palms). Black staining of tongue and teeth Effects Stages: 1. Stage of Excitement: Sense of well-being Loss of fatigue and depression Restlessness and excitement Tingling in hands and feet Increased heart rate and temperature Rapid, deep respiration 2. Stage of Depression: Profuse sweating Convulsions Decreased respiratory rate Complications Cardiac arrhythmia (Option B) Cardiac failure Cardiovascular collapse Cerebrovascular

accident Aortic dissection Myocardial infarction Skin necrosis Intracerebral hemorrhage Formication (Cocaine Bugs) Management of fatal dose Maintain airway, breathing and circulation If ingested: Gastric lavage with potassium permanganate If snorted: Wash the nasal mucous membrane with water If injected: Ligature over the injection site Amyl nitrite via inhalation route Thiamine 100 mg IV injection Naloxone hydrochloride 2mg IV injection Symptomatic management for convulsions using barbiturates Respiratory depression (Option A) is a complication that is often associated with the use of opium, alcohol, barbiturates, and benzodiazepine . Cocaine is a stimulant, and it does not cause respiratory depression. Urinary retention (Option C) is a complication that can occur in cases of datura/atropine poisoning. The patient has a dry mouth, dysphagia, delirium, a dilated pupil, urinary retention, respiratory paralysis, and dry skin. Optic neuritis and atrophy (Option D) occur in methyl alcohol poisoning. Methyl alcohol is converted into formic acid, which causes optic neuritis and atrophy of the optic nerve, which can result in irreversible blindness.



References:

Essentials of forensic medicine and toxicology, KS Narayan Reddy, 35th edition, Page 441, 443, 458, 459

↑ *Back to this question in Part A*

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Q19: Match the following drugs with their commonly known local names. Drugs Local names 1. Cocaine a. Smack 2. MDMA b. Weed 3. Heroin c. Molly 4. Cannabis d. White lady 5. LSD e. Acid (Q847190)

A. 1-c, 2-e, 3-a, 4-d, 5-b

B. 1-d, 2-c, 3-a, 4-b, 5-e

C. 1-c, 2-a, 3-b, 4-e, 5-d

D. 1-b, 2-d, 3-e, 4-a, 5-c

Correct Answer: B. 1-d, 2-c, 3-a, 4-b, 5-e

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Drugs Local names Cocaine Coke, snow, Cadillac, white lady , crack (cocaine + baking soda + water) MDMA Molly , love drug, ecstasy Heroin Smack , brown sugar, Black tar, speedball(mixed with cocaine) Cannabis Pot, grass, dope, weed, hash, Mary Jane, M.J LSD Acid , Alice, Angel in the Sky, Lucy Ketamine K, Special K, Kit-Kat, K Hole Methamphetamine Ice, Glass, Crystal meth, Meth, Speed Phencyclidine (PCP) Angel dust, Rocket fuel, Hog Amphetamine Speed, Bennies, Uppers Gamma hydroxybutyrate (GHB) Liquid ecstasy, Georgia home boy, Soap Barbiturates Downers, Reds, Blues, Yellow jackets Benzodiazepines Tranks, Downers, Vallies (for diazepam)

References:

www.dea.gov/sites/default/files/2018-07/DIR-020-17%20Drug%20Slang%20Code%20Words.pdf

↑ *Back to this question in Part A*

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Q20: A 24-year-old male with no history of violent behavior suddenly becomes agitated and aggressive after consuming a high dose of cannabis. He attacks several people without warning and later has no recollection of the incident. This condition, triggered by excessive cannabis use, is known as? (Q847051)

A. Amotivational syndrome

B. Hashish psychosis

C. Run amok

D. Korsakoff psychosis

Correct Answer: C. Run amok

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Run Amok can occur after consuming a high dose of cannabis and is marked by a sudden psychological disturbance. It starts with a period of depression, followed by violent outbursts and attempts to harm others. The episode typically ends with the individual either surrendering or committing suicide. Effects of cannabis use Acute Chronic Psychiatric symptoms Euphoria (increased subjective experiences and disorientation) Disturbed thought pattern Altered concepts of time and space, lapse of attention Impaired immediate memory function Well-being and self-confidence Rapid and impaired speech Increased awareness of stimuli Fear of dying Physical symptoms Increased appetite and thirst Nausea and dizziness Ataxia or tremors Conjunctival injection Somnolence Hashish psychosis (Option B) Auditory and visual hallucination Delusion of persecution Run amok begins with a period of depression, followed by violent outbursts aimed at harming others, and ends with either surrender or suicide. Amotivational syndrome (Option A) Loss of interest in day-to-day activity Lethargy Loss of age-appropriate behaviour Other effects: Decreased testosterone levels leading to gynecomastia, low sperm count Korsakoff psychosis (Option D) : It is associated with thiamine deficiency and is usually seen in chronic alcoholics. It is characterized by confabulation, anterograde, and retrograde amnesia.

References:

Essentials of forensic medicine and toxicology, KS Narayan Reddy, 35th edition, Page 440, 457

↑ *Back to this question in Part A*

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Q21: Which of the following options correctly orders the potency of cannabis products from most potent to least potent? (Q847047)

A. Charas > Hashish oil >Bhang > Ganja

B. Hashish oil > Bhang > Charas > Ganja

C. Hashish oil > Charas > Ganja > Bhang

D. Charas > Bhang > Ganja > Hashish oil

Correct Answer: C. Hashish oil > Charas > Ganja > Bhang

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The list of different forms of cannabis is given below in order of increasing potency, Form of cannabis Percentage of active principle Bhang 15% Ganja 15-25% Charas 25-40% Hashish Oil >50% Charas: Ganja: Hashish oil:


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References:

Essentials of forensic medicine and toxicology, KS Narayan Reddy, 35th Edition, Page 456-457 Hash Oil - an overview | ScienceDirect Topics

↑ *Back to this question in Part A*

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Q22: A 30-year-old man presents to the emergency department with symptoms of anticholinergic toxicity after ingesting an herbal preparation containing Datura seeds. Upon examination, he shows signs of confusion and dilated pupils. Which of the following statements about the seed morphology of Datura and Capsicum is incorrect? (Q847041)

A. Datura seeds are large and thick, while capsicum seeds are small and thin

B. Datura seeds are kidney-shaped, while capsicum seeds are rounded

C. Datura seed has a smooth surface, while capsicum seeds have numerous depressions

D. Datura seeds are dark yellowish-brown, while capsicum seeds are pale yellow

Correct Answer: C. Datura seed has a smooth surface, while capsicum seeds have numerous depressions

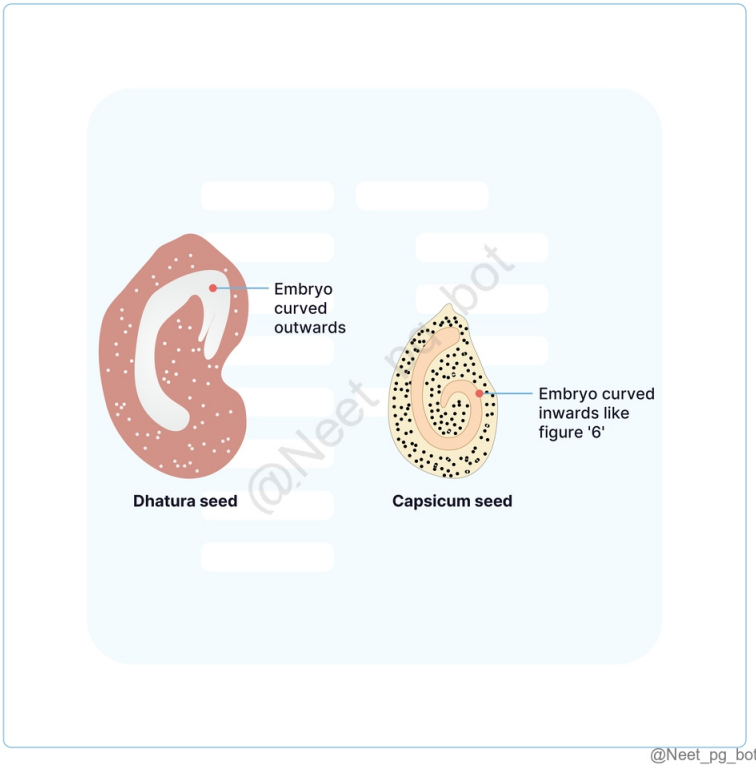
■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Datura seed has numerous small depressions, while capsicum seed has a smooth surface. Features Datura seeds Capsicum seeds Size (Option A) Large and thick Small and thin Shape (Option B) Kidney shaped Rounded Color (Option C) Dark or yellowish-brown Pale - yellow Surface Numerous small depressions Smooth Margin Laterally compressed and double edge at the convex border Convex border is simple and sharp Smell Odourless Pungent Taste Bitter Pungent Cut surface (longitudinal) The embryo is curved outward at the hilum The embryo is curved inward like the figure '6.' Active principle hyoscine (scopolamine), hyoscyamine and traces of atropine Capsaicin and capsicin Effects Antimuscarinic effects on the CNS It acts as an irritant poison, causing pain and irritation. Datura seeds Capsicum seeds







References:

Essentials of Forensic Medicine and Toxicology, KS Narayan Reddy, 35th edition, Page 422, 454-455

↑ *Back to this question in Part A*

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Q23: A 24-year-old male presents to the emergency room after ingesting kidney-shaped seeds while camping. Upon examination, he exhibits dry mouth, dilated pupils, blurred vision, flushed skin, tachycardia, hallucinations, agitation, and disorientation. What is the most appropriate antidote for this poisoning? (Q847038)

A. Naloxone

B. Physostigmine

C. Pyridostigmine

D. Fomepizole

Correct Answer: B. Physostigmine

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The patient's symptoms suggest anticholinergic toxicity , likely due to the ingestion of Datura seeds. Physostigmine 1mg IV (hourly) is used as an antidote for datura poisoning. Toxins and Antidotes Toxicity Antidote Datura/anticholinergics toxicity Physostigmine (Option B) Opium Naloxone (Option A ruled out) Organophosphates Atropine Pralidoxime Acetaminophen N-acetyl-cysteine Methanol Fomepizole (Option D ruled out) Benzodiazepine Flumazenil Cyanide Eli Lilly Antidote Kit (3-step approach) Pyridostigmine (Option C) also inhibits acetylcholinesterase; it does not penetrate the blood-brain barrier , making it less suitable for addressing the central nervous system effects of anticholinergic toxicity.

References:

Essentials of Forensic Medicine and Toxicology, KS Narayan Reddy, 35th Edition, Page 454-455 Modern Medical Toxicology, by VV Pillai, 4th Edition, Page 209, 367, 368

↑ *Back to this question in Part A*

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Q24: A 40-year-old woman presents with blistering and severe itching on her arms after applying the juice from a black seed, as shown in the image. She also experiences nausea and abdominal pain. Which of the following statements is not true? (Q847033)

A. Often used in malingering for artificial bruises.

B. The toxic principle is Bhilawanol.

C. Commonly used for Arrow and Cattle poisoning.

D. Large oral doses can be potentially fatal



Correct Answer: C. Commonly used for Arrow and Cattle poisoning.

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The scenario of blistering and severe itching on her arms after applying the juice from the seed, as shown in the image, suggests Semecarpus Anacardium. It is used to create artificial bruises (malingering) but is not commonly used for Arrow and cattle poisoning. Abrus precatorius is used as an arrow poison and ideal cattle poison. Semecarpus Anacardium: Commonly known as the marking nut or bhilawanol (washermen use its juice to inscribe identification numbers on clothes). Seeds: Black, cone/heart-shaped with a rough projection at the base. They have a thick pericarp that contains an acrid, brownish, oily juice that turns black upon exposure to air. Active principles: Semecarpol, Bhilawanol. (Option B) Symptoms: Skin: Irritation, itching, painful blisters → ulcers; may cause fever, painful urination, brown urine. Oral: Blisters in mouth/throat, GI irritation, dyspnea, tachycardia, hypotension, delirium, coma, death. (Option D) Fatal dose: 5–10 g (5–8 seeds); fatal period: 12–24 h. Treatment: Wash with soap and water, apply bland liniments, give demulcents and symptomatic care. Medico-legal: Used for criminal abortion , punishment , or Malingering . (Option A)



References:

Gautam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Page 520

↑ *Back to this question in Part A*

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Q25: A 25-year-old female presents to the ER after ingesting seeds from a plant, as shown in the image. She reports severe abdominal pain, nausea, and bloody diarrhoea. Upon examination, she exhibits weakness, tachycardia, and dilated pupils. What is the primary active principle responsible for the toxic effects seen in this patient? (Q847029)

A. Abrin

B. Calotropin

C. Crotin

D. Ricin



Correct Answer: A. Abrin

- *Listen (English)*
- *Listen (Hindi)*

Explanation: The given scenario and image suggest the ingestion of seeds of Abrus precatorius, and Abrin is the primary active principle found in the seeds. It is a highly toxic protein belonging to the class of toxins known as toxalbumins. Abrus precatorius (Rati, Gunchi, Jequirity): A Leguminosae plant found across India; used as arrow and cattle poison . Injuries with seed-coated needles may mimic snakebites . Seeds: Scarlet, egg-shaped, black spot at one end; tasteless, odourless. Toxins: Abrin (toxalbumin), Abrine (amino acid), Hemagglutinin (enzyme), Abralin (glycoside). Symptoms (within 6 hrs–3 days): Abdominal pain, vomiting, bloody diarrhea, weakness, tremors, dilated pupils, hallucinations, tetany, and circulatory collapse. The injected extract mimics a viper bite . Fatal dose: 1–2 crushed seeds (≈90–120 mg abrin). Fatal period: 3–5 days. Treatment: Anti-abrin injection, removal of injection needle, oral HCl–pepsin, and maintain urine alkalinity.



References:

Gautam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Page 519

↑ *Back to this question in Part A*

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• [11_Forensic Toxicology] 025 Previous Year Questions

« Back to Folder Directory

[11_Forensic Toxicology] 025 Previous Year Questions — Quick Jump

Q1 (p. 1143)	*Q2 (p. 1146)*	*Q3 (p. 1146)*	*Q4 (p. 1147)*	*Q5 (p. 1148)*	*Q6 (p. 1149)*
Q7 (p. 1150)	*Q8 (p. 1151)*	*Q9 (p. 1154)*	*Q10 (p. 1155)*	*Q11 (p. 1156)*	*Q12 (p. 1157)*
Q13 (p. 1158)	*Q14 (p. 1159)*	*Q15 (p. 1160)*	*Q16 (p. 1161)*	*Q17 (p. 1162)*	*Q18 (p. 1163)*
Q19 (p. 1163)	*Q20 (p. 1164)*	*Q21 (p. 1166)*	*Q22 (p. 1167)*	*Q23 (p. 1169)*	*Q24 (p. 1172)*
Q25 (p. 1173)	*Q26 (p. 1174)*	*Q27 (p. 1175)*	*Q28 (p. 1177)*	*Q29 (p. 1178)*	*Q30 (p. 1179)*
Q31 (p. 1182)	*Q32 (p. 1183)*	*Q33 (p. 1184)*	*Q34 (p. 1185)*	*Q35 (p. 1186)*	*Q36 (p. 1186)*
Q37 (p. 1188)	*Q38 (p. 1189)*	*Q39 (p. 1190)*	*Q40 (p. 1190)*	*Q41 (p. 1191)*	*Q42 (p. 1192)*
Q43 (p. 1193)	*Q44 (p. 1194)*	*Q45 (p. 1194)*	*Q46 (p. 1195)*	*Q47 (p. 1196)*	*Q48 (p. 1197)*
Q49 (p. 1197)	*Q50 (p. 1198)*	*Q51 (p. 1202)*	*Q52 (p. 1204)*	*Q53 (p. 1205)*	*Q54 (p. 1207)*
Q55 (p. 1208)	*Q56 (p. 1209)*	*Q57 (p. 1210)*	*Q58 (p. 1211)*	*Q59 (p. 1212)*	*Q60 (p. 1214)*
Q61 (p. 1214)	*Q62 (p. 1216)*	*Q63 (p. 1217)*	*Q64 (p. 1218)*	*Q65 (p. 1219)*	*Q66 (p. 1219)*

Q1: Which of the following is the incorrect statement regarding the image shown below? (Q855251)

A. Only the roots of this plant are poisonous

B. Causes AV block

C. Atropine is not specific for aconite poisoning

D. Grow in sub Himalayan range



Correct Answer: A. Only the roots of this plant are poisonous

Explanation: In plants like Aconitum (commonly known as aconite or monkshood), all parts of the plant, including the roots, leaves, and flowers, are toxic . The plant contains potent alkaloids such as aconitine , which can cause poisoning if ingested. {{caption_text}} {{caption_text}} Species Aconitum napellus, Aconitum ferox Synonyms Monk’s hood , mitha zaher, bish, wolf’s bane, women’s bane, devil’s helmet, or blue rocket Source All parts of the plant are poisonous (Option A) Root and root tubers are the most potent (often mistaken for horseradish root) Grown in Mountainous areas of the northern hemisphere. Eg. Sub Himalayan range (Option D ruled out) Active Principles Aconitine, pseudo-aconitine, indaconitine, picraconitine, aconine. Mechanism of Action Affects voltage-sensitive sodium channels, stimulates then paralyzes sensory nerves, secretory nerves, CNS, and myocardium. Symptoms (by system) GIT: Nausea, vomiting, salivation, abdominal pain, diarrhea, burning/tingling of mouth, tongue, throat, followed by numbness. CVS: Hypotension, AV block, bradycardia , chest pain, ventricular tachycardia/fibrillation, slow/feeble pulse. (Option B ruled out) CNS: Vertigo, restlessness, headache, giddiness. MS: Muscle weakness, twitching, spasms. RS: Slow, labored, shallow breathing. Ocular: Alternating pupil dilation/contraction (hippus) , diplopia, impaired vision. Others: Subnormal temperature, cold skin, yellow-green vision, tinnitus, paralysis of facial muscles. Death: Respiratory failure or ventricular fibrillation. Fatal Dose Root: 1-2 g Treatment No specific antidote. Gastric lavage with tannic acid/activated charcoal. Inotropic therapy for hypotension, atropine for bradycardia. (Option C ruled out) Ventricular arrhythmia treated with amiodarone, flecainide; cardiopulmonary bypass for refractory cases. Medico-legal Aspects Ideal homicidal poison: cheap, easily available, small lethal dose, short fatal period, difficult to detect postmortem. Accidental poisoning: mistaken for horseradish





References:

Gautam Biswas Review of Forensic Medicine and Toxicology, 3rd edition, Page 576-577 Aconitum (Aconite, Blue rocket, Devil's helmet, Helmet Flower, Leopard's bane, Monkshood, Queen of poisons, Wolfsbane, Woman's bane)

↑ *Back to this question in Part A*

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Q2: A 50-year-old factory worker was brought to the emergency room with complaints of headache, vomiting and blurring of vision after he consumed local spirit. Which of the following is used for the treatment of his condition? (Q857931)

A. Fomepizole

B. Flumazenil

C. N-acetylcysteine

D. Naloxone

Correct Answer: A. Fomepizole

Explanation: lcohol dehydrogenase also catalyses the initial steps in the metabolism of ethylene glycol and methanol to their toxic metabolites. Features or symptoms of methanol poisoning: Gastrointestinal Distress: Nausea, vomiting, abdominal pain, and diarrhea are common symptoms associated with methanol poisoning. Neurological Symptoms: Methanol toxicity affects the central nervous system and can lead to symptoms such as headache, dizziness, confusion, disorientation, agitation, and seizures. Visual Impairment: Methanol poisoning can cause visual disturbances, including blurred vision, double vision, or complete loss of vision. This is due to the toxic effect of methanol on the optic nerve. Metabolic Acidosis: Methanol is metabolized in the body to formic acid and formaldehyde, which can lead to metabolic acidosis—a disturbance in the body's acid-base balance. Symptoms of metabolic acidosis include rapid breathing, increased heart rate, and fatigue. Respiratory Distress: Severe cases of methanol poisoning may result in respiratory distress, difficulty breathing, and lung damage.

References:

Fomepizole

↑ *Back to this question in Part A*

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Q3: A child is brought to the hospital with pinpoint pupils and difficulty breathing after playing at home. What is the most likely substance the child accidentally ingested? (Q866632)

A. Organophosphate

B. Opioid

C. Atropine

D. Benzodiazepine

Correct Answer: B. Opioid

Explanation: Opioid ingestion classically causes miosis (pin-point pupils) and respiratory depression — the hallmark of opioid toxicity. Classical triad of Opioid poisoning: Coma Respiratory depression Pinpoint pupil Opioid Overdose/ Poisoning: Symptoms: Unconsciousness/coma Miosis: Pinpoint pupil Respiratory depression Dry secretion in the eye/mouth Urinary retention Constipation Flaccid muscles Convulsions (in children) Management: ■■■■■■■ Acute overdose/poisoning: IV Naloxone (Antidote) ■■■■■■■ Maintenance (Detoxification phase: To prevent withdrawal): Opioids: Buprenorphine, Methadone, Tramadol Non-Opioids-Clonidine, Lofexidine Abstinence (Prevent relapse): Oral Naltrexone Organophosphates (Option A) cause miosis but usually present with additional cholinergic symptoms such as salivation and muscle fasciculations. Atropine (Option C): Causes pupil dilation (mydriasis) rather than constriction and typically leads to dry mouth and tachycardia, not respiratory depression. Benzodiazepines (Option D): Causes sedation and respiratory depression but generally does not cause pinpoint pupils; pupils are usually normal or dilated.

↑ *Back to this question in Part A*

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Q4: In which poisoning is cherry red hypostasis seen on post-mortem examination? (Q857944)

A. CO Poisoning

B. Hydrogen sulphide

C. Yellow phosphorus

D. Hydrogen cyanide

Correct Answer: A. CO Poisoning

Explanation: herry-pink lividity : One of the classic signs of carbon monoxide poisoning is the development of cherry-pink lividity on the skin. This occurs due to the formation of carboxyhemoglobin, a stable complex formed when carbon monoxide binds to hemoglobin, resulting in a bright pink or cherry-red coloration of the skin. Discoloration of internal organs: Carbon monoxide poisoning can cause discoloration of internal organs. The organs may appear bright red due to the presence of carboxyhemoglobin. Pulmonary congestion and edema: Carbon monoxide can lead to congestion and fluid accumulation in the lungs, resulting in pulmonary congestion and edema. This can be observed during postmortem examination as fluid-filled lungs with frothy fluid.

Macroscopic changes in the brain: Carbon monoxide poisoning can cause macroscopic changes in the brain. The brain may appear swollen and congested, and the white matter can show pink discoloration. Hydrogen Sulphide (Option B): poisoning causes a rotten egg smell in the victim. The general signs of asphyxia are present along with signs of changing of the blood and viscera colour to greenish-purple and not cherry-red. Yellow Phosphorus (Option C): is a potent hepatotoxin. Post-mortem findings include garlicky odour along with icterus of the body due to liver failure as a part of multiple organ failure which causes the death of the victim. Hydrogen cyanide (Option D): is an extremely lethal poison. Post-mortem findings of hydrogen cyanide poisoning include glistening and prominent dilated pupils, frothy mouth, brick-red blood and cheeks due to impaired oxygenation of the tissues. The internal organs may be oedematous due to congestion.

References:

CO

↑ *Back to this question in Part A*

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Q5: Hooch tragedy is related to: (Q855793)

A. Phosphorus

B. Mercury

C. Ethanol

D. Methanol

Correct Answer: D. Methanol

Explanation: A "hooch tragedy" refers to incidents of poisoning caused by the consumption of illicit or adulterated alcohol. Methanol, a toxic alcohol, is often found in illegally brewed liquor as a contaminant. Ingesting methanol leads to metabolic acidosis, blindness, and potentially fatal outcomes due to its toxic metabolites, formaldehyde and formic acid. Phosphorus (Option A): Phosphorus poisoning typically occurs due to ingestion of rodenticides or fireworks, causing severe gastrointestinal and hepatic damage. It is not related to hooch tragedies. Mercury (Option B): Mercury poisoning occurs due to exposure to mercury compounds, causing neurological and renal toxicity. It is unrelated to alcohol adulteration. Ethanol (Option C): Ethanol is the active ingredient in alcoholic beverages and is generally not the cause of toxicity in hooch tragedies. The issue "hooch tragedy" occurred when ethanol was adulterated with methanol.

References:

pmc.ncbi.nlm.nih.gov/articles/PMC3665074/

↑ *Back to this question in Part A*

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Q6: A male patient presented with a history of consuming an unknown substance. He exhibited increased sweating, lacrimation, diarrhea, and bradycardia. What is management? (Q855798)

A. Atropine

B. Calcium gluconate

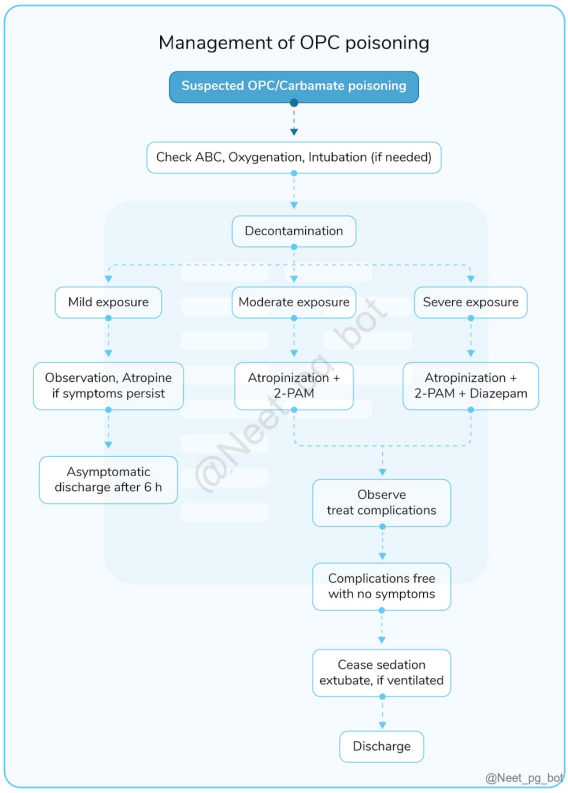
C. Pralidoxime

D. Obidoxime

Correct Answer: A. Atropine

Explanation: The symptoms described—sweating, lacrimation, diarrhea, and bradycardia—are consistent with cholinergic toxicity, commonly caused by organophosphate or carbamate poisoning. Atropine is the first-line treatment for cholinergic toxicity. It is a muscarinic receptor antagonist that counteracts the effects of excessive acetylcholine at muscarinic receptors, reducing secretions, bradycardia, and other parasympathetic symptoms. Symptoms Muscarinic: Lethargy, Salivation, Diarrhea, Lacrimation, Urination, Miosis, Muscle weakness, Bronchorrhea, Bronchospasm, Bradycardia, Emesis (Mnemonic: DUMBBELLS) Nicotinic: Muscle weakness, Fasciculation, Areflexia, Muscle paralysis CNS: Headache, Tremor, Confusion, Slurred speech, Coma, Convulsion Laboratory Diagnosis RBC/True Cholinesterase (specific) Plasma/Pseudocholinesterase (Most common) Falls rapidly with organophosphorus poisoning Inexpensive, sensitive) Atropine test : If 2 mg of Atropine relieves symptoms, it confirms OP poisoning P-nitro phenol test for confirmation. Management Resuscitative measures (Airway-Breathing-Circulation) Decontamination Gastric lavage with 1:5000 KMnO4 Activated charcoal Atropine sulfate (2-4 mg IV every 10-15 minutes until atropinization) Signs of atropinization: Heart rate>80 beats/min, pupils no longer pinpoint, clear chest on auscultation with no wheeze, systolic BP>80mmHg, Dry axillae Oximes (Pralidoxime) to decrease muscarinic and CNS symptoms removes phosphate group reduces atropine requirement Cause of Death Respiratory Muscle Paralysis (RMP) Calcium gluconate (Option B): Used primarily for hyperkalemia, hypocalcemia, or calcium channel blocker toxicity. It does not address cholinergic symptoms. Pralidoxime (Option C): Pralidoxime (2-PAM) reactivates acetylcholinesterase inhibited by organophosphates. It is used alongside atropine but is not the initial management step . Atropine is given first to stabilize the patient. Obidoxime (Option D): Similar to pralidoxime, obidoxime is an oxime used to reactivate acetylcholinesterase. However, it is not the primary treatment for immediate symptom control. Learning Objective: Antidotes and their mechanisms Poisoning Type Antidote Mechanism Arsenic BAL (Dimercaprol) IM, chelates arsenic for excretion. Succimer (DMSA) Oral chelation. DMPS IV, transitioned to oral chelation. Copper Potassium Ferrocyanide Forms insoluble copper complexes, reducing absorption. Penicillamine Chelates copper. Cyanide Sodium Nitrite Forms methemoglobin to bind cyanide. Sodium Thiosulfate Converts cyanide to thiocyanate for renal excretion. Hydroxocobalamin Binds cyanide, forming cyanocobalamin. Dicobalt Edetate, Methylene Blue Alternative antidotes. Ethylene Glycol Ethanol/Fomepizole Inhibits alcohol dehydrogenase to prevent toxic metabolites. Iron Desferrioxamine Chelates iron for excretion. Magnesium Hydroxide/Sodium Bicarbonate Note: BAL should not be used in iron, cadmium, or selenium poisoning due to formation of toxic complexes. Precipitate iron, reducing absorption. Lead Sodium/Magnesium Sulfate Forms insoluble lead sulfate. Calcium Chloride/Gluconate Promotes bone deposition of lead. CaNa2EDTA + BAL Chelation therapy for lead elimination. Mercury Sodium Formaldehyde Sulfoxylate Reduces toxic mercury ions. BAL (Dimercaprol)

Traditional chelator; oral agents preferred. Methanol Ethanol/Fomepizole Compete for alcohol dehydrogenase, preventing toxic metabolites. Opium Naloxone Blocks opioid receptors, reversing opioid effects. Organophosphate Atropine Blocks muscarinic receptors to manage cholinergic symptoms. Pralidoxime (2-PAM) Reactivates acetylcholinesterase. Phenol Magnesium Sulfate Absorbs phenol in the stomach. Phosphorus Potassium Permanganate Oxidizes phosphorus into harmless phosphates. Strychnine Barbiturates Depress CNS, preventing seizures. Thallium Prussian Blue Binds thallium in the intestine, preventing absorption.



References:

Essentials of Forensic Medicine and Toxicology, KS Narayan Reddy, 35th edition, Page 454-455

Modern Medical Toxicology, by VV Pillai, 4th Edition, Page 209, 367, 368.

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 487, 491, 496, 500, 508, 509, 515, 539, 555, 574, 584, 597-600, 612

↑ *Back to this question in Part A*

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Q7: Which of the following are seen in patients with chronic arsenic poisoning? 1. Raindrop pigmentation 2. Peripheral neuritis 3. Mees line 4. Luminous vomit (Q855806)

A. 1, 2, 3 are correct

B. 2, 3 are correct

C. 1, 4 are correct

D. Only 1 is correct

Correct Answer: A. 1, 2, 3 are correct

Explanation: Chronic arsenic poisoning commonly presents with raindrop pigmentation, peripheral neuritis, and Mees lines, making Option A the correct answer. Clinical manifestations of Arsenic Poisoning: Acute Arsenic Poisoning Chronic Arsenic Poisoning Dermal Hair loss Mees lines (Aldrich-Mees line or Reynold's line): Transverse bands of opacity in nails. Melanosis (neck, eyelids, nipples) Bowen's disease Facial oedema Hyperkeratosis Black foot disease (Peripheral gangrene) Hyperpigmentation (raindrop pattern) Skin cancer (commonly squamous cell carcinoma). Ocular Conjunctivitis Lacrimation Dimension of Vision Gastrointestinal Abdominal pain Metallic taste Garlicky odour Dysphagia Vomiting Diarrhoea (bloody or rice water) Anorexia Nausea Vomiting Diarrhea Weight loss Airway Upper airway irritation Nasal septum perforation Laryngitis Bronchitis Liver Fatty degeneration Hepatomegaly Jaundice Cirrhosis Kidney Oliguria Uraemia Nephritic changes Neurological Hyperpyrexia Convulsions Coma Encephalopathy Polyneuritis (glove & stocking type) Tremor Ataxia Limb tenderness Difficulty in walking Haematological – Anaemia Leucopenia Thrombocytopenia Basophilic stippling (Rare in arsenic poisoning and common in lead poisoning) Karyorrhexis Pancytopenia Cardiac Tachycardia Hypotension Cardiac arrhythmias Hypertension Myocarditis Luminous vomit: This is not associated with chronic arsenic poisoning but can occur in acute poisoning due to phosphorus ingestion.

References:

Essentials of Forensic Medicine and Toxicology, KS Narayan Reddy, 35th Edition, Page 408-410.

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 490, 491.

Modern Medical Toxicology, by VV Pillai, 4th Edition, Page 79-82.

↑ *Back to this question in Part A*

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Q8: Identify the given plant based on its features (Q855161)

A. Datura Alba

B. Argemone Mexicana

C. Nerium Odorum

D. Papaver Somniferum



Correct Answer: B. Argemone Mexicana

Explanation: The above image matches the characteristics of Argemone Mexicana , known for its yellow flowers and toxic properties. Argemone Mexicana: Commonly known as prickly poppy. The plant is characterized by its yellow flowers, prickly leaves, and a milky sap. It is toxic due to alkaloids such as sanguinarine and dihydrosanguinarine, which can cause health issues like epidemic dropsy. Argemone Mexicana (Prickly Poppy) Toxic Parts Entire plant; seeds resemble mustard seeds but are darker with minute projections. Toxic Oil Argemone oil (katkar oil) causes epidemic dropsy. Active Principles Plant Alkaloids: Berberine, Protopine. Oil Alkaloids: Sanguinarine, Dihydrosanguinarine. (Cause abnormal blood vessel permeability.) General Symptoms Gradual onset with appetite loss, diarrhea, leg edema, and generalized anasarca. System-Specific Signs Heart : Myocardial damage, heart dilatation. CVS: Hypotension, breathlessness, feeble pulse. Hepatic : Enlarged , tender liver. PNS : Tingling, hyperesthesia, calf muscle tenderness, reduced or absent jerks. Ocular : Dim vision due to increased intraocular pressure. Skin : Bluish mottling from peripheral vessel dilation. Fatal Outcome Severe heart damage. Treatment Balanced diet, decontamination, cessation of oil consumption, diuretics, corticosteroids, and supportive care. Medico-Legal Aspects Argemone oil is commonly used to adulterate mustard or other edible oils. Datura Alba (Option A): Known as white datura , it has white trumpet-shaped flowers and is associated with anticholinergic toxicity. {{caption_text}} Nerium Odorum (Option C) : Known as oleander , it has pink or white flowers and contains cardiac glycosides causing poisoning. {{caption_text}} Papaver Somniferum (Option D): Commonly known as the opium poppy, it produces latex rich in alkaloids like morphine and codeine. {{caption_text}}


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References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 579, 632

↑ *Back to this question in Part A*

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Q9: What is the treatment of choice for acute arsenic poisoning? (Q855172)

A. Ipecac

B. Penicillamine

C. Activated charcoal

D. Dimercaprol

Correct Answer: D. Dimercaprol

Explanation: The primary treatment for acute arsenic poisoning is dimercaprol, a chelating agent that binds arsenic and facilitates its excretion. Management of Arsenic Poisoning Supportive treatment Gastric lavage, airway, breathing, and circulation management (intravenous fluids, cardiac monitoring, etc.). Medical treatment Freshly prepared hydrated ferric oxide (chemical antidote) Chelating agents BAL (Dimercaprol) DMSA (Dimercapto

succinic acid) or DMPS (Dimercapto propane sulfonic acid) Penicillamine Other measures Purgatives like Castor oil or Magnesium sulfate (remove unabsorbed poison from the intestine). Glucose-saline with sodium bicarbonate. Hemodialysis or exchange transfusion. Ipecac (Option A): Previously used to induce vomiting but is no longer recommended due to the risk of aspiration and limited efficacy. Penicillamine (Option B): Another chelating agent, primarily used for copper poisoning (e.g., Wilson's disease). Less effective than dimercaprol in arsenic toxicity. Activated charcoal (Option C): Used for gastrointestinal decontamination in various poisonings. Not effective in chelating or removing absorbed arsenic.

References:

Essentials of Forensic Medicine and Toxicology, KS Narayan Reddy, 35th Edition, Page 408-410.

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 490, 491.

Modern Medical Toxicology, by VV Pillai, 4th Edition, Page 79-82.

↑ *Back to this question in Part A*

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Q10: Which of these is not a cardiac poison? (Q855195)

A. Aconite

B. Cerbera thevetia

C. Nicotiana tabacum

D. Atropa belladonna

Correct Answer: D. Atropa belladonna

Explanation: Atropa belladonna, also known as "Deadly Nightshade," contains tropane alkaloids (atropine, scopolamine). While it affects the autonomic nervous system (causing tachycardia, dry mouth, and dilated pupils), it is not classified as a direct cardiac poison. Some common cardiac poisons include: Aconite (Aconitum napellus, Aconitum ferox) Nicotine (Nicotiana tabacum) Digitalis (Digitalis purpurea) Oleander (Cerbera thevetia, Cerbera odorum) Quinine. Aconite (Option A): Aconite is cardiac poison derived from the Aconitum plant . It causes arrhythmias, hypotension, and cardiac arrest by altering sodium channel function. Cerbera thevetia (Option B): Commonly known as the "Yellow Oleander," it contains cardiac glycosides that interfere with the sodium-potassium ATPase pump . Nicotiana tabacum (Option C): Tobacco contains nicotine , which can act on nicotinic acetylcholine receptors and cause tachycardia or bradycardia depending on the dose.

References:

Review of Forensic Medicine and Toxicology by Gautam Biswas, 3rd Edition, Page 576- 580

↑ *Back to this question in Part A*

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Q11: Gastric lavage, commonly known as stomach pumping or gastric irrigation, is a procedure performed to remove the contents of the stomach. It has been widely used since the early 19th century as a standard method to eliminate toxins from the stomach. This procedure is typically employed for individuals who have consumed poison or overdosed on substances like ethanol. Additionally, it may be performed prior to surgery to empty the digestive tract. In which of the following situations is gastric lavage not recommended? (Q857013)

A. Organo-Phosphosphate poisoning

B. Hydrocarbons

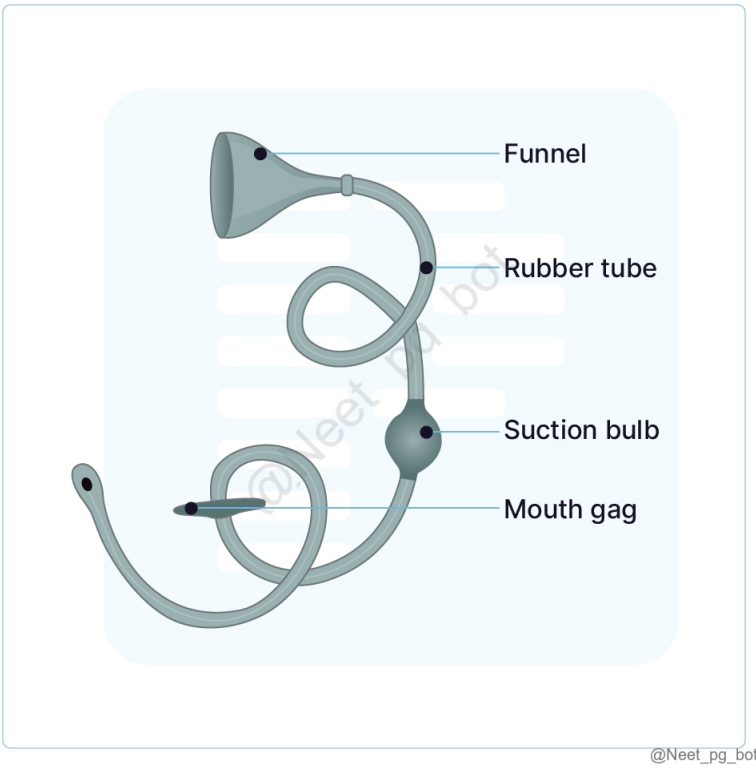
C. Ethanol poisoning

D. PCM toxicity

Correct Answer: B. Hydrocarbons

Explanation: Gastric Lavage in Poisoning Management Gastric lavage is a procedure to remove ingested poison by introducing and withdrawing fluids through an orogastric tube. Its effectiveness depends on timing, proper technique, and patient-specific considerations. Timing and Effectiveness Most effective within 1 hour of ingestion Can be beneficial up to 4-6 hours in select cases Beyond 6 hours , poison likely passes into the intestines, reducing lavage efficacy Procedure Steps Step Details Patient Positioning Trendelenburg: Head down to prevent aspiration Left lateral decubitus: Reduces chance of poison entering the duodenum Tube Placement Confirmation Inject air and listen for gastric bubbling sounds Watch for coughing or bubbles (indicates misplacement in trachea) Fluid Administration Fluid is administered and aspirated using a syringe attached to the tube Fluid Selection Tap water for most cases Normal saline for infants Specific solutions (e.g., potassium permanganate) may be used for certain poisons Residual Fluid Leave a small amount of fluid to neutralize remaining poison Contraindications Corrosive Poisoning : Avoid except for carbolic acid (phenol) to prevent perforation Convulsant Poisons : Risk of triggering seizures (e.g., strychnine) Comatose Patients : High aspiration risk Volatile Poisons/ Hydrocarbons : May cause aspiration pneumonitis Risk of Hemorrhage/ Perforation : Avoid if esophageal varices or recent surgery present Additional Contraindications to Emetics Severe heart or lung diseases Advanced pregnancy CNS depression or seizures Complications Complication Details Aspiration Occurs in ~10% of cases. Risk of lung injury Esophageal/Gastric Perforation Can be life-threatening Tube Misplacement Misplaced into trachea, causing complications Bleeding Can occur with improper technique or pathology Alternatives to Gastric Lavage Alternative Description Emetics Induce vomiting in conscious patients Dilution Large water intake to dilute corrosive substances Endoscopic/Surgical Removal Used for toxic foreign bodies or drug packets Incorrect Options: Organophosphate poisoning (Option A): Gastric lavage is recommended for organophosphate poisoning (e.g., insecticides) because it can effectively remove the poison from the stomach if performed early, particularly within 1 hour of ingestion. The risks of aspiration or complications are considered manageable in this case with proper techniques. Ethanol poisoning (Option C): Gastric lavage is recommended in cases of ethanol poisoning if it is performed within 1 hour of ingestion. Ethanol is rapidly absorbed, so the procedure is most effective if

performed early. Gastric lavage may help prevent further absorption of the alcohol and reduce toxicity. PCM (Paracetamol/Acetaminophen) toxicity (Option D): In PCM toxicity, gastric lavage is used if the patient presents within a few hours of ingestion, particularly in cases of massive overdose. It helps remove remaining drug from the stomach before it is absorbed into the bloodstream.



References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 473, 474

↑ *Back to this question in Part A*

@Neet_pg_bot

Q12: In case of corrosive acid ingestion, stomach is opened along the? (Q857630)

A. Lesser curvature

B. Greater curvature

C. Vertical

D. Pylorus

Correct Answer: B. Greater curvature

Explanation: issection: Two ligatures are applied at the cardiac end of the esophagus and two ligatures are below the pyloric end of the stomach. The stomach is removed by cutting between the double ligatures at both ends. The stomach is then opened along the greater curvature . The mucous membrane is examined for the presence of any stains, congestion, hemorrhage, desquamation, ulceration, sloughing, or perforation. The contents of the stomach are noted with respect to quantity, nature of material/food, state of digestion, color, and smell.

References:

Gautam Biswas Review of Forensic Medicine and Toxicology, 3rd edition, pages 104-110

↑ *Back to this question in Part A*

@Neet_pg_bot

Q13: Inhaling the cloth soaked in drug is: (Q857631)

A. Bagging

B. Spraying

C. Huffing

D. Sniffing

Correct Answer: C. Huffing

Explanation: - Huffing Huffing involves inhaling the vapors of an inhalant, typically from a cloth or rag soaked in volatile solvents. It is a method where the substance is directly inhaled through the mouth, and a cloth soaked in the drug is commonly used for this method. Inhalants are substances that produce intoxicating vapors when inhaled, often used by young adolescents. They can cause severe health issues, including cardiac arrest, suffocation, and long-term damage to the brain, heart, kidneys, and liver. Types of Inhalants: Volatile Solvents : Liquids that vaporize at room temperature, found in household and business products like paint thinners, dry-cleaning fluids, gasoline, glues, and felt-tip markers. Aerosols : Products that release vapors when sprayed, such as spray paints, deodorant sprays, hair sprays, and cooking oil sprays. Gases : Gases like nitrous oxide (laughing gas), chloroform, ether, and halothane, used in medical procedures. Also includes gases found in butane lighters, propane tanks, and refrigerants. Nitrites : Sold in small bottles called “poppers,” these primarily dilate blood vessels and relax muscles, acting differently from other inhalants that affect the central nervous system. Bagging (Option A) : This involves inhaling vapors from a substance stored in a plastic bag. It is a common method of inhaling gases or solvents but does not specifically refer to inhaling a cloth soaked in a drug. Spraying (Option B) : This refers to inhaling vapors directly from an aerosol or spray can, such as spray paints or deodorant sprays. It is a method of inhaling aerosol inhalants, but it does not apply to inhaling from a cloth soaked in a drug. Sniffing (Option D) : This involves inhaling vapors directly from a container or surface, such as sniffing glue or other substances. However, it does not specifically refer to inhaling from a cloth soaked in a drug.

References:

Inhalant abuse - PMC

Inhalants | National Institute on Drug Abuse (NIDA)

↑ *Back to this question in Part A*

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Q14: A 72-year-old farmer was presented in the hospital with pinpoint pupil & increased secretions. The diagnosis is (Q857638)

A. Alcohol poisoning

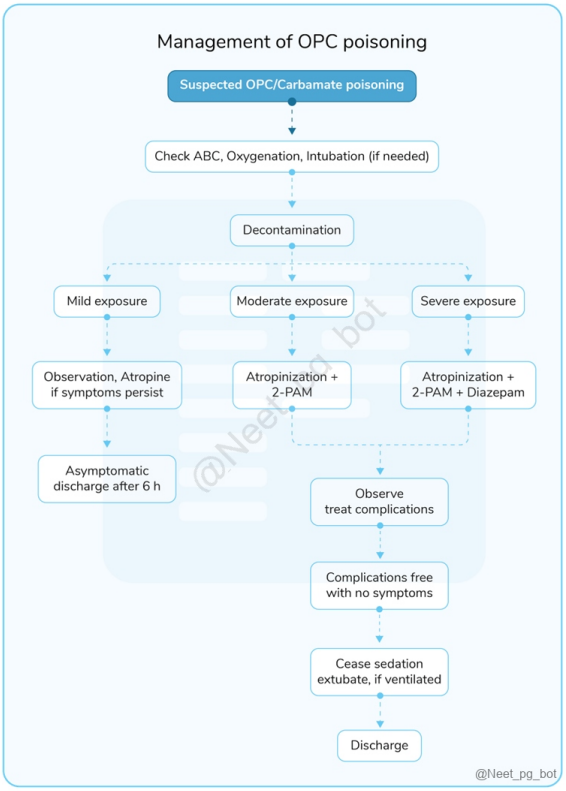
B. Opioid poisoning

C. Organophosphorus poisoning

D. Datura poisoning

Correct Answer: C. Organophosphorus poisoning

Explanation: - Organophosphorus poisoning The symptoms of pinpoint pupils (miosis) and increased secretions (such as salivation, lacrimation, and bronchorrhea) are highly suggestive of organophosphorus poisoning . Organophosphates inhibit cholinesterase enzymes, leading to the accumulation of acetylcholine at muscarinic and nicotinic receptors. Symptoms Muscarinic: Lethargy, Salivation, Diarrhea, Lacrimation, Urination, Miosis, Muscle weakness, Bronchorrhea, Bronchospasm, Bradycardia, Emesis (Mnemonic: DUMBBELLS) Nicotinic: Muscle weakness, Fasciculation, Areflexia, Muscle paralysis CNS: Headache, Tremor, Confusion, Slurred speech, Coma, Convulsion Laboratory Diagnosis RBC/True Cholinesterase (specific) Plasma/Pseudocholinesterase (Most common) Falls rapidly with organophosphorus poisoning Inexpensive, sensitive) Atropine test : If 2 mg of Atropine relieves symptoms, it confirms OP poisoning P-nitro phenol test for confirmation. Management Resuscitative measures (Airway-Breathing-Circulation) Decontamination Gastric lavage with 1:5000 KMnO4 Activated charcoal Atropine sulfate (2-4 mg IV every 10-15 minutes until atropinization) Signs of atropinization: Heart rate>80 beats/min, pupils no longer pinpoint, clear chest on auscultation with no wheeze, systolic BP>80mmHg, Dry axillae Oximes (Pralidoxime) to decrease muscarinic and CNS symptoms removes phosphate group reduces atropine requirement Cause of Death Respiratory Muscle Paralysis (RMP) {{caption_text}} Alcohol poisoning (Option A) : Alcohol typically causes CNS depression, but does not cause pinpoint pupils or excessive secretions Opioid poisoning (Option B) : Opioids cause miosis (pinpoint pupils) but do not cause excessive secretions or the broad range of symptoms seen in organophosphorus poisoning.\ Datura poisoning (Option D) : Datura causes mydriasis (dilated pupils) and other anticholinergic symptoms like dry mouth, blurred vision, and tachycardia, which are opposite to the muscarinic symptoms caused by organophosphorus poisoning.



References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, PG,597-600

↑ *Back to this question in Part A*

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Q15: A patient with Pink color skin & mucosa, a bitter almond smell from breath, and frothy discharge. The cause of death is: (Q857640)

A. H2S poisoning

B. CO poisoning

C. HCN poisoning

D. OPC poisoning

Correct Answer: C. HCN poisoning

Explanation: rug toxicity: Sodium nitroprusside Military chemical warfare agents Burning of plastic furniture, silk, or wool Cigarette smoking Bitter almonds, peach, apricot, plum, apple, pear, cassava Mode of Action Rapid

absorption across both skin and mucous membrane Cyanide salts combine with hydrochloric acid in the stomach to form HCN that is absorbed Inhibition of cytochrome oxidase causes histotoxic anoxia Neurotoxicity Clinical Features Inhalation: Dizziness, vertigo, and constriction of the throat Ingestion: Nausea, headache, loss of muscular power, hypotension, cardiovascular failure, and convulsion Skin: Brick-red color of skin and mucous membranes Anion gap metabolic acidosis and lactic acidosis Diagnosis Lee-Jones test Serum cyanide level Treatment Severe acidosis (pH < 7.1): Administer sodium bicarbonate Antidotal therapy (Eli Lilly cyanide kit approach) First step: Inhalation of Amyl nitrite Second step: Sodium nitrite (3% solution) IV Third step: Sodium thiosulfate (25% solution) IV Other Antidotes 4-dimethylaminophenol (4-DMAP) Hydroxocobalamin (Vitamin B12): Combines with cyanide to form cyanocobalamin, which is excreted in the urine Hyperbaric oxygen Note: Methylene blue is NOT an antidote for cyanide and must NOT be used Autopsy Findings Bitter almond's odour Brick-red color of skin and mucous membranes Cyanosis of extremities Hemorrhagic gastritis Disseminated petechiae in brain, meninges, pleura, lungs, and pericardium Pulmonary and cerebral edema Note: Mechanism of action of nitrites: It converts hemoglobin to methemoglobinemia which causes the detachment of cyanide from the heme group of cytochrome oxidase. Mechanism of action of sodium thiosulfate: Forms non-toxic thiocyanate which is excreted in the urine. H2S poisoning (Option A) : Hydrogen sulfide (H2S) poisoning typically presents with rotten egg smell from the breath, not the bitter almond smell seen in cyanide poisoning. Symptoms include headache, dizziness, nausea, vomiting, and in severe cases, respiratory failure. The skin typically does not have the pink color seen in cyanide poisoning. CO poisoning (Option B) : Carbon monoxide (CO) poisoning leads to a cherry-red skin color , not pink as seen in cyanide poisoning. The breath does not have a bitter almond smell, and the classic symptoms are headache, dizziness, confusion, and weakness, not frothy discharge. OPC poisoning (Option D) : Organophosphate (OP) poisoning typically presents with symptoms such as muscarinic effects (e.g., excessive salivation, lacrimation, urination, diarrhea, gastrointestinal distress) and nicotinic effects (muscle weakness, paralysis). The skin does not have a characteristic pink color, and there is no bitter almond odor from the breath. Frothy discharge is not a typical symptom of OPC poisoning.

References:

Modern Medical Toxicology VV Pillay, 4th Edition- Page 364-69.

↑ *Back to this question in Part A*

@Neet_pg_bot

Q16: Which poisoning is caused by a bullet retained inside the body? (Q857647)

A. Iron

B. Phosphorus

C. Nitrocellulose

D. Lead

Correct Answer: D. Lead

Explanation: hronic Lead Poisoning: Ingestion or Inhalation of lead-containing dust.: Most common source Lead Paint Dust: Major source for children, especially those under 3 years old. Children are at greater risk due to pica (eating non-nutritive materials). Inhalation by Occupational Exposure: Workers in industries such as white lead manufacturing, lead paint production, plumbing, glass polishing, printing, and glass blowing are at risk. Contaminated Drinking Water: Absorption of lead from water stored in lead cisterns. Lead in Tinned Food Cosmetics and Hair Dyes Petrol and Gasoline: Percutaneous absorption of tetraethyl lead Lead absorption from vermilion (red pigment) used on the scalp. Lead poisoning can result from retained lead bullets or projectiles lodged in the body. Iron (Option A) : Not related to retained bullets. Iron poisoning typically occurs from ingesting large amounts of iron and affects the gastrointestinal system, liver, and kidneys. Phosphorus (Option B) : Occurs from exposure to white phosphorus and causes damage to the liver, but not associated with retained bullets. Nitrocellulose (Option C) : Found in gunpowder, but it does not cause poisoning from retained bullets.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 500, 504

↑ *Back to this question in Part A*

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Q17: Which of the following is not a symptom associated with chronic cocaine abuse? (Q857935)

A. Nasal or palatal perforation.

B. Black discoloration of tongue and teeth

C. Dilated pupils, rapid pulse and sweating.

D. Hallucination of insects crawling on the skin.

Correct Answer: B. Black discoloration of tongue and teeth

Explanation: Black discoloration of the tongue and teeth is not a manifestation of Cocaine Abuse ; these symptoms are more associated with conditions like poor oral hygiene, fungal infections, or use of other substances such as methamphetamine or heavy smoking. Cocaine Abuse Features: Dilated pupils (mydriasis) due to strong sympathetic stimulation. (Option C ruled out) Tachycardia, hypertension, and sweating from increased catecholamine activity. (Option C ruled out) Nasal septum or palatal perforation from chronic snorting causing vasoconstriction and tissue necrosis. (Option A ruled out) Formication (“cocaine bugs”)—hallucination of insects crawling on the skin. (Option D ruled out) Paranoia and agitation , sometimes progressing to cocaine-induced psychosis. Chest pain or arrhythmias due to coronary vasospasm and increased myocardial demand. Weight loss and malnutrition from appetite suppression. Risk of cerebrovascular events (stroke, seizures) due to intense vasoconstriction.

References:

Cocaine toxicity

↑ *Back to this question in Part A*

@Neet_pg_bot

Q18: Match the following: i. Heroin 1. Ganja ii. MDMA 2. Acid iii. Joint 3. Brown sugar iv. LSD 4. Amphetamine (Q855375)

A. i -2, ii-1, ili-4, iv-3

B. i -3, ii-2, iii-1, iv-4

C. i -4, ii-2, iii-1, iv-3

D. i -3, ii-4, iii-1, iv-2

Correct Answer: D. i -3, ii-4, iii-1, iv-2

Explanation: Drugs Local names Cocaine Coke, snow, Cadillac, white lady , crack (cocaine + baking soda + water) MDMA Molly, love drug, ecstasy, Amphetamine Heroin Smack, brown sugar , Black tar, speedball(mixed with cocaine) Cannabis Marijuana, pot, grass, joint , ganja , dope, weed, hash, Mary Jane, M.J LSD Acid , Alice, Angel in the Sky, Lucy Ketamine K, Special K, Kit-Kat, K Hole Methamphetamine Ice, Glass, Crystal meth, Meth, Speed

References:

Drug Slang Code Words | Drug enforcement agency Gautam Biswas Review of Forensic Medicine and Toxicology, 3rd edition, Page 566

↑ *Back to this question in Part A*

@Neet_pg_bot

Q19: What is the cause of death in smoke inhalation ? (Q856675)

A. Histotoxic hypoxia

B. Ischemic hypoxia

C. Anemic hypoxia

D. All of the above

Correct Answer: C. Anemic hypoxia

Explanation: The primary cause of death in smoke inhalation is anemic hypoxia, which occurs due to the inability of hemoglobin to effectively transport oxygen to tissues. This condition can arise from carbon monoxide (CO) poisoning, a common consequence of smoke inhalation. CO has a much higher affinity for hemoglobin than oxygen, which leads to reduced oxygen delivery to vital organs, ultimately causing systemic hypoxia and potential organ failure. Incorrect Options: Histotoxic hypoxia (Option A) occurs when cells are unable to effectively use oxygen, often due to the presence of toxic substances, such as cyanide. While cyanide can be released during combustion, histotoxic hypoxia is not the primary cause of death in smoke inhalation. The main mechanism of death in smoke inhalation is related to the impaired ability of hemoglobin to carry oxygen, as seen in anemic hypoxia. Ischemic hypoxia (Option B) results from inadequate blood flow to tissues, which can lead to a shortage of oxygen supply. In severe cases of smoke inhalation, respiratory failure could reduce oxygen perfusion to tissues, but this is not the primary cause of death in most cases of smoke inhalation. The main issue is the impaired oxygen binding by hemoglobin due to carbon monoxide (CO), leading to anemic hypoxia. All of the above (Option D): While histotoxic hypoxia and ischemic hypoxia can be involved in some cases of smoke inhalation (especially if toxic gases like cyanide are present), anemic hypoxia is the primary cause of death in smoke inhalation due to the carbon monoxide (CO) binding to hemoglobin. Therefore, "All of the above" is not the correct answer.

References:

Smoke Inhalation

Smoke Inhalation Injury: Etiopathogenesis, Diagnosis, and Management - PMC

Hypoxia (Hypoxemia): Low Blood Oxygen Signs, Causes, Treatment

↑ *Back to this question in Part A*

@Neet_pg_bot

Q20: A little boy was playing in a garden. Suddenly, he collapsed and was rushed to the hospital. His friend who played with him in the garden informed the doctors that he ate one of the fruits in the garden post which he seemed to have developed these symptoms. He also had irritability, restlessness, dry hot skin, and was unable to pass urine and stools. Identify the poison and its appropriate antidote. (Q856264)

A. Datura, Pralidoxime

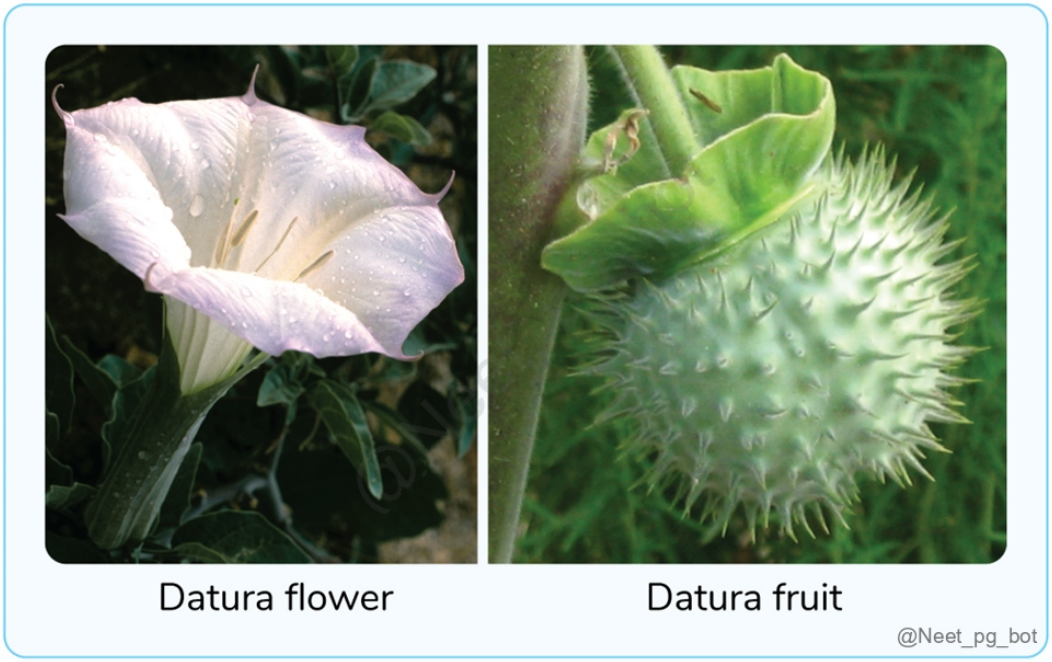
B. Datura, Physostigmine

C. Yellow oleander, Digoxin

D. Yellow oleander, Physostigmine

Correct Answer: B. Datura, Physostigmine

Explanation: Correct Option B - Datura, Physostigmine The patient's symptoms suggest anticholinergic toxicity , likely due to the ingestion of Datura seeds. Physostigmine 1mg IV (hourly) is used as an antidote for datura poisoning. Datura contains hyoscine (scopolamine), hyoscyamine and traces of atropine Mechanism of Action: Initially, it stimulates the higher centers of the brain and then activates the motor centers. Later, it leads to depression of the vital centers in the medulla, resulting in paralysis. {{caption_text}} Clinical features: Dryness of mouth and throat Dysphagia Difficulty in talking Hoarseness of voice Flushed face Pupil dilatation Photophobia + Diplopia Agitation and restlessness Delirium Urinary retention Dry and hot skin Exfoliation of skin may occur Patients can end up in a coma, or death can occur due to respiratory paralysis. Treatment Gastrointestinal decontamination: Administer activated charcoal to absorb toxins. Use a cathartic if indicated. Antidote: Administer Physostigmine 1-2 mg IV slowl y, repeating as necessary based on symptom response. Symptomatic treatment: Consider Pilocarpine 5 mg subcutaneously for severe anticholinergic effects. Supportive care: Monitor vital signs and address any respiratory or cardiovascular issues. Toxins and Antidotes: Toxicity Antidote Mechanism of action Datura/anticholinergics toxicity Physostigmine Inhibits acetylcholinesterase enzyme Opium Naloxone Opioid receptor antagonist Organophosphates Atropine Pralidoxime Muscarinic antagonist Cholinesterase reactivation Acetaminophen N-acetyl-cysteine Replenishes Glutathione Methanol Fomepizole Inhibitor of alcohol dehydrogenase Benzodiazepine Flumazenil Inhibits GABA receptors Cyanide Eli Lilly antidote Kit (3-step approach) Amyl nitrate: Oxidises haemoglobin to methemoglobin, which scavenges cyanide. Sodium nitrate: causes cyanide to detach from the heme group of cytochrome oxidase. Amyl nitrate is used as a temporary measure until IV Sodium nitrate can be given. Sodium thiosulphate:It activates an enzyme that converts cyanide to a less toxic agent, thiocyanate. Datura, Pralidoxime (Option A) Pralidoxime, is an antidote used for organophosphate poisoning, not specifically for Datura poisoning. Organophosphates are a different class of toxic compounds that inhibit acetylcholinesterase, but they have different mechanisms of action compared to Datura alkaloids. Yellow oleander, Digoxin and Yellow oleander, Physostigmine (Option C and D) Yellow oleander (Thevetia peruviana) is a plant that contains cardiac glycosides, particularly Thevetin A and Thevetin B. Ingestion of yellow oleander can lead to cardiac toxicity, including arrhythmias, conduction disturbances, and cardiac arrest Digoxin, is a cardiac glycoside commonly used in the treatment of heart failure and certain cardiac arrhythmias. It has a narrow therapeutic index, and overdose or toxicity can result in various cardiac manifestations, including arrhythmias.



References:

Essentials of Forensic Medicine and Toxicology, KS Narayan Reddy, 35th edition, Page 454-455

Modern Medical Toxicology, by VV Pillai, 4th Edition, Page 209, 367, 368

↑ *Back to this question in Part A*

@Neet_pg_bot

Q21: A young teenage boy with a history of drug abuse had been instilled with a shot of intravenous cocaine at a party. He is rushed to the emergency room by his friends. Some of the symptoms were diaphoresis, headache, and acute coronary spasm. Which of the following symptoms noted would go against the likely diagnosis of cocaine poisoning? (Q856276)

A. Myocardial ischemia

B. Bradycardia

C. Hyperthermia

D. Agitation

Correct Answer: B. Bradycardia

Explanation: Correct Option B - Bradycardia The symptoms of cocaine poisoning typically include diaphoresis (excessive sweating), headache, acute coronary spasm leading to myocardial ischemia (reduced blood flow to the heart), and agitation. Cocaine use usually leads to tachycardia (rapid heart rate) as one of its effects on the cardiovascular system. Cocaine Origin Leaves of Erythroxylum coca {{caption_text}} Local names Coke, snow, Cadillac, White lady Physical properties Colourless, odourless, crystalline, bitter taste Mechanism of action It is a potent central nervous system (CNS) stimulant that produces initial euphoria and increased energy, followed by depression as its effects wear off. It enhances alertness and activity while stimulating the autonomic nervous system, leading to increased heart rate and elevated blood pressure. Route of administration Snorting, Smoking, IV injection Signs of abuse Septal perforation Crack hands (multiple blackened, hyperkeratotic lesions on the fingers and palms). Black staining of tongue and teeth Effects Stages 1. Stage of excitement Feeling of well-being Loss of depression and fatigue Excited and restless (Option D) Tingling sensation in hands and feet Increased heart rate (Option B) Increase in temperature (Option C) Rapid and deep respiration 2. Stage of depression Profuse perspiration Convulsion Reduced respiratory rate Complications Cardiac arrhythmia Cardiac failure Cardiovascular collapse Cerebrovascular accident Aortic dissection Myocardial infarction (Option A) Skin necrosis Intracerebral hemorrhage Formication (Cocaine Bugs) Management of fatal dose Maintain airway, breathing and circulation If ingested: Gastric lavage with potassium permanganate If snorted: Wash the nasal mucous membrane with water If injected: Ligature over the injection site Amyl nitrite via inhalation route Thiamine 100 mg IV injection Naloxone hydrochloride 2mg IV injection Symptomatic management for convulsions using barbiturates



References:

Essentials of forensic medicine and toxicology, KS Narayan Reddy, 35th edition, Page 441, 443, 458, 459

↑ *Back to this question in Part A*

@Neet_pg_bot

Q22: What is the active principle of the poison shown in the image? (Q856296)

A. Ricin

B. Bhilawanol

C. Abrin

D. Calotropin



Correct Answer: B. Bhilawanol

Explanation: The image of the marking nut is Bhilawanol- Semecarpus Anacardium Semecarpus Anacardium: It is used to create artificial bruises (malingering) but is not commonly used for Arrow and cattle poisoning. Abrus precatorius is used as an arrow poison and ideal cattle poison. Semecarpus Anacardium: Commonly known as the marking nut or bhilawanol (washermen use its juice to inscribe identification numbers on clothes). Seeds: Black, cone/heart-shaped with a rough projection at the base. They have a thick pericarp that contains an acrid, brownish, oily juice that turns black upon exposure to air. {{caption_text}} Active principles: Semecarpol and Bhilawanol Signs and Symptoms: Skin exposure: Applying the juice can cause irritation, itching, and painful blisters filled with acrid serum. Eczematous eruptions resembling bruises may also occur, potentially evolving into ulcers with sloughing. Constitutional symptoms include fever and painful micturition, often accompanied by brown-colored urine. Oral ingestion: A large dose can cause blisters in the mouth and throat, severe gastrointestinal irritation, dyspnea, tachycardia, hypotension, cyanosis, loss of reflexes, delirium, coma, and potentially death. Fatal dose: Approximately 5–10 g (5–8 seeds). Fatal period: 12–24 hours. Treatment: Rinse the affected skin with soap and water. Apply bland liniments. Provide demulcent drinks and symptomatic treatment. Medico-legal Aspects: Criminal Use: The juice can be introduced vaginally as a form of punishment for infidelity or applied to the cervical os for illegal abortions. Malingering: The juice can simulate conjunctivitis or falsely substantiate assault claims, as the lesions resemble bruises Ricin (Option A) is a toxic protein found in the seeds of the castor oil plant (Ricinus communis). Abrin (Option C) is a toxic protein found in the seeds of the rosary pea (Abrus precatorius). Calotropin (Option D) is a cardiac glycoside found in plants of the Calotropis genus, such as Calotropis gigantea and Calotropis procera.



References:

Gautam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Page 520

↑ *Back to this question in Part A*

@Neet_pg_bot

Q23: Identify the seeds shown in the image below: (Q856883)

A. Tropicana canna

B. Nigella sativa

C. Datura seeds

D. Opium seeds



Correct Answer: B. Nigella sativa

Explanation: Nigella sativa (black seed) is a medicinal plant from the Ranunculaceae family, widely used in traditional medicines like Unani , Ayurveda , and Tibb-e-Nabwi . These are small, black, angular seeds commonly known as black cumin or kalonji, used in cooking and traditional medicine. Therapeutic Uses : It has various health benefits, including anti-hypertensive, anti-diabetic, anti-cancer, anti-inflammatory, antimicrobial, and hepatoprotective properties. Key Component : The active compound, thymoquinone , in the oil and seeds, is responsible for most of its therapeutic effects. Common Uses : It is used to treat conditions like bronchitis, asthma, diarrhea, rheumatism, and skin disorders, and also as a digestive aid, appetite stimulant, and immune booster. Cultural Significance : Considered a "miracle herb," it is $highly regarded in Islamic medicine, where it is believed to cure all diseases except death. Incorrect Options: Tropicana canna (Option A): The seeds are large, spherical, and hard, typically used as beads or ornaments. They do not resemble the smaller, black, and shiny seeds of Nigella sativa. {{caption_text}} Datura seeds (Option C): Datura seeds are flat, kidney-shaped, and brownish-yellow, distinct from the black seeds of Nigella sativa. {{caption_text}} Opium seeds (Option D): Also known as poppy seeds, they are small, round, and greyish-blue, distinctly different in color and texture from Nigella sativa seeds. {{caption_text}}



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References:

A review on therapeutic potential of Nigella sativa: A miracle herb - PMC

Black Seed: Benefits, Nutrition, Uses & Health Insights

↑ *Back to this question in Part A*

@Neet_pg_bot

Q24: Which of the following statements is not true regarding the management of snakebite in India? (Q856330)

A. Atropine and neostigmine are very useful in the management of krait bite

B. Neostigmine and ventilatory support are used in treatment along with ASV

C. ASV is the mainstay of treatment

D. Current ASV in India is not effective against humped pit viper

Correct Answer: A. Atropine and neostigmine are very useful in the management of krait bite

Explanation: Atropine and neostigmine are not routinely used as primary treatment for krait bites. While neostigmine may assist in reversing neurotoxic paralysis caused by snake venom (e.g., postsynaptic blockade in some bites), its role is secondary to antivenom therapy and ventilatory support . Atropine is given to counteract bradycardia caused by neostigmine but is not specific to krait bites. Treatment of snake bite: First Aid: ‘ CARRY NO RIGHT ’ CARRY Do not allow the victim to walk on their own, must be carried (in any form) to the hospital as soon as possible. NO No Suction No Cautery No Ligature No Tourniquet RIGHT R: Reassure the patient I: Immobilize the limb: by application of crepe bandages (Sutherland wraps) GH: Get to the Hospital immediately T: Tell history/symptoms Pressure bandage Used for immobilization of the limb by application of crepe bandage - known as Sutherland wraps . Contraindicated in viper bites. Ideal pressure: 50-70 mm Hg. ASV Mainstay of treatment. Used only when signs of systemic poisoning are present Polyvalent anti snake venom (PAV) used in India can neutralize (i) Cobra (ii) Krait (iii) Russel viper (iv) Saw-scaled viper bites. Dose: 1-2 ml/kg (!0 vials) irrespective of sex/age. Each vial: neutralizes 6-8 mg of snake venom Test dose is not required/advised to be given before initiating ASV. Ideally to be given within 4 hours of snake bite. To be given until clinical improvement (in cobra bites)/ Clotting time becomes normal (in viper bites). Adjuvant treatment Neostigmine 1.5mg: for neuroparalytic symptoms (cobra bite) . Atropine 0.5mg: To antagonize muscarinic actions of Ach. Surgical debridement and FFP may be required in Viper bites. Incorrect Options: Neostigmine and ventilatory support are used in treatment along with ASV (Option B): Neostigmine may help reverse neurotoxic effects (especially postsynaptic) when combined with ventilatory support. Anti-snake venom (ASV) remains the primary treatment. ASV is the mainstay of treatment (Option C): Polyvalent ASV is the mainstay for treating bites from the "big four" venomous snakes in India (cobra, krait, Russell's viper, and saw-scaled viper). Current ASV in India is not effective against humped pit viper (Option D): The polyvalent ASV available in India is ineffective against humped pit viper venom because it does not include antibodies specific to this species.

References:

The Essentials of Forensic Medicine & Toxicology by KS Narayan Reddy pages- 424-430.

Parikh's Textbook of Medical Jurisprudence, Forensic Medicine and Toxicology, 8th edition, page 603

↑ *Back to this question in Part A*

@Neet_pg_bot

Q25: Match the following poisons with their probable mechanism of action: A. Zinc chloride 1. Abortifacient B. Chloral hydrate 2. Irritant C. Quinine 3. Corrosive D. Potassium carbonate 4. Stupefying (Q856340)

A. A-2, B-4, C-1, D-3

B. A-4, B-3, C-2, D-1

C. A-4, B-2, C-1, D-3

D. A-2, B-3, C-4, D-1

Correct Answer: A. A-2, B-4, C-1, D-3

Explanation: Zinc chloride (A-2): Acts as an irritant due to its caustic effect on tissues. Chloral hydrate (B-4): Causes stupefaction due to its sedative-hypnotic action. Quinine (C-1): Known for its abortifacient property as it can stimulate uterine contractions. Potassium carbonate (D-3): Functions as a corrosive agent due to its strong alkali nature.

References:

Zinc Chloride | ZnCl2 | CID 5727 - PubChem

Chloral hydrate - LiverTox - NCBI Bookshelf

Toxicities of Herbal Abortifacients - PMC

Potassium Carbonate | K2CO3 | CID 11430 - PubChem

↑ *Back to this question in Part A*

@Neet_pg_bot

Q26: What is the drug that commonly leads to physical dependence? (Q858465)

A. Ketamine

B. Heroin

C. LSD

D. Phencyclidine

Correct Answer: B. Heroin

Explanation: Heroin, also known as diamorphine, is an opioid drug that is derived from morphine. It is highly addictive and is known to cause physical dependence. When individuals use heroin regularly, their body adapts to the presence of the drug, and they develop a tolerance to its effects. This means that over time, they require higher doses of heroin to achieve the desired effect. If a person becomes physically dependent on heroin and abruptly stops using it or significantly reduces its dosage, they may experience withdrawal symptoms. These symptoms can be severe and include cravings, restlessness, muscle and bone pain, insomnia, gastrointestinal distress, and flu-like symptoms. Heroin: Drug Class Opioid (Narcotic) Origin Derived from morphine, which is extracted from the opium poppy plant. Forms Powder (white or brown), black tar (sticky resin) Route of Administration Injected, smoked, snorted, orally ingested Effects Euphoria Pain relief Relaxation Drowsiness Slowed breathing Sedation Symptoms Drowsiness Nausea Vomiting Slow or shallow breathing Unconsciousness Overdose Constipation Dizziness Long-Term Risks Addiction Liver and kidney damage Collapsed veins (if injected) Lung complications Brain damage Overdose Withdrawal Symptoms Anxiety Sweating Muscle pain Nausea Vomiting Diarrhea Insomnia Cravings Overdose Symptoms Slow or difficult breathing Blue lips or nails Unconsciousness Pinpoint pupils Death Treatment Methadone or buprenorphine replacement therapy Counseling and rehabilitation. Ketamine (Option A) is a dissociative anesthetic that produces hallucinogenic effects. While it can lead to psychological dependence, it is not typically associated with significant physical dependence. LSD (Option C) is a

hallucinogenic drug that does not typically produce physical dependence. However, it can lead to psychological dependence or addiction in some individuals. Phencyclidine (Option D) is a dissociative drug that can cause hallucinations, distorted perceptions, and other psychological effects. It is not commonly associated with physical dependence, but it can lead to psychological dependence in some cases.

References:

Knight's Forensic Pathology 4th Edition.2016 Pg no.: 614-616.

↑ *Back to this question in Part A*

@Neet_pg_bot

Q27: Which of the following poisons can be found even in skeletonized remains of the body? (Q858472)

A. Arsenic

B. Carbon monoxide

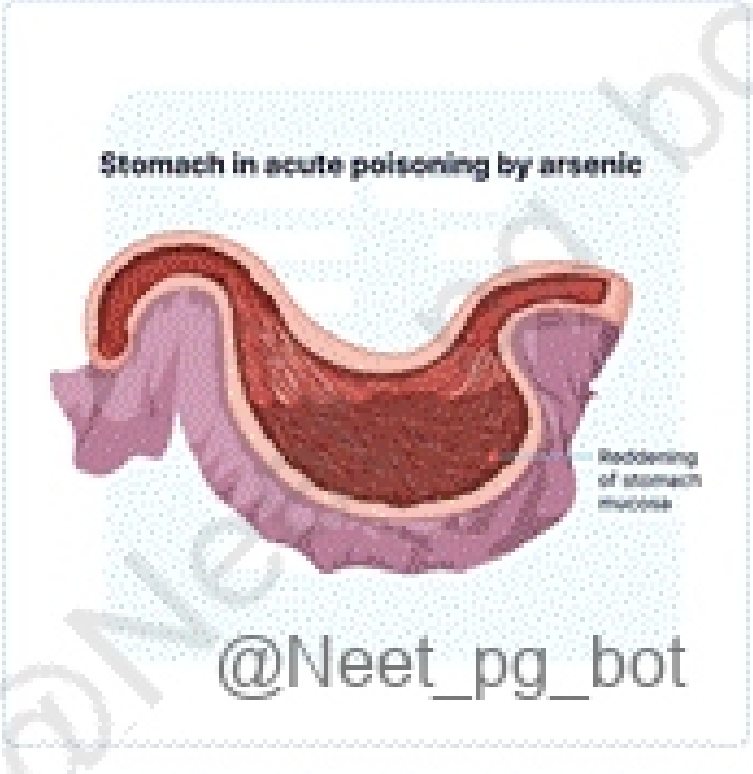
C. Hydrogen sulphide

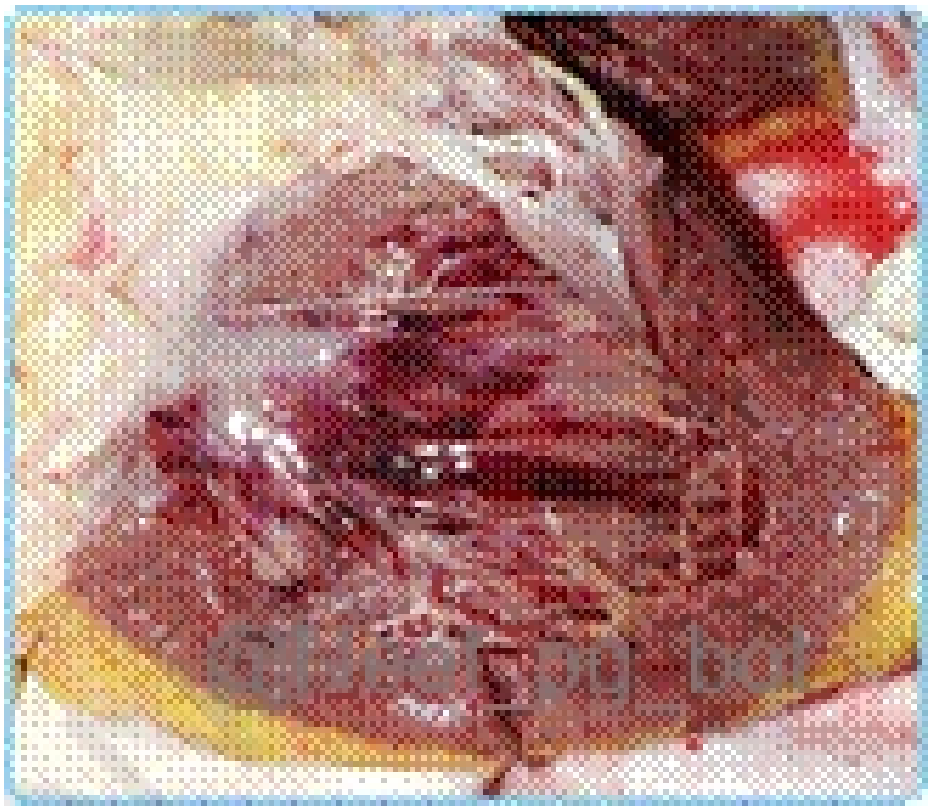
D. Phoshorus

Correct Answer: A. Arsenic

Explanation: Arsenic is a poison that can be found even in skeletonized remains of the body. It has the ability to accumulate in bones over time, making it detectable even after the decomposition of soft tissues. Arsenic is a heavy metal, it replaces phosphorus and gets absorbed into the bones, where it may remain for years. Postmortem findings of Arsenic Poisoning External findings Internal findings Emaciation Raindrop pigmentation Keratosis Alopecia White streaks on nails (Aldrich Mees' lines) {{caption_text}} Jaundice and muscle wasting, Nasal septum ulceration. Sunken eyeballs Cyanosed and shrunken body. Rigor mortis (sets in late and persists for a prolonged duration) Reddening of stomach mucosa (red velvet or strawberry) due to gastrointestinal congestion. Flea-bitten appearance of the stomach (due to focal haemorrhages). The inflammation and presence of "rice water" contents in the intestines. Subendocardial haemorrhages in the heart. {{caption_text}} Fatty degeneration of the heart, liver, and kidneys. Along with routine viscera and body fluids, the items preserved for chemical analysis are: A piece of long bone (preferably femur) A bunch of pulled scalp hair A wedge of muscle A small portion of skin (from the back of the trunk) Carbon monoxide (Option B) is a gas that is produced during the incomplete combustion of carbon-containing materials. It is unlikely to be found in skeletonized remains since it is a volatile gas that dissipates quickly and does not accumulate in the body or bones. Hydrogen sulphide (Option C) is a toxic gas that has a strong odor of rotten eggs. Similar to carbon monoxide, it is unlikely to be found in skeletonized remains as it is a volatile gas that dissipates rapidly and does not accumulate in the body or bones. Phosphorus (Option D) is a chemical element that can be toxic in certain forms, such as white phosphorus. However, it is not typically found in skeletonized remains as it is highly reactive and tends to undergo chemical reactions or degradation over time.




Stomach in acute poisoning by arsenic
Reddening of stomach mucosa
@Neet_pg_bot



References:

Essentials of Forensic Medicine and Toxicology, KS Narayan Reddy, 35th Edition, Page 409.

Gautam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Page 492.

Modern Medical Toxicology, by VV Pillai, 4th Edition, Page 82.

↑ *Back to this question in Part A*

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Q28: A patient is brought to the emergency department with greenish skin discoloration and a rotten egg odor. Which of the following is the most likely cause of poisoning? (Q859424)

A. Carbon monoxide

B. Nitrite

C. Cyanide

D. Hydrogen sulfide

Correct Answer: D. Hydrogen sulfide

Explanation: Hydrogen sulfide (H■S) is a highly toxic gas with a characteristic rotten egg odor. It affects cellular respiration by inhibiting cytochrome oxidase, similar to cyanide poisoning but with distinct features. Key Features of Hydrogen Sulfide Poisoning: Skin - Greenish discoloration (due to sulfhemoglobin formation) Odor : Rotten egg smell (from hydrogen sulfide gas) Respiratory : Severe pulmonary irritation, dyspnea, and respiratory failure CNS : Headache, dizziness, seizures, coma Cardiac : Bradycardia, hypotension, sudden collapse Rapid onset of toxicity due to cellular hypoxia Mechanism : Inhibits cytochrome c oxidase in the electron transport chain → cellular hypoxia → metabolic acidosis. Incorrect Options: Carbon monoxide (Option A): Cherry red skin, no odor. Nitrite (Option B): Chocolate brown blood (methemoglobinemia). Cyanide (Option C): Bitter almond odor, pink skin, rapid onset of toxicity.

References:

H2S

↑ *Back to this question in Part A*

@Neet_pg_bot

Q29: Cause of Opisthotonus is? (Q859884)

A. Cocaine

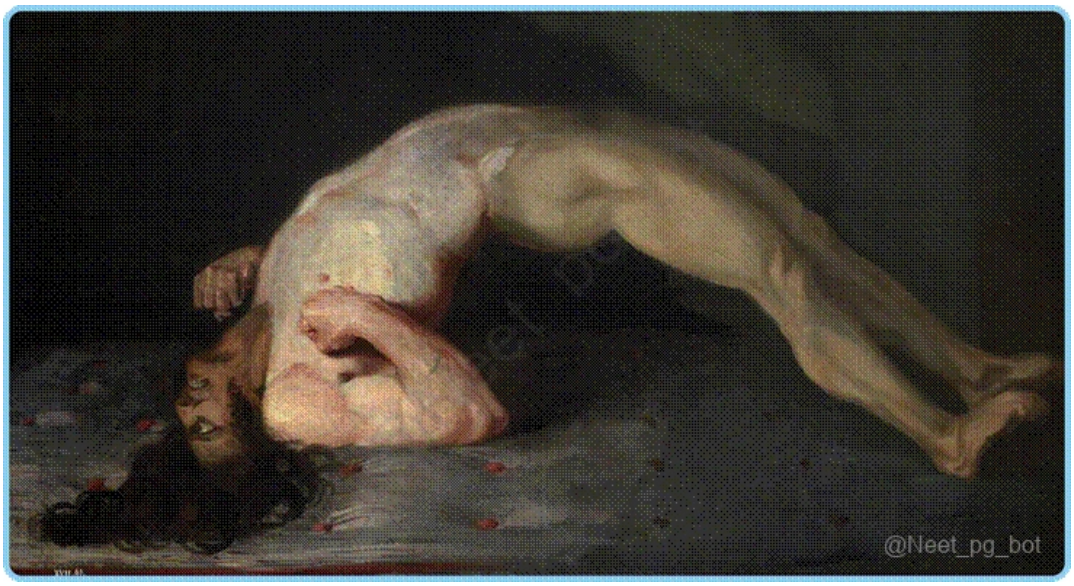
B. Codeine

C. Strychnine

D. Curare

Correct Answer: C. Strychnine

Explanation: Alkaloid from seeds of strychnos nux-vomica causes opisthotonus. Opisthotonus is a severe form of muscle spasm where the body is arched backward due to involuntary contractions of the back muscles, especially the paraspinal muscles. {{caption_text}} Cause: Strychnine poisoning is the classic cause. It acts as a glycine antagonist in the spinal cord, leading to: Loss of inhibitory control in motor neurons. Uncontrolled muscle contractions and spasms. Cocaine (Option A): Causes CNS stimulation, tremors, seizures, not opisthotonus. Codeine (Option B): Opioid, causes CNS depression, respiratory depression, not muscle spasms. Curare (Option D): A muscle relaxant causing flaccid paralysis, not spasms.



References:

Strychnine

↑ *Back to this question in Part A*

@Neet_pg_bot

Q30: Identify the active toxin extracted from the poisonous plant in the image below? (Q859888)

A. Calotropis gigantea

B. Digitalis

C. Ricin

D. 1-Hyoscyamine



Correct Answer: D. 1-Hyoscyamine

Explanation: The above image shows Atropa Belladonna, also called the deadly nightshade. It produces an active poisonous component called hyoscyamine. The toxin may also be found in datura Stramonium (Jimson weed) Hyoscyamine is an isomer of Atropine and has Anticholinergic and Antimuscarinic activity. It is used as an antiemetic, anti-secretory and antispasmodic agent in the treatment of naused, motion sickness, allergic rhinitis etc. Side effects include dryness of the mouth and eyes, tachycardia, palpitations, decreased sweating, and can also produce anxiety and restlessness. {{caption_text}} Calotropis Gigantea (Option A): It is a purple colored flower which has an active poisonous principle called Calotropin, Calotoxin. {{caption_text}} Digitalis (Option B): Also called purple foxglove where the poison acts by inhibiting Na-K ATPase channel. {{caption_text}} Ricin (Option C): Produced by castor plant where it inhibits RNA polymerase and protein synthesis. {{caption_text}}




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References:

Atropa belladona

↑ *Back to this question in Part A*

@Neet_pg_bot

Q31: A 56-year-old man presents with fatigue, pallor, abdominal pain, memory loss, and foot drop. He works at a battery recycling plant and has elevated blood lead levels. Which enzyme is affected in the given scenario? (Q855802)

A. Aminolevulinic acid (ALA) dehydratase

B. Uroporphyrinogen III Synthase

C. Uroporphyrinogen I Synthase

D. Pyruvate dehydrogenase

Correct Answer: A. Aminolevulinic acid (ALA) dehydratase

Explanation: The patient’s symptoms and occupational exposure point to lead poisoning. Lead primarily inhibits 3 enzymes of heme synthesis: Ferrochelatase ALA dehydratase Copro-porphyrinogen oxidase (Option B,C and D ruled out) Heme Synthesis: Step Reaction Enzyme Location Key Points 1 Succinyl CoA + Glycine → Delta-aminolevulinic acid (ALA) ALA Synthase Mitochondria Rate-limiting step; requires pyridoxal phosphate as a cofactor 2 2 ALA → Porphobilinogen (PBG) ALA Dehydratase Cytoplasm It involves removal of 2 molecules of water; the enzyme contains zinc and is inhibited by lead 3 4 PBG → Hydroxymethylbilane (HMB) Uroporphyrinogen I Synthase Cytoplasm - 4a HMB → Uroporphyrinogen I Spontaneous cyclization Cytoplasm - 4b HMB → Uroporphyrinogen III Uroporphyrinogen III Synthase Cytoplasm - 5 Uroporphyrinogen III → Coproporphyrinogen III Uroporphyrinogen Decarboxylase Cytoplasm Decarboxylation, removal of 4 molecules of CO2 6 Coproporphyrinogen III → Protoporphyrinogen III Coproporphyrinogen Oxidase Mitochondria 7 Protoporphyrinogen III → Protoporphyrin III Protoporphyrinogen Oxidase Mitochondria 8 Protoporphyrin III → Heme Ferrochelatase Mitochondria Insertion of Fe2+

References:

Vasudevan Textbook of Biochemistry Edition 7th Pg. 271, 272, 273

Park’s Textbook of Preventive and Social Medicine, 27th edition, Pg 934-935

Heavy Metals - StatPearls - NCBI Bookshelf

↑ *Back to this question in Part A*

@Neet_pg_bot

Q32: A patient presents with hair loss, behavioral changes, lateral eyebrow loss, and nail changes. What is the type of poisoning in this case? (Q855820)

A. Thallium

B. Arsenic

C. Mercury

D. Lead

Correct Answer: A. Thallium

Explanation: The combination of alopecia, behavioral changes, lateral eyebrow loss, and nail findings strongly points to Thallium poisoning. Characteristic Description Symptoms Alopecia (1-2 weeks) Painful polyneuropathy (GBS-like) Butterfly-pattern maculopapular rash Loss of lateral 2/3 of eyebrows (Sign de Sourcil) Mee's lines on nails (Other causes: Arsenic poisoning, selenium poisoning, renal failure and chemotherapy) Antidote Prussian Blue (Berlin Blue; potassium ferric hexacyanoferrate) which sequesters thallium ions in the intestine, preventing their absorption Arsenic (Option B): Arsenic poisoning can also cause Mees' lines, but it is not typically associated with alopecia or lateral eyebrow loss. Symptoms of arsenic toxicity include gastrointestinal distress, neuropathy, and hyperpigmentation or hypopigmentation of the skin. Mercury (Option C): Mercury poisoning causes behavioral changes (e.g., irritability, tremors, and mood swings) and sometimes nail changes but is not associated

with significant alopecia or lateral eyebrow loss. Lead (Option D) : Lead poisoning can cause behavioral changes, cognitive impairment, and lead lines (Burton's lines) on the gums but does not typically cause alopecia or loss of lateral eyebrows.

References:

Long■term misdiagnosis and neurologic outcomes of thallium poisoning: A case report and literature review(Baldwin%20%26%20Marshall,the%20early%20stages%20of%20symptoms.

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, PG, 508-509

↑ *Back to this question in Part A*

@Neet_pg_bot

Q33: A patient came to the hospital with muscle weakness, diarrhea, and bradycardia. He was diagnosed with organophosphate poisoning for which atropine was administered. After atropine administration, which of the following changes are not seen? (Q852476)

A. Bradycardia

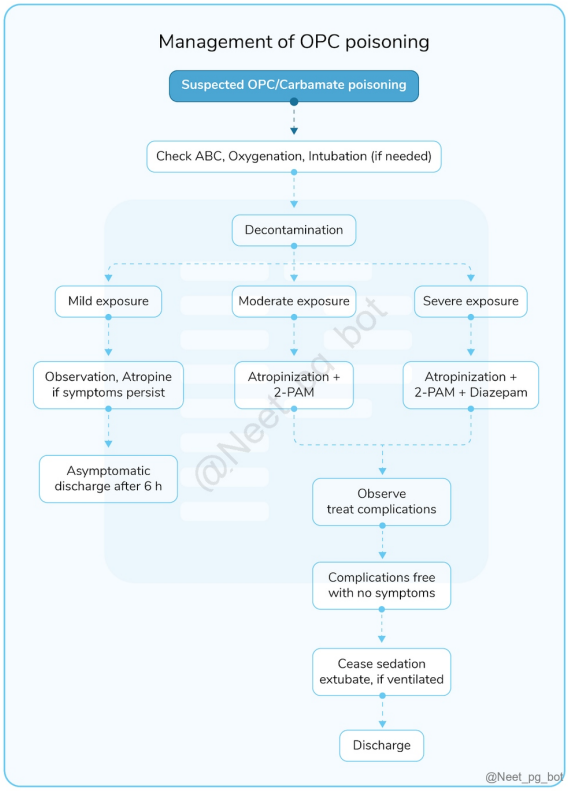
B. Muscle weakness

C. Diaphoresis

D. Nasal discharge

Correct Answer: A. Bradycardia

Explanation: Organophosphate (OP) poisoning causes cholinergic overstimulation by inhibiting acetylcholinesterase , leading to accumulation of acetylcholine at muscarinic and nicotinic receptors. Atropine is a muscarinic antagonist , used to treat the muscarinic symptoms of OP poisoning. OPC poisoning: Symptoms Muscarinic: Lethargy, Salivation, Diarrhea, Lacrimation, Urination, Miosis, Muscle weakness, Bronchorrhea, Bronchospasm, Bradycardia, Emesis (Mnemonic: DUMBBELLS) Nicotinic: Muscle weakness, Fasciculation, Areflexia, Muscle paralysis CNS: Headache, Tremor, Confusion, Slurred speech, Coma, Convulsion Laboratory Diagnosis RBC/True Cholinesterase (specific) Plasma/Pseudocholinesterase (Most common) Falls rapidly with organophosphorus poisoning Inexpensive, sensitive) Atropine test : If 2 mg of Atropine relieves symptoms, it confirms OP poisoning P-nitro phenol test for confirmation. Management Resuscitative measures (Airway-Breathing-Circulation) Decontamination Gastric lavage with 1:5000 KMnO4 Activated charcoal Atropine sulfate (2-4 mg IV every 10-15 minutes until atropinization) Signs of atropinization: Heart rate>80 beats/min, pupils no longer pinpoint, clear chest on auscultation with no wheeze, systolic BP>80mmHg, Dry axillae Oximes (Pralidoxime) to decrease muscarinic and CNS symptoms removes phosphate group reduces atropine requirement Cause of Death Respiratory Muscle Paralysis (RMP) Option



References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 597-600

↑ *Back to this question in Part A*

@Neet_pg_bot

Q34: Which of the following substances are antidotes for cyanide poisoning? Amyl nitrate Sodium nitrate Sodium thiosulphate Benzyl thiocyanate (Q840082)

A. 1, 2, and 3 only

B. 1, 2, 3, and 4

C. 1, and 2 only

D. 1, 3, and 4 only

Correct Answer: A. 1, 2, and 3 only

Explanation: Correct Option A - 1, 2, and 3 only: The antidote used in the cyanide poisoning includes Amyl nitrate, Sodium nitrate, and Sodium thiosulphate. This is called the Lily cyanide antidote kit Incorrect Options:

Option B, C, and D: These are incorrect options.

↑ *Back to this question in Part A*

@Neet_pg_bot

Q35: In cases of alcohol abuse, in what substance is the blood typically preserved during an autopsy? (Q860497)

A. Sodium fluoride

B. Formalin

C. Rectified spirit

D. Sodium chloride

Correct Answer: A. Sodium fluoride

Explanation: For toxic analysis, like in alcohol abuse, the ideal preservative for blood is sodium fluoride. Various methods of preserving viscera: Saturated salt solution Formalin fixation Freezing Alcohol preservation Formaldehyde solution Formalin-alcohol solution Frozen section Liquid nitrogen Specimens for Analysis Specimen Importance Blood Primary specimen; collect from femoral, iliac, or axillary veins to avoid contamination. Preservative: Lithium heparin or EDTA tube, fluoride/oxalate, if alcohol is suspected Urine Useful for detecting parent compounds and metabolites of poisons. Preservative: No preservative, sodium fluoride is added, if alcohol is Suspected (Option A) Gastric Contents Helps identify ingested poisons and their concentrations through vomitus and stomach contents analysis. Preservative: Saturated salt solution if there is no chance of acid poison. (Option D) Rectified spirit if poisoned by acid (Option C) . Liver Analyzes metabolism and concentration of drugs; critical when blood/urine concentrations are low. Bile can detect specific substances like chlorpromazine and morphine. Preservative: Saturated salt solution if there is no chance of acid poison. Rectified spirit if poisoned by acid. Hair and Nails Detects heavy metal poisoning; metals accumulate in keratin. Neutron activation analysis identifies specific metals and exposure patterns. Scene Residues Provides clues about the poison through materials found at the scene, such as tablets or empty containers. Formalin (Option B) is commonly used for general tissue preservation and fixation in anatomical pathology, but it is not specifically preferred for toxicology autopsy. It may affect the results of toxicological analyses.

References:

Goutam Biswas Review of Forensic Medicine and Toxicology, 3rd edition, page 114.

↑ *Back to this question in Part A*

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Q36: Which of the following is used for the treatment of Datura poisoning? (Q860493)

A. Physostigmine

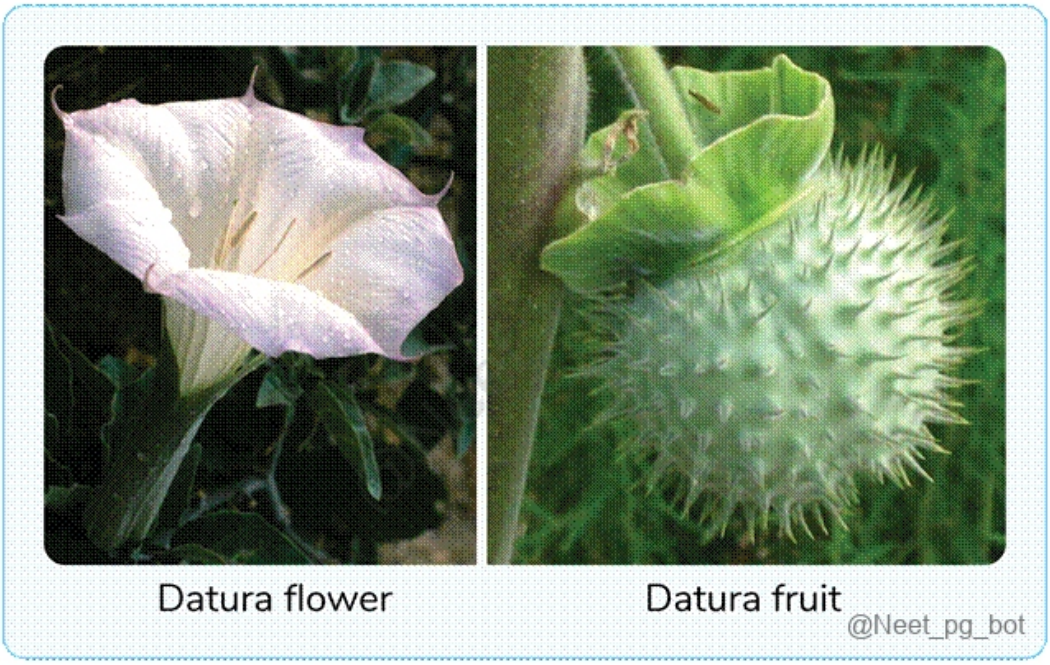
B. Atropine

C. Sodium nitrite

D. Neostigmine

Correct Answer: A. Physostigmine

Explanation: Physostigmine is the antidote of choice for Datura poisoning because it is a reversible acetylcholinesterase inhibitor.. Datura contains hyoscine (scopolamine), hyoscyamine and traces of atropine Mechanism of Action: Initially, it stimulates the higher centers of the brain and then activates the motor centers. Later, it leads to depression of the vital centers in the medulla, resulting in paralysis. {{caption_text}} Clinical features: Dryness of mouth and throat Dysphagia Difficulty in talking Hoarseness of voice Flushed face Pupil dilatation Photophobia + Diplopia Agitation and restlessness Delirium Urinary retention Dry and hot skin Exfoliation of skin may occur Patients can end up in a coma, or death can occur due to respiratory paralysis. Treatment Gastrointestinal decontamination: Administer activated charcoal to absorb toxins. Use a cathartic if indicated. Antidote: Administer Physostigmine 1-2 mg IV slowly , repeating as necessary based on symptom response. Symptomatic treatment: Consider Pilocarpine 5 mg subcutaneously for severe anticholinergic effects. Supportive care: Monitor vital signs and address any respiratory or cardiovascular issues. Toxins and Antidotes: Toxicity Antidote Mechanism of action Datura/anticholinergics toxicity Physostigmine (Option A) Inhibits acetylcholinesterase enzyme Opium Naloxone Opioid receptor antagonist Organophosphates Atropine (Option B) Pralidoxime Muscarinic antagonist Cholinesterase reactivation Acetaminophen N-acetyl-cysteine Replenishes Glutathione Methanol Fomepizole Inhibitor of alcohol dehydrogenase Benzodiazepine Flumazenil Inhibits GABA receptors Cyanide Eli Lilly antidote Kit (3-step approach) 1. Amyl nitrate: Oxidises haemoglobin to methemoglobin, which scavenges cyanide. 2. Sodium nitrate (Option C) : causes cyanide to detach from the heme group of cytochrome oxidase. Amyl nitrate is used as a temporary measure until IV Sodium nitrate can be given. 3. Sodium thiosulphate:It activates an enzyme that converts cyanide to a less toxic agent, thiocyanate. Neostigmine (Option D) does not cross blood brain barrier



References:

Essentials of Forensic Medicine and Toxicology, KS Narayan Reddy, 35th edition, Page 454-455

Modern Medical Toxicology, by VV Pillai, 4th Edition, Page 209, 367, 368.

↑ *Back to this question in Part A*

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Q37: A patient was admitted with complaints of tachycardia and arrhythmias. On examination, multiple scratch marks were observed on the body. The probable drug of abuse in this patient is: (Q860483)

A. Cocaine

B. Morphine

C. Datura

D. Cannabis

Correct Answer: A. Cocaine

Explanation: Cocaine is a powerful central nervous system (CNS) stimulant known for causing tachycardia and arrhythmias, which are common symptoms associated with its abuse. Magnan's Syndrome: Aso known as "Cocaine Bugs," occurs in individuals who use cocaine. It is a type of tactile hallucination where the person

experiences the sensation of grains of sand or small insects crawling under the skin, causing itching (formication). Formication is derived from the Latin word formica , meaning "ant," and refers to the feeling that tiny insects are moving across the skin. Causes: Diabetic neuropathy Menopause Skin cancer Herpes zoster Physical or psychological side effect of substance abuse, including cocaine, amphetamines, and alcohol withdrawal (along with delirium tremens). Options B, C, and D are not associated with Magnan syndrome

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 571

↑ *Back to this question in Part A*

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Q38: A chronic alcoholic came with complaints of agitation, global confusion, disorientation, hallucination, fever, hypertension, diaphoresis, and autonomic hyperactivity after cessation of alcohol for 48 hours. Which of the following is the diagnosis? (Q860445)

A. Delirium tremens

B. Wernicke Encephalopathy

C. Korsakoff Psychosis

D. Magnan Phenomena

Correct Answer: A. Delirium tremens

Explanation: Delirium tremens is a severe form of alcohol withdrawal that typically occurs 48 to 96 hours after the last drink . It is characterized by: Confusion and disorientation Hallucinations (often visual) Autonomic hyperactivity Coarse tremors Delirium Tremens (DT) Wernicke's Encephalopathy (WE) (Option B) Korsakoff's Syndrome (KS) (Option C) Cause Acute alcohol withdrawal. Thiamine (vitamin B1) deficiency, often due to chronic alcoholism. Often a result of chronic alcoholism and thiamine deficiency. Onset 48-72 hours after the last drink. Acute onset, typically develops over 1-2 days . Chronic, long-term condition . Symptoms Severe agitation Tremors Hallucinations Confusion Seizures Autonomic instability. G - Global confusion O - Ophthalmoplegia A - Ataxia P - Polyneuropathy Anterograde and retrograde amnesia (Intact long term memory) Confabulation Memory impairment. Cognitive Function Impaired consciousness, confusion, disorientation. Disorientation, confusion, and memory problems. Severe memory impairment, with intact long-term memory. Motor Symptoms Tremors Hyperreflexia Muscle rigidity. Ataxia (lack of coordination), abnormal gait. Motor function may remain mostly intact. Treatment Thiamine Benzodiazepines Fluids Electrolytes Thiamine supplementation (IM/IV) Fluids Electrolyte correction. Thiamine supplementation Psychological support Rehabilitation therapy. Magnan Phenomena (Option D) refer to tactile hallucinations, such as the sensation of insects crawling on or under the skin, associated with cocaine use rather than alcohol withdrawal

References:

Goutam Biswas Review of Forensic Medicine and Toxicology, 3rd edition, pages 547-549

Delirium Tremens

Acamprosate for treatment of alcohol dependence

↑ *Back to this question in Part A*

@Neet_pg_bot

Q39: Acute liver failure is a clinical feature of which of the following? (Q860422)

A. OP poisoning

B. Amanita Phalloides poisoning

C. Belladonna poisoning

D. Morphine poisoning

Correct Answer: B. Amanita Phalloides poisoning

Explanation: Amanita poisoning causes acute liver failure. It is a wild mushroom known as the death cap mushroom. Amanita poisoning presents with nausea, vomiting, diarrhea, enlarged and tender liver, jaundice, oliguria , mental confusion, convulsions and coma Early mushroom poisoning Late mushroom poisoning Hallucinogenic mushroom poisoning Species Inocybe Amanita phalloides Amanita muscaria Toxin Muscarine Amatoxin (Option A) Muscimol Symptoms Cholinergic symptoms (DUMBBELLS) Hepatotoxicity Hallucinations, seizures Treatment Atropine Thioctic acid Silibinin (hepatoprotective) Supportive treatment ATROPINE CONTRAINDICATED OP poisoning (Option A) presents with pinpoint pupils and diaphoresis, liver failure is not seen Belladonna poisoning (Option C) presents with tachycardia, hallucinations not liver failure Morphine poisoning (Option D) presents with respiratory depression and pinpoint pupils, liver failure is not seen

References:

Mushroom Poisoning - an overview | ScienceDirect Topics.

Mushroom Poisoning - PubMed.

The Deceptive Mushroom: Accidental Amanita muscaria Poisoning - PMC

Diagnosis and Treatment of Amanita Phalloides-Type Mushroom Poisoning: Use of Thioctic Acid - PMC

↑ *Back to this question in Part A*

@Neet_pg_bot

Q40: Aldrich mees lines and raindrop pigmentation in hand is seen in which poisoning? (Q844185)

A. Arsenic

B. Thallium

C. Cadmium

D. Lead

Correct Answer: A. Arsenic

Explanation: Correct Option A - Arsenic: Aldrich-Mees lines (transverse white lines across the nails) and raindrop pigmentation (brownish discoloration) on the hands are characteristic signs of arsenic poisoning. Arsenic is known to cause these distinctive dermatological and nail changes. Arsenic interferes with the keratinization process in the nails, leading to the formation of Mees lines, and can cause pigmentary changes in the skin. Incorrect Options: Option B - Thallium: Thallium poisoning can cause symptoms like hair loss, peripheral neuropathy, and gastrointestinal issues, but it is not typically associated with Aldrich-Mees lines or raindrop pigmentation. Thallium poisoning does have its own set of diagnostic signs but these specific ones are not characteristic. Option C - Cadmium: Cadmium poisoning is associated with kidney damage and bone disease, not with Aldrich-Mees lines or raindrop pigmentation. Cadmium does not produce the same dermatological findings as arsenic. Option D - Lead: Lead poisoning is associated with basophilic stippling of red blood cells, but it does not typically present with Aldrich-Mees lines or raindrop pigmentation. Lead affects different body systems and has different clinical manifestations.

↑ *Back to this question in Part A*

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Q41: Police brought a person from the railway track with features of dry dilated pupil, dry skin , slurring of speech , altered sensorium. The poisoning is? (Q844136)

A. Morphine

B. Cannabis

C. Datura

D. Alcohol

Correct Answer: C. Datura

Explanation: Correct Option C - Datura: Datura is a plant known for its anticholinergic properties. It can cause symptoms of anticholinergic toxicity, which include dry skin, dilated pupils (mydriasis), slurred speech, and

altered sensorium. This is consistent with the clinical presentation described. Incorrect Options Option A - Morphine: Morphine is an opioid and typically causes miosis (constricted pupils), not mydriasis. It can lead to respiratory depression and altered sensorium, but the dry skin and dilated pupils are not characteristic of morphine poisoning. Option B - Cannabis: Cannabis can cause altered sensorium and slurred speech but is not associated with dry skin or dilated pupils. Cannabis effects are typically less severe and do not match the full clinical picture described. Option D - Alcohol: Alcohol can cause altered sensorium and slurred speech, but it is not associated with dry skin or dilated pupils. Alcohol typically causes miosis and does not have the anticholinergic effects seen with Datura.

↑ *Back to this question in Part A*

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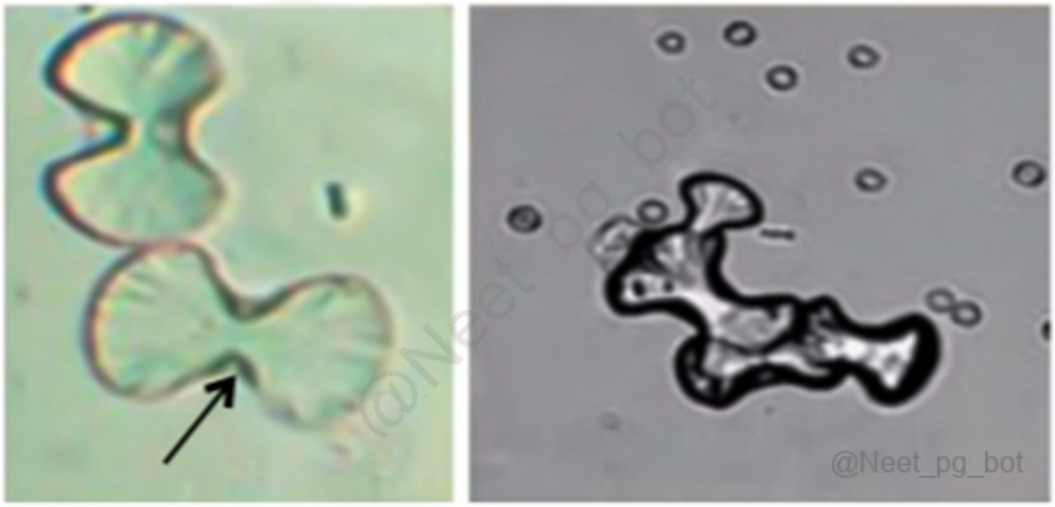
Q42: A patient presents with paraesthesia, tetany, muscle twitching, and muscle cramps, along with urinary crystals as shown in the image. These symptoms are typical of poisoning with what substance? (Q840090)

A. Cystine

B. Xanthine

C. Ammonium urate

D. Calcium oxalate



Correct Answer: D. Calcium oxalate

Explanation: Correct Option D - Calcium oxalate: The above case scenario is diagnostic of Oxalic acid poisoning. Signs and symptoms Fulminant poisoning- Burning, sour or bitter taste in the mouth with a sense of constriction around the throat and burning pain from the mouth to stomach, radiating all over the abdomen. Nausea and eructation are immediately followed by vomiting which contains altered blood, mucus and Acute poisoning-

Tingling and numbness of fingers and limbs, weakness, paresthesia, carpopedal spasm*, hyperirritability of peripheral nerves (Chvostek/Weiss sign), tetany, convulsions, coma and death. Delayed poisoning- Characterized by nephritis—uremia, scanty urine, hematuria, albuminuria, oxaluria (envelope-shaped (dihydrate) or dumbbell-shaped(mono) calcium oxalate crystals in the urine are seen under microscope). Incorrect Options: Option A - Cystine: Cystine stones are hexagonal or benzene shaped. Option B - Xanthine: Xanthine stones are very uncommon in urine. Option C - Ammonium urate: Uric acid crystals are rosette shaped.

↑ *Back to this question in Part A*

@Neet_pg_bot

Q43: Which of the following pairs of antidotes and toxicities is correctly matched? (Q853111)

A. Organophosphorus - Physostigmine

B. Atropine - L-carnitine

C. Benzodiazepine - Flumazenil

D. Arsenic - Desferrioxamine

Correct Answer: C. Benzodiazepine - Flumazenil

Explanation: Benzodiazepine - Flumazenil (Option C) : Flumazenil is a specific benzodiazepine receptor antagonist and is used to reverse benzodiazepine-induced sedation or overdose. Antidotes and their mechanisms Poisoning Type Antidote Mechanism Arsenic (Option D ruled out) BAL (Dimercaprol) IM, chelates arsenic for excretion. Succimer (DMSA) Oral chelation. DMPS IV, transitioned to oral chelation. Copper Potassium Ferrocyanide Forms insoluble copper complexes, reducing absorption. Penicillamine Chelates copper. Cyanide Sodium Nitrite Forms methemoglobin to bind cyanide. Sodium Thiosulfate Converts cyanide to thiocyanate for renal excretion. Hydroxocobalamin Binds cyanide, forming cyanocobalamin. Dicobalt Edetate, Methylene Blue Alternative antidotes. Ethylene Glycol Ethanol/Fomepizole Inhibits alcohol dehydrogenase to prevent toxic metabolites. Iron Desferrioxamine Chelates iron for excretion. Magnesium Hydroxide/Sodium Bicarbonate Note: BAL should not be used in iron, cadmium, or selenium poisoning due to formation of toxic complexes. Precipitate iron, reducing absorption. Lead Sodium/Magnesium Sulfate Forms insoluble lead sulfate. Calcium Chloride/Gluconate Promotes bone deposition of lead. CaNa2EDTA + BAL Chelation therapy for lead elimination. Mercury Sodium Formaldehyde Sulfoxylate Reduces toxic mercury ions. BAL (Dimercaprol) Traditional chelator; oral agents preferred. Methanol Ethanol/Fomepizole Compete for alcohol dehydrogenase, preventing toxic metabolites. Opium Naloxone Blocks opioid receptors, reversing opioid effects. Organophosphate (Option A ruled out) Atropine Blocks muscarinic receptors to manage cholinergic symptoms. Pralidoxime (2-PAM) Reactivates acetylcholinesterase. Phenol Magnesium Sulfate Absorbs phenol in the stomach. Phosphorus Potassium Permanganate Oxidizes phosphorus into harmless phosphates. Strychnine Barbiturates Depress CNS, preventing seizures. Thallium Prussian Blue Binds thallium in the intestine, preventing absorption. Atropine - L-carnitine (Option B): Atropine poisoning is treated with physostigmine, a cholinesterase inhibitor that crosses the blood-brain barrier. L-carnitine has no role in atropine toxicity.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 487, 491, 496, 500, 508, 509, 515, 539, 555, 574, 584, 599, 612

↑ *Back to this question in Part A*

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Q44: A patient is brought to the emergency department with acute onset of severe abdominal pain, throat irritation followed by vomiting that contains blood and bile, and diarrhea that initially appears bloody but later becomes colorless, odorless, and rice-water-like. On examination, a distinct garlicky odor is noted in the breath. Which of the following is the most likely agent responsible for the poisoning? (Q866413)

A. Arsenic

B. Phosphorus

C. Aluminium phosphide

D. Croton seeds

Correct Answer: A. Arsenic

Explanation: Arsenic poisoning (acute) presents with severe gastrointestinal distress — abdominal pain, vomiting (may be bilious or bloody), and profuse watery diarrhea classically described as rice-water stools. A garlic-like odor on the breath or from vomitus is a well-known clue. This presentation closely mimics severe cholera-like illness but with systemic toxicity. Arsenic exerts its effects by binding to sulfhydryl groups and inhibiting cellular enzymes, leading to multi-organ dysfunction. Incorrect Options: Option B - Phosphorus poisoning causes GI irritation and organ toxicity, but it is more associated with luminescent vomitus/stools and hepatic injury, not the classic cholera-like diarrhea with garlic odor . Option C - Aluminium phosphide produces phosphine gas leading to cardiovascular collapse and severe metabolic acidosis; it also has a garlicky odor, but diarrhea is usually not classically “rice-water” and severe cardiovascular features dominate . Option D - Croton seeds act as an irritant poison mainly causing severe vomiting and diarrhea, but without the characteristic odor or metallic taste of arsenic .

↑ *Back to this question in Part A*

@Neet_pg_bot

Q45: Which of the following is true regarding snake bites? a. Elapidae is myotoxic b. Viperidae is vasculotoxic c. Hyaluronidase is secreted by all snake toxins d. Toxins

travel through lymphatics and superficial veins (Q865352)

A. c and d

B. b and d

C. a and d

D. b, c and d

Correct Answer: D. b, c and d

Explanation: The Elapidae family (e.g., cobra, krait) venom is primarily neurotoxic , not myotoxic. Neurotoxins act at neuromuscular junctions, causing paralysis. (Option a) Myotoxicity is more commonly associated with sea snakes and some viper venoms. Viperidae (e.g., Russell's viper, saw-scaled viper) venom causes vasculotoxic effects - Damages endothelium, causes hemorrhage, leading to DIC, shock, and local tissue necrosis. (Option b) Hyaluronidase is secreted by all snake toxins,it breaks down connective tissue matrix and facilitates diffusion of venom into tissues. It is present in the venom of most (nearly all) snakes across families. (Option c) Venom predominantly spreads through the lymphatic system and superficial veins, especially in low-pressure systems like limbs. (Option d)

References:

Reddy's Essentials of Forensic Medicine and Toxicology, 35th Edition - Chapter: Toxicology – Snakebite and Envenomation

↑ *Back to this question in Part A*

@Neet_pg_bot

Q46: Match the following types of poisons with their corresponding examples Effect Poisons a. Metallic irritant 1. Opioid b. Organic irritant 2. Lead c. CNS depressant 3. Cannabis d. Deliriant 4. Croton oil (Q865305)

A. a-2, b-4, c-1, d-3

B. a-1, b-4, c-2, d-3

C. a-4, b-2, c-1, d-3

D. a-2, b-1, c-4, d-3

Correct Answer: A. a-2, b-4, c-1, d-3

Explanation: Correct Match Poisons Examples Metallic irritant 2. Lead It is a classic metallic poison causing chronic toxicity, Organic irritant 4. Croton oil It is a plant-derived organic irritant that causes severe

gastrointestinal irritation and purgation. CNS depressant 1. Opioid Opioids like morphine , heroin , etc., are CNS depressants and cause respiratory depression, pinpoint pupils, and coma. Deliriant 3. Cannabis Cannabis causes causing hallucinations, altered perception, and cognitive impairment.

References:

Croton oil

KS Narayan Reddy, The Essentials of Forensic Medicine and Toxicology, 35th Edition, Page, 412, 413.

Opioids

KS Narayan Reddy, Essential of forensic medicine and toxicology, 35th Edition, Page no. 440, 457

↑ *Back to this question in Part A*

@Neet_pg_bot

Q47: Gastric lavage treated with silver nitrate gives a black colour in poisoning with which of the following? (Q865296)

A. Malathion

B. Mercury

C. Aluminium phosphide

D. Barbiturates

Correct Answer: C. Aluminium phosphide

Explanation: Aluminium phosphide (ALP) is a pesticide and upon ingestion, it with hydrochloric acid in the stomach to release phosphine gas (PH■) , which is the primary toxic agent. When silver nitrate (AgNO■) is added to the gastric lavage or exposed to the gas emitted from the stomach contents , phosphine gas reduces silver nitrate to metallic silver , which appears black . If phosphine gas is present, the silver nitrate paper turns black , due to reduction of silver ions to elemental silver. This is a classical bedside test for confirming ALP poisoning . Malathion (Option A) is a organophosphate and it does not interact with silver nitrate. ■■■Mercury (Option B): though it is associated with dark precipitates in other tests, mercury does not produce a black color with silver nitrate in gastric aspirate. ■■■Barbiturates (Option D) do not have any chemical reaction with silver nitrate.

References:

Aluminium Phosphade

↑ *Back to this question in Part A*

@Neet_pg_bot

Q48: Which of the following features is characteristic of chronic mercury poisoning? (Q865287)

A. Hyperkeratosis and Mees' lines

B. Lead lines are visible on X-ray

C. Mad hatter's (intentional) tremor

D. Basophilic stippling of red blood cells

Correct Answer: C. Mad hatter's (intentional) tremor

Explanation: Chronic mercury poisoning , especially from inorganic or vaporized elemental mercury , particularly in industries like hat-making and glass-blowing leads to a classical neuropsychiatric condition known as “Mad Hatter tremor” or Hatter’s shake. It features intention tremors that worsen during voluntary movements, starting in the hands and progressing to other body parts. Chronic mercury poisoning Specific features Details Minamata Disease Organic (Methyl) Mercury exposure from shellfish in Japan Erethism Shyness, depression, anxiety, loss of confidence, suicidal thoughts Danberry Tremor Coarse tremors in hands, lips, tongue; slurred speech; early symptom is worsening handwriting Hatter’s Shake Affects mobility (walking, dressing) Glass-Blower Shake Similar to Hatter’s Shake; it appears later Concussio Mercurialis Most severe form; bed-ridden with no activity Mercurialentis Brown discoloration of anterior lens capsule; seen via slit lamp; Visual Acuity is Intact Acrodynia (Pink Disease) Puffy, painful hands/feet; pinkish color; pruritus, perspiration; skin peeling similar to Kawasaki disease Hyperkeratosis and Mees' lines (Option A) are classic signs of chronic arsenic poisoning , not mercury poisoning. Mees' lines are transverse white bands across the nails caused by disruption in nail matrix keratinization . Hyperkeratosis , especially on the palms and soles , and "raindrop" hyperpigmentation on the skin, are hallmark features of long-term arsenic exposure Lead lines are visible on X-ray (Option B) is a feature of chronic lead poisoning . "Lead lines" appear as dense metaphyseal bands at the ends of long bones on X-ray. It is caused by disrupted bone remodeling due to inhibition of osteoclastic activity by lead ■■■Basophilic stippling of red blood cells (Option D) is seen in lead poisoning . It refers to the presence of small blue granules in RBCs, representing aggregated ribosomes . It occurs due to inhibition of pyrimidine 5’-nucleotidase by lead. It is a classic hematologic finding in lead toxicity

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, PG, 494-497

↑ *Back to this question in Part A*

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Q49: A deceased woman was sent for an autopsy. She was found dead in a locked room with a heat stove still running. What is the most likely cause of death? (Q866638)

A. CO poisoning

B. Cyanide poisoning

C. H 2 S poisoning

D. Aluminium phosphide poisoning

Correct Answer: A. CO poisoning

Explanation: A locked room with a running heat stove is a classic setup for carbon monoxide (CO) accumulation due to incomplete combustion of fuel. CO binds to hemoglobin with ~200–250 times the affinity of oxygen, forming c arboxyhemoglobin and impairing oxygen delivery to tissues. This results in hypoxic injury and death. CO poisoning often occurs in enclosed spaces with faulty heaters, stoves, or car exhaust. Clinical features include headache, dizziness, cherry-red skin , confusion, and loss of consciousness. Death results from tissue hypoxia despite normal PaO■. Diagnosis is confirmed by elevated carboxyhemoglobin levels. Treatment: Immediate removal from the source and administration of 100% oxygen or hyperbaric oxygen therapy in severe cases. Poison Post-mortem Staining Carbon monoxide Cherry red Cyanide Brick red / Bright red Hypothermia Pink Opiates Black Hydrogen sulfide Bluish green Aniline Dark / Deep blue or brown Phosphorus Dark brown Nitrates Reddish brown Asphyxia Dark blue Septic abortion (Clostridium perfringens) Pale bronze Incorrect Options: Cyanide poisoning (Option B): Occurs in industrial accidents or smoke inhalation from fires; causes rapid onset of severe lactic acidosis and cardiovascular collapse, not typically associated with a running stove in a locked room. H■S poisoning (Option C): Hydrogen sulfide is found in sewage, petroleum, and industrial environments; it presents with a rotten-egg odor and rapid respiratory failure, not with the enclosed-room heating scenario. Aluminium phosphide poisoning (Option D): Common in agricultural suicide cases; releases phosphine gas when exposed to moisture, causing severe cardiac toxicity, not linked to household heating sources.

↑ *Back to this question in Part A*

@Neet_pg_bot

Q50: Black foot disease with peripheral neuropathy is seen in which metal poisoning? (Q857411)

A. Arsenic

B. Lead

C. Mercury

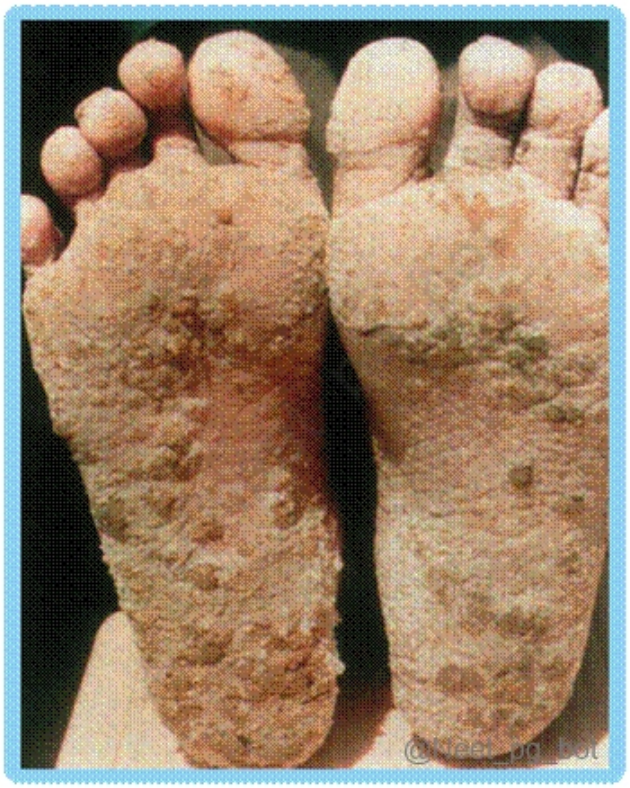
D. Cadmium

Correct Answer: A. Arsenic

Explanation: Chronic arsenic poisoning is associated with "black foot disease," a condition characterized by gangrene of the extremities due to peripheral vascular damage. Peripheral neuropathy is also a common feature,

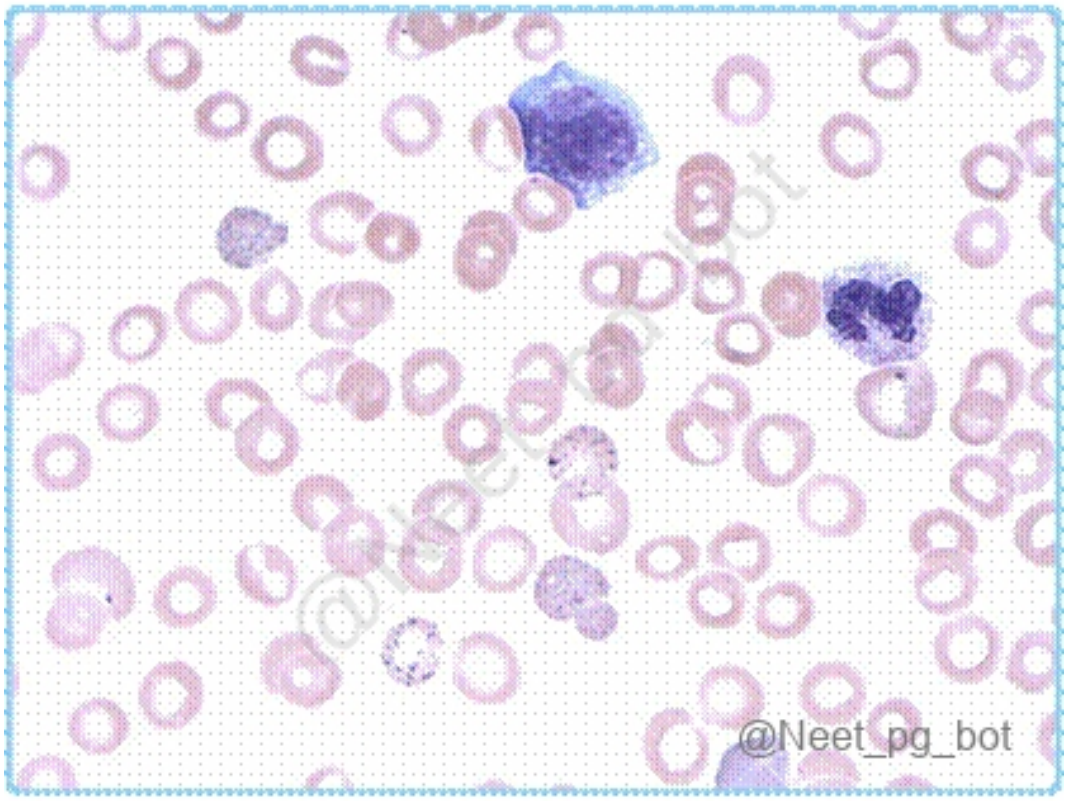
presenting as sensory and motor dysfunction. Clinical manifestations of Arsenic Poisoning: Acute Arsenic Poisoning Chronic Arsenic Poisoning Dermal Hair loss Mees lines (Aldrich-Mees line or Reynold's line): Transverse bands of opacity in nails. (Option C) {{caption_text}} Melanosis (neck, eyelids, nipples) Bowen's disease Facial oedema Hyperkeratosis Black foot disease (Peripheral gangrene) {{caption_text}} Hyperpigmentation (raindrop pattern) {{caption_text}} Skin cancer (commonly squamous cell carcinoma). Ocular Conjunctivitis Lacrimation Dimension of Vision Gastrointestinal Abdominal pain Metallic taste Garlicky odour Dysphagia Vomiting Diarrhoea (bloody or rice water) Anorexia Nausea Vomiting Diarrhea Weight loss Airway Upper airway irritation Nasal septum perforation Laryngitis Bronchitis Liver Fatty degeneration Hepatomegaly Jaundice Cirrhosis Kidney Oliguria Uraemia Nephritic changes Neurological Hyperpyrexia Convulsions Coma Encephalopathy Polyneuritis (glove & stocking type) Tremor Ataxia Limb tenderness Difficulty in walking Haematological – Anaemia Leucopenia Thrombocytopenia Basophilic stippling (Rare in arsenic poisoning and common in lead poisoning) {{caption_text}} Karyorrhexis Pancytopenia Cardiac Tachycardia Hypotension Cardiac arrhythmias Hypertension Myocarditis Lead (Option B): Lead poisoning primarily causes motor neuropathy (e.g., wrist drop) and cognitive deficits, but it is not linked to black foot disease. Mercury (Option C): Mercury poisoning leads to neurological symptoms such as tremors, erethism, and sensory disturbances but does not cause black foot disease. Cadmium (Option D): Cadmium toxicity affects the kidneys and bones, leading to conditions like Itai-Itai disease, but it is not associated with peripheral neuropathy or black foot disease.











References:

The Essentials of Forensic Medicine and Toxicology, KS Narayan Reddy, 35th Edition, Page 410.

Modern Medical Toxicology, by VV Pillai, 4th Edition, Page 80.

↑ *Back to this question in Part A*

@Neet_pg_bot

Q51: A patient was brought to casualty with seizures. He had multiple episodes and was taking herbal medicines for the same. He was conscious in between the episodes. During the episodes, he had an arching of his back. What is the likely cause? (Q855258)

A. Strychnine

B. Ricinus

C. Nerium odorum

D. Datura

Correct Answer: A. Strychnine

Explanation: Strychnine poisoning is characterized by seizures and muscle spasms, often causing arching of the back (opisthotonus). The patient is typically conscious between episodes, and the seizures are triggered by minimal stimuli. Strychnine is a potent neurotoxin that acts by blocking inhibitory neurotransmission, leading to overstimulation of the central nervous system. Source Seeds of Strychnos nux-vomica and other species of Strychnos plants found in India. {{caption_text}} Mechanism of action Stimulates all parts of the central nervous system, especially the anterior horn cells. Greatly increases reflex excitability by removing normal inhibition of motor cell stimulation, causing widespread uncontrolled motor activity of the spinal cord. Slight stimuli like noise, light, or a breeze can cause violent generalized muscle spasms Clinical Features Opisthotonos - arched body with only the back of head and heels touching the ground: {{caption_text}} Emprosthotonos- forward curve Pleurothotonus- sideways curve Risus sardonicus- fixed grin: {{caption_text}} Treatment Immediate Care: Place in a dark, quiet room. Anesthesia: Chloroform or intravenous barbiturate if spasms allow. Adsorption: Administer animal charcoal to absorb free strychnine, or tannic acid if charcoal is unavailable. Antidotes: Intravenous barbiturates to stop convulsions. Muscle relaxants: Mephenesin, intravenous diazepam for anticonvulsant effects. Autopsy Findings Rigor mortis: Sets in almost immediately and passes off early. Stomach contents: Remains of seeds may be found. Delayed putrefaction. Toxicological analysis: Strychnine can be detected in putrefied bodies and viscera; brain and spinal cord should be preserved for analysis. Incorrect Options: Ricinus (Option B): Ricinus, derived from the castor bean plant, contains ricin, which causes gastrointestinal symptoms, organ failure, and hemorrhagic shock. It does not typically cause seizures with back arching. Nerium odorum (Option C): Nerium odorum (oleander) contains cardiac glycosides, which primarily affect the heart and can cause symptoms like nausea, vomiting, arrhythmias, and potentially death. Seizures and back arching are not characteristic features of oleander poisoning. Datura (Option D): Datura contains tropane alkaloids, which cause delirium, hallucinations, and anticholinergic toxicity. Although it can cause seizures, it is not typically associated with arching of the back or the pattern of seizures described here.


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References:

Parikh's Textbook of Medical Jurisprudence, Forensic Medicine and Toxicology, 8th edition, pages 666-668

↑ *Back to this question in Part A*

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Q52: A child before playing consumed fruit from the garden. After some time, he developed a high fever, confusion, photophobia, and was unable to urinate. What are the likely causative agent and the appropriate antidote used in this case of poisoning? (Q855231)

A. Datura, Pralidoxime

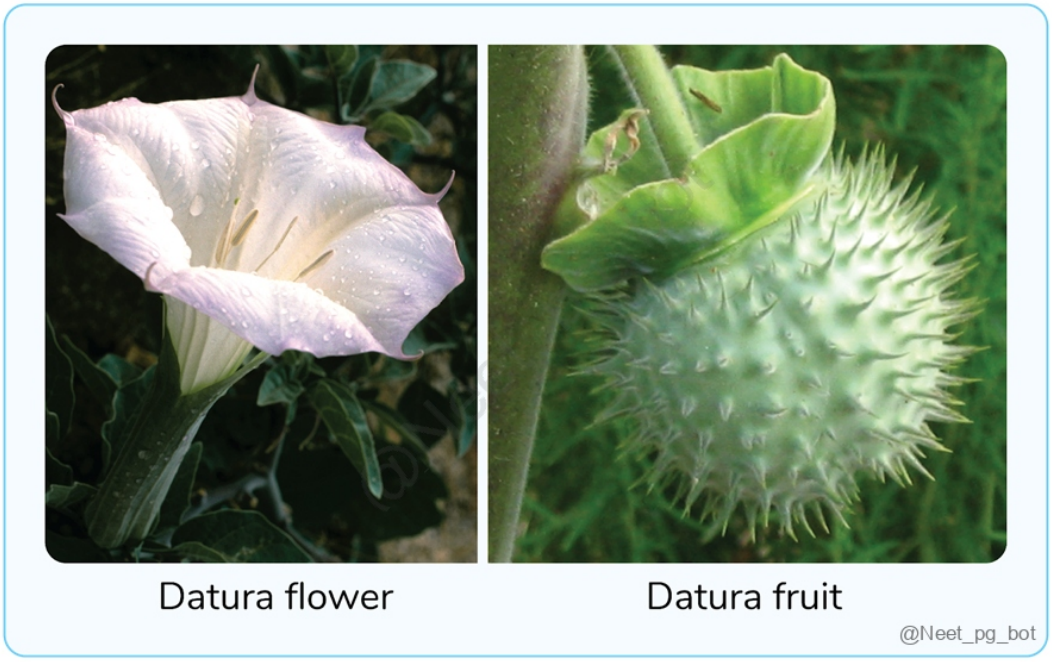
B. Datura, Physostigmine

C. Yellow oleander, Pralidoxime

D. Yellow oleander, Physostigmine

Correct Answer: B. Datura, Physostigmine

Explanation: The patient's symptoms suggest anticholinergic toxicity , likely due to the ingestion of Datura seeds. Physostigmine 1mg IV (hourly) is used as an antidote for datura poisoning. Datura contains hyoscine (scopolamine), hyoscyamine and traces of atropine Mechanism of Action: Initially, it stimulates the higher centers of the brain and then activates the motor centers. Later, it leads to depression of the vital centers in the medulla, resulting in paralysis. {{caption_text}} Clinical features: Dryness of mouth and throat Dysphagia Difficulty in talking Hoarseness of voice Flushed face Pupil dilatation Photophobia + Diplopia Agitation and restlessness Delirium Urinary retention Dry and hot skin Exfoliation of skin may occur Patients can end up in a coma, or death can occur due to respiratory paralysis. Treatment Gastrointestinal decontamination: Administer activated charcoal to absorb toxins. Use a cathartic if indicated. Antidote: Administer Physostigmine 1-2 mg IV slowl y, repeating as necessary based on symptom response. Symptomatic treatment: Consider Pilocarpine 5 mg subcutaneously for severe anticholinergic effects. Supportive care: Monitor vital signs and address any respiratory or cardiovascular issues. Pralidoxime is an antidote for organophosphate poisoning (which inhibits acetylcholinesterase), but it is not effective in treating anticholinergic poisoning caused by Datura or yellow oleander. It works by reactivating acetylcholinesterase that has been inhibited by organophosphates. (Option A & C ruled out) Yellow oleander poisoning is due to cardiac glycosides and can cause symptoms such as vomiting, arrhythmias, and confusion. The treatment for yellow oleander poisoning is Digoxin-specific antibody or anti-digoxin antibody therapy, or the use of potassium correction and Lidocaine for arrhythmias. (Option C & D ruled out)



References:

Essentials of Forensic Medicine and Toxicology, KS Narayan Reddy, 35th edition, Page 454-455

Modern Medical Toxicology, by VV Pillai, 4th Edition, Page 209, 367, 368.

↑ *Back to this question in Part A*

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Q53: A patient presented with altered sensorium, hypotension, and constricted pinpoint pupils. Which of the following is likely responsible for this patient's presentation? (Q854647)

A. Opioids

B. Datura

C. Cocaine

D. Amphetamine

Correct Answer: A. Opioids

Explanation: Opioid toxicity is characterized by the classic triad of altered mental status (e.g., drowsiness or coma), respiratory depression, and miosis (pinpoint pupils). Hypotension may also occur due to vasodilation and reduced sympathetic tone. Opium is extracted from the unripe poppy capsule (shown in the image below). {{caption_text}} Opium: Introduction Dried extract from the poppy plant (Papaver somniferum) Extraction Obtained by vertical incisions from unripe poppy capsule (toxic part) Toxic principles Phenanthrene group: Morphine, Codeine and Thebaine Benzylisoquinoline group: Papaverine and Noscapine Mechanism of action (MOA) Exhibits action via 3 receptors mainly - Mu(μ), Delta(δ) and Kappa(κ) receptors and release Endorphins. Addictive potential is due to its action on Mu(μ) and Delta(δ) receptors Action on Kappa(κ) receptor causes dysphoria - no addictive potential Effects Tolerability, Addiction, Dysphoria (κ-receptor) Pruritus is a common adverse effect. Other effects: Constipation, Respiratory depression, Urinary retention. Tolerability is developed for all actions except: 3 C's Constipation Convulsions Constriction of pupils (Miosis) Fatal dose Opium: 2 g Morphine: 0.2 g Codeine: 80 mg Fatal period: 6-12 hours Management Support vitals: Use a respirator and other emergency procedures. Decontamination: Stomach wash with 1:5000 KMnO■, leaving some solution in the stomach to oxidize any secreted alkaloid. Perform lavage even after IV/IM drug injection, as it is secreted in the stomach. Administer activated charcoal as the primary decontamination method. Enema with sodium sulfate twice daily. Whole-bowel irrigation for body packers. Antidote: Naloxone Incorrect Options: Datura (Option B): Datura poisoning typically presents with anticholinergic symptoms such as mydriasis (dilated pupils), dry skin, hallucinations, tachycardia, and hyperthermia, which are inconsistent with this patient's presentation. Cocaine (Option C): Cocaine use usually leads to sympathetic stimulation, resulting in symptoms like mydriasis, hypertension, tachycardia, and agitation. These are inconsistent with this patient's presentation. Amphetamine (Option D) : Amphetamines cause increased sympathetic activity, leading to symptoms such as mydriasis, tachycardia, and hypertension, which do not match the pinpoint pupils and hypotension observed in this case.



References:

VV Pillay Modern Medical Toxicology pages- 173-175.

Parikh's Textbook of Medical Jurisprudence, Forensic Medicine and Toxicology, 8th edition, page 619:

↑ *Back to this question in Part A*

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Q54: A 50-year-old man with a history of chronic alcoholism goes to a liquor store and purchases two bottles of liquor. Approximately one hour later, after consuming alcohol, he presents to the emergency department with complaints of abdominal discomfort, acute confusion, vision loss, and an unsteady gait. What is the most appropriate treatment for his condition? (Q820294)

A. Naloxone

B. Ethyl alcohol

C. Flumazenil

D. Atropine

Correct Answer: B. Ethyl alcohol

Explanation: of the correct answer.

References:

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↑ *Back to this question in Part A*

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Q55: A 28-year-old male patient was found unconscious in his backyard, the leaves of a plant similar to the one shown below were found scattered around him. He is now presenting with symptoms of nausea, vomiting, abdominal pain, diarrhea, and irregular heart rate. Identify the plant given below likely responsible for these symptoms? (Q820286)

A. Yellow oleander

B. Ricinus communis

C. Datura

D. Papaver somniferum



Correct Answer: A. Yellow oleander

Explanation: Correct Option A - Yellow Oleander (Thevetia peruviana) Yellow oleander contains toxic cardiac glycosides, which can affect the heart's rhythm and function. Ingestion of any part of the plant can lead to symptoms like nausea, vomiting, abdominal pain, diarrhea, irregular heart rate, and even death. The symptoms described in the case (nausea, vomiting, abdominal pain, diarrhea, irregular heart rate) match those associated with yellow oleander poisoning. Incorrect Options: Option B - Ricinus communis (Castor Bean Plant): Ricinus communis contains the deadly toxin ricin. While its seeds are highly toxic, causing symptoms such as abdominal pain, vomiting, diarrhea, and potentially fatal organ damage, the symptoms described in the case (irregular heart rate) don't typically align with ricin poisoning. Ricin primarily affects the gastrointestinal system and other organs. Option C - Datura: Datura contains tropane alkaloids that can lead to symptoms like hallucinations, delirium, dry mouth, blurred vision, and an increased heart rate. While some symptoms could match (such as irregular heart rate), the prominent gastrointestinal symptoms described in the case (nausea, vomiting, abdominal pain, diarrhea) are not characteristic of Datura poisoning. Option D - Papaver somniferum (Opium Poppy): While opium poppy can produce opiates like morphine and codeine, the symptoms associated with its ingestion include respiratory depression, sedation, pinpoint pupils, and potential overdose symptoms. The symptoms described in the case (nausea, vomiting, abdominal pain, diarrhea, irregular heart rate) do not align well with opium poppy poisoning.

↑ *Back to this question in Part A*

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Q56: A farmer was sleeping in the field, and he felt a sting on his leg. He saw something moving away quickly. He then got drowsy and was taken to the hospital. He developed pain around the site and continued to bleed profusely from the wound site. The wound became red with blisters. Which of the following is the most likely cause? (Q855271)

A. Viper

B. Cobra

C. Wasp bite

D. Scorpion

Correct Answer: A. Viper

Explanation: The symptoms described, including drowsiness, pain around the wound, bleeding, and blisters, are consistent with a viper bite. Viper bites often lead to profuse bleeding due to the effects of venom-induced coagulopathy. Incorrect Options: Cobra (Option B): Cobra bites are primarily neurotoxic, causing paralysis, respiratory distress, and potentially death if untreated. While cobras can cause pain and local swelling, they do not typically cause the extensive bleeding or blisters seen with viper bites. Cobras do not usually cause such local tissue necrosis and blistering. Wasp bite (Option C): Wasp stings can cause pain, redness, and swelling at the sting site, but they typically do not lead to bleeding, drowsiness, or blisters. The symptoms described here are more consistent with a venomous bite from a snake rather than an insect sting. Scorpion (Option D): While scorpion stings can cause pain, local swelling, and sometimes neurological symptoms (such as drowsiness), they typically do not cause blisters or profuse bleeding at the sting site. Signs and symptoms: Dysfunction of cranial nerve and hyperexcitability of skeletal muscles developed within hours. Local : Swelling, prominent, radiating pain, paraesthesia, and hyperesthesia which is accentuated by tapping on the affected area (Tap test) Systemic effects: Restlessness, blurred vision, abnormal eye movements, profuse sweating, slurred speech, muscular fasciculations, respiratory depression and pulmonary edema. Complications : Tachycardia,hypertension, arrhythmias, hyperthermia, rhabdomyolysis and acidosis.

References:

Goutam Biswas Review of Forensic Medicine and Toxicology, 3rd edition, pages 527, 528, 534

↑ *Back to this question in Part A*

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Q57: A female was given morphine sulfate during labor for pain, following which she developed respiratory distress. Which of the following will be the correct antidote? (Q857407)

A. Naloxone

B. Atropine

C. Pralidoxime

D. Epinephrine

Correct Answer: A. Naloxone

Explanation: Naloxone is the specific antidote for opioid toxicity, including respiratory depression caused by morphine. It works as a competitive antagonist at opioid receptors, rapidly reversing the effects of opioids. Toxic agent Specific antidote Acetaminophen N-acetyl cysteine Atropine, datura (Option B ruled out) Physostigmine Organophosphates Atropine and pralidoxime (Option C ruled out) Benzodiazepines Flumazenil Carbon monoxide Hyperbaric oxygen Cyanide Amyl nitrite, Sodium nitrite, sodium thiosulfate (3-step cyanide antidote kit) Arsenic, Mercury BAL (Dimercaprol) > DMSA (Succimer) Lead EDTA > DMSA (Succimer) Copper sulfate D-penicillamine > DMSA > EDTA Methanol, ethylene glycol Ethanol or fomepizole Opioids Naloxone Iron poisoning Desferrioxamine Epinephrine (Option D): Epinephrine is used in anaphylaxis or cardiac arrest to stimulate adrenergic receptors. It is not indicated for opioid overdose.

References:

The Essentials of Forensic Medicine & Toxicology by Narayan Reddy and OP Murty, 35th Edition, Page 393-394

Review of Forensic Medicine and Toxicology by Gautam Biswas, 3rd Edition, Page 479, 491, 496, 500, 506

VV Pillay Modern Medical Toxicology pages- 173-175.

Parikh's Textbook of Medical Jurisprudence, Forensic Medicine and Toxicology, 8th edition, page 619:

↑ *Back to this question in Part A*

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Q58: Among the listed options, which substance is not utilized as a chelating agent in cases of heavy metal poisoning? (Q857390)

A. Deferiprone

B. EDTA

C. Penicillamine

D. Oximes

Correct Answer: D. Oximes

Explanation: Oximes, such as pralidoxime, are not chelating agents. They are used as antidotes in organophosphate poisoning by reactivating acetylcholinesterase, which is inhibited by the poison. Deferiprone (Option A): Deferiprone is a chelating agent used to treat iron overload, commonly seen in conditions like thalassemia major. It binds to iron and facilitates its excretion. EDTA (Option B): Ethylenediaminetetraacetic acid (EDTA) is a well-known chelating agent used in cases of lead and other heavy metal poisonings. It binds metal ions, aiding in their excretion. Penicillamine (Option C): Penicillamine is an effective chelating agent for metals like copper (used in Wilson's disease) and lead. It binds metals and facilitates their removal from the body.

References:

The Essentials of Forensic Medicine & Toxicology by Narayan Reddy and OP Murty, 35th Edition, Page 393-394

Review of Forensic Medicine and Toxicology by Gautam Biswas, 3rd Edition, Page 479, 491, 496, 500, 506

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↑ *Back to this question in Part A*

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Q59: Match the poisons and their site of action. A. Datura 1. CVS B. Nicotine 2. CNS C. Nitric acid 3. SKIN D. Nux vomica (strychnine) 4. SPINAL CORD (Q857381)

A. A-2, B-1, C-3, D-4

B. A-1, B-2, C-3, D-4

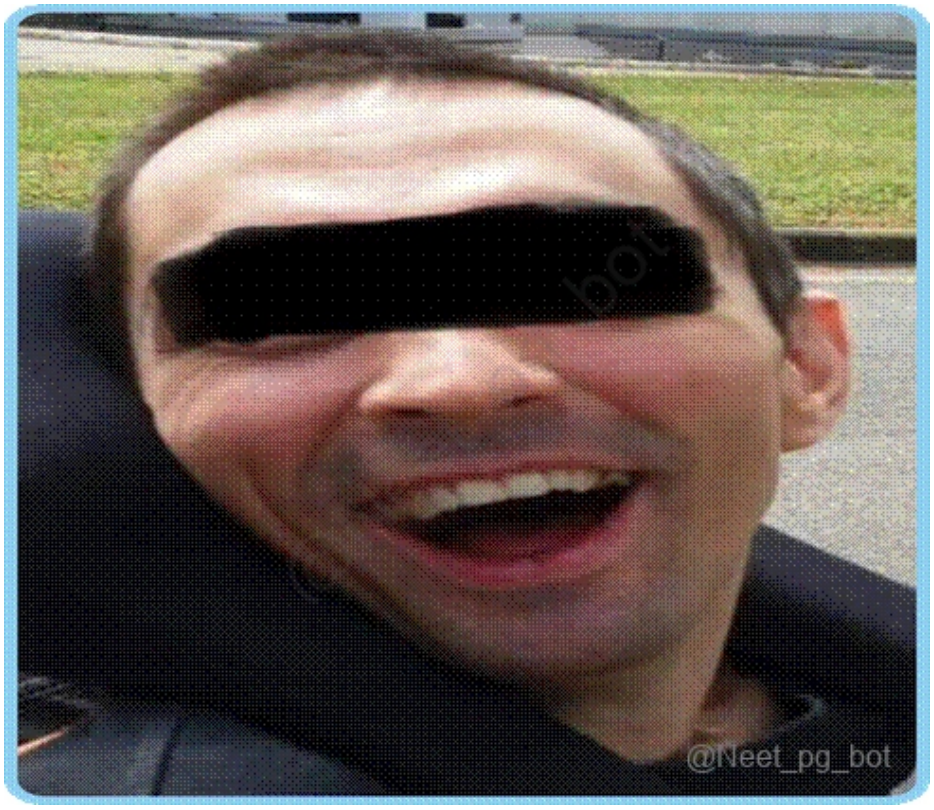
C. A-1, B-2, C-4, D-3

D. A-4, B-3, C-1, D-2

Correct Answer: A. A-2, B-1, C-3, D-4

Explanation: Datura (A-2): Datura primarily acts on the central nervous system (CNS). Actions Anticholinergic effects: CNS stimulant initially (causing anticholinergic effects such as delirium, hallucinations, and confusion), followed by CNS depression (respiratory center). Vagolytic action: Heart stimulation. Nicotine (B-1): Nicotine affects the cardiovascular system (CVS) by stimulating nicotinic receptors, leading to tachycardia, hypertension, and vasoconstriction. Nitric acid (C-3): Nitric acid primarily affects the skin, causing corrosive injuries, burns, and tissue damage upon contact. Nux vomica (strychnine) (D-4): Strychnine acts on the spinal cord, causing excitation of motor neurons, leading to muscle spasms and convulsions. Clinical Features Opisthotonus - arched body with only the back of head and heels touching the ground: {{caption_text}} Emprosthotonus- forward curve Pleurothotonus- sideways curve Risus sardonicus- fixed grin: {{caption_text}}





References:

Essentials of Forensic Medicine and Toxicology, KS Narayan Reddy, 35th edition, Page 454-455,483, 485, 487, 562-564, 666-668

Modern Medical Toxicology, by VV Pillai, 4th Edition, Page 209, 367, 368.

https://pubmed.ncbi.nlm.nih.gov/32940182/

↑ *Back to this question in Part A*

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Q60: Unknown substance consumption leading to tachycardia and red-colored halo is seen with? (Q860114)

A. Cannabis

B. Crack/ cocaine

C. LSD

D. Heroin

Correct Answer: C. LSD

Explanation: Tachycardia and visual hallucinations of red-colored halo are indicative of consumption of LSD. LSD - Lysergic acid Diethylamide: Acid blotter or paper stamp or taken as fumes. Obtained from rye fungus (ergot). Increases serotonin level in the brain (only psychological dependence). Associated with the trip (most common) Good trip Visual hallucinations and illusions Bad trip Anxiety Panic attacks Flashback phenomenon is seen (re-experiencing the past experience). Incorrect Options: Cannabis (Option A) (marijuana) use typically does not cause significant tachycardia. While cannabis can induce visual hallucinations in some individuals, they are more commonly associated with LSD and other hallucinogens. Crack/ cocaine (Option B) use is known to cause tachycardia due to its stimulant effects on the central nervous system. Cocaine can sometimes induce tactile hallucinations of bugs crawling on the skin (formication). Heroine (Option D) use is more commonly associated with symptoms such as sedation, respiratory depression, and pinpoint pupils (miosis).

↑ *Back to this question in Part A*

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Q61: Gastric lavage is contraindicated in which of the following poisonings? (Q860110)

A. Strychnine

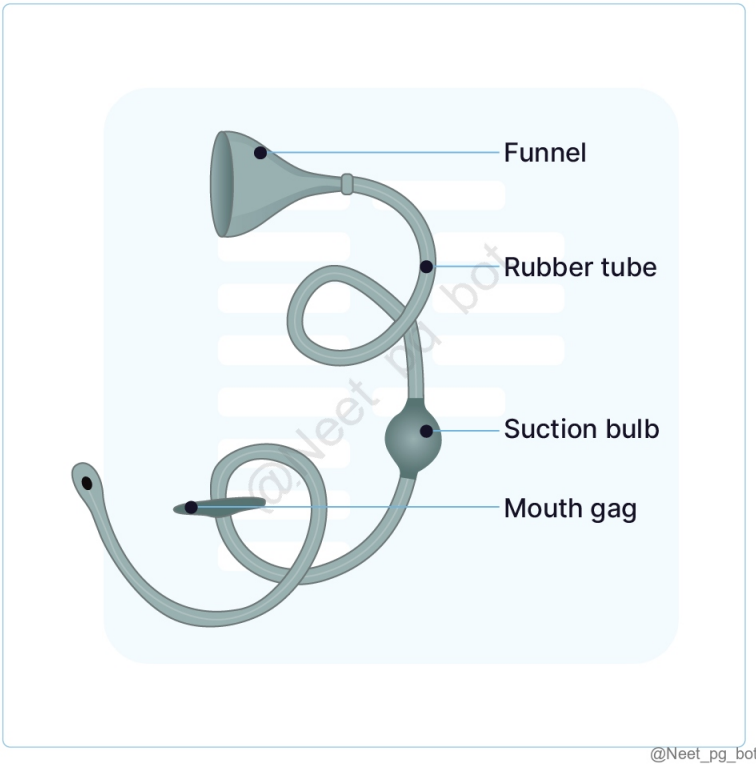
B. Paraldehyde

C. Hydrocarbons

D. Iron tablets

Correct Answer: C. Hydrocarbons

Explanation: Hydrocarbons (such as gasoline, kerosene, or other petroleum products) are highly dangerous if aspirated into the lungs. They can cause severe chemical pneumonitis and aspiration pneumonia, so gastric lavage is contraindicated in hydrocarbon poisoning. Gastric Lavage in Poisoning Management Gastric lavage is a procedure to remove ingested poison by introducing and withdrawing fluids through an orogastric tube. Its effectiveness depends on timing, proper technique, and patient-specific considerations. Timing and Effectiveness Most effective within 1 hour of ingestion (Option A ruled out) (Gastric lavage may be considered because strychnine is a rapidly absorbed, highly toxic substance. However, the risk of seizures and subsequent aspiration is very high, so benzodiazepines must be administered first to control convulsions before attempting the procedure .) Can be beneficial up to 4-6 hours in select cases Beyond 6 hours , poison likely passes into the intestines, reducing lavage efficacy Procedure Steps Step Details Patient Positioning Trendelenburg: Head down to prevent aspiration Left lateral decubitus: Reduces chance of poison entering the duodenum Tube Placement Confirmation Inject air and listen for gastric bubbling sounds Watch for coughing or bubbles (indicates misplacement in trachea) Fluid Administration Fluid is administered and aspirated using a syringe attached to the tube Fluid Selection Tap water for most cases Normal saline for infants Specific solutions (e.g., potassium permanganate) may be used for certain poisons Residual Fluid Leave a small amount of fluid to neutralize remaining poison Contraindications Corrosive Poisoning : Avoid except for carbolic acid (phenol) to prevent perforation Convulsant Poisons : Risk of triggering seizures (e.g., strychnine) Comatose Patients : High aspiration risk Volatile Poisons/Hydrocarbons : May cause aspiration pneumonitis (Option C) Risk of Hemorrhage/Perforation : Avoid if esophageal varices or recent surgery present Additional Contraindications to Emetics Severe heart or lung diseases Advanced pregnancy CNS depression or seizures Complications Complication Details Aspiration Occurs in ~10% of cases. Risk of lung injury Esophageal/Gastric Perforation Can be life-threatening Tube Misplacement Misplaced into trachea, causing complications Bleeding Can occur with improper technique or pathology Alternatives to Gastric Lavage Alternative Description Emetics Induce vomiting in conscious patients Dilution Large water intake to dilute corrosive substances Endoscopic/Surgical Removal Used for toxic foreign bodies or drug packets



References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 473, 474

↑ *Back to this question in Part A*

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Q62: A farmer presents with a painful snakebite wound on his right foot. There are two fang marks with swelling and bleeding at the bite site. What is the first step in management? (Q860076)

A. Polyvalent ASV

B. Sling or splint leading to immobilization

C. Venom suction

D. See the snake brought by a relative

Correct Answer: B. Sling or splint leading to immobilization

Explanation: Initial management of snake bite involves the “RIGHT strategy.” R: Reassure I: Immobilize G H: Go to the Hospital T: Tell the appropriate history and symptoms to the attending doctor. or coagulopathy, the recommended antivenom dose is 150-200 ml. Management of Snakebite Management Details Indications/Notes First Aid Do not allow the victim to walk (Carry) Avoid tourniquets, except in specific cases(No) Reassure patient Immobilize bitten limb (Option B) Transport to the hospital quickly Tell the doctor about any systemic symptoms Tourniquets only for severe elapid/sea snake bites with >0.5h but <2-3h transport time Evaluation Check for signs of envenomation Monitor vital signs Perform 20-minute whole blood clotting time Check coagulation profile, CPK, renal function Incoagulable blood indicates systemic envenomation by Viperidae Antivenom Therapy Mild: 50 ml Moderate: 50-100 ml Severe: 150-200 ml Effective against the 4 most important venomous snakes in India, namely, Cobra, Common Krait, Russell's viper and saw-scaled viper. Indications: Haemostatic abnormalities Neurotoxicity Cardiovascular dysfunction Impaired consciousness Rhabdomyolysis Extensive local swelling Antivenom Administration (Option A) Dilute in 5 ml/kg body weight of isotonic saline/5% Dextrose Infuse over 1-2 hours Monitor for hypersensitivity reactions Repeat if severe signs persist after 1-2 hours or if coagulability is not restored within 6 hours Supportive Care Tetanus prophylaxis Antibiotics (if severe local reaction) Manage respiratory paralysis Fresh frozen plasma/cryoprecipitates for severe bleeding Avoid heparin, corticosteroids, and EDTA. Venom suction (Option C) is to be avoided in case of a snake bite. See the snake brought by a relative (Option D) This is not necessary as the ASV available is effective against all the common venomous snakes in India. Hence, ASV is administered regardless of the snake that caused the bite.

References:

Pubmed

First aid

↑ *Back to this question in Part A*

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Q63: A 40-year-old female consumed a white-colored rodenticide powder and presents with a potassium level of 2.5 mEq/L. On examination, she has an irregular pulse and muscle paralysis. ECG shows multiple ventricular ectopics. What is the suspected poison? (Q840094)

A. Aluminum phosphide

B. Zinc phosphide

C. Warfarin toxicity

D. Barium carbonate

Correct Answer: D. Barium carbonate

Explanation: Barium carbonate Barium carbonate is a rodenticide which presents with classical features of areflexia and paralysis. Other symptoms include- Tingling sensation, tremors, cramps, stiffness of the muscles,

paralysis of the tongue and larynx, myoclonus, myalgia, flaccid quadriplegia, hypertension, arrhythmia, ectopic beats, ventricular fibrillation, irregular pulse, shock, cardiac arrest, pulmonary edema, mydriasis, vertigo, headache, confusion, convulsions. Postmortem findings: Non-specific. Submucosal hemorrhages may be seen in the GIT. Incorrect Options : Option A - Aluminum phosphide: Aluminum phosphide presents with hypotension, arrhythmias, acute CHF, shock, dyspnea, cyanosis, Oliguria, renal failure. altered mental state, restlessness, convulsions, acute hypoxic encephalopathy, coma. muscle wasting, tenderness, bleeding diathesis. Option B - Zinc phosphide: Zinc phosphide presents with dyspnea, lethargy, hypotension, cardiac arrhythmias, pulmonary edema, metabolic acidosis, convulsions, circulatory collapse, coma and death Option C - Warfarin toxicity: Warfarin toxicity, the patient presents with abnormal bleeding, dark urine, dark stools.

↑ *Back to this question in Part A*

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Q64: A 28-year-old male is brought to the emergency room. On examination, his PR is 50 bpm, BP is 80/60 mmHg, RR is 7 breaths/min and his temperature is 95° F . He has a pinpoint pupil and is disoriented. What is the most probable diagnosis? (Q793586)

A. Benzodiazepine overdose

B. Cocaine intoxication

C. Opioid withdrawal

D. Opioid intoxication

Correct Answer: D. Opioid intoxication

Explanation: Correct Option D - Opioid intoxication: Opioid intoxication is characterized by respiratory depression, bradycardia, and pinpoint pupils. Incorrect Options: Option A - Benzodiazepine overdose: Benzodiazepines are central nervous system depressants that can cause respiratory depression, hypotension, and decreased level of consciousness. However, benzodiazepine overdose is less likely to cause bradycardia and pinpoint pupils. The patient's presentation is more consistent with opioid intoxication. Option B - Cocaine intoxication: Cocaine is a stimulant drug that can cause tachycardia, hypertension, hyperthermia, dilated pupils, and agitation. The patient's presentation is inconsistent with cocaine intoxication. Cocaine use is more likely to cause hyperthermia, tachycardia, and dilated pupils, rather than hypothermia, bradycardia, and pinpoint pupils. Option C - Opioid withdrawal: Opioid withdrawal is characterized by symptoms such as sweating, nausea, vomiting, diarrhea, dilated pupils, and agitation. The patient's presentation is inconsistent with opioid withdrawal. Opioid withdrawal is more likely to cause tachycardia, rather than bradycardia, and elevated respiratory rate, rather than decreased respiratory rate.

References:

Prepladder Notes

↑ *Back to this question in Part A*

Q65: A 23-year-old farm worker from a remote village was brought to the hospital 8 hours later, following a snake bite at 5 in the morning. The patient complained of headache, blurred vision, tingling sensation around the mouth, dizziness and vertigo and had multiple episodes of vomiting since the bite. He has signs of respiratory depression and bradycardia (HR<50). The local wound showed mild swelling and blistering. There are no apparent bleeding manifestations. He was administered 10 vials of antivenom. Which of the following is the subsequent step of management? (Q793515)

A. Check the blood coagulation profile

B. Neostigmine with atropine

C. Epinephrine injection

D. I.V hydrocortisone

Correct Answer: B. Neostigmine with atropine

Explanation: The subsequent step of management for this patient with snakebite envenomation would be Neostigmine with Atropine. The symptoms described suggest that the patient may be experiencing neurotoxic effects of the snake venom, which can cause respiratory depression, bradycardia, and other neurological symptoms. Antivenom is an important component of snakebite treatment, but it may not reverse the neurological effects of the venom, which can persist even after neutralization of the venom's systemic effects. Neostigmine with Atropine is a treatment option for such cases of neurotoxicity, as it can help to reverse neuromuscular paralysis caused by snake venom. Check the blood coagulation profile (Option A): Checking the blood coagulation profile may be necessary in cases of snakebite envenomation caused by venom that can cause coagulopathy. However, in this case, there are no apparent bleeding manifestations described Epinephrine injection (Option C): Epinephrine injection is not indicated for this patient because the symptoms described are not consistent with anaphylaxis, which is the primary indication for epinephrine administration. I.V hydrocortisone (Option D): I.V hydrocortisone is not indicated for this patient because it is not effective in treating the neurotoxic effects of snake venom.

References:

Prepladder Notes

↑ *Back to this question in Part A*

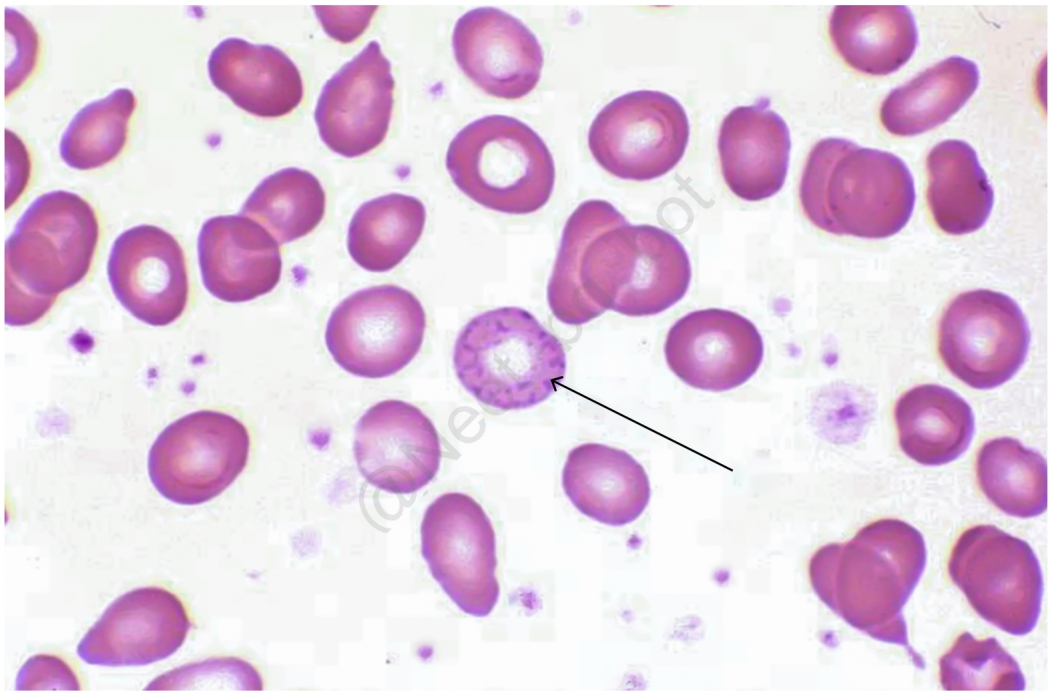
Q66: Which of the following diagnoses give the hematological picture as given below ? (Q793477)

A. Minamata disease

B. Saturnism

C. Chronic iron toxicity

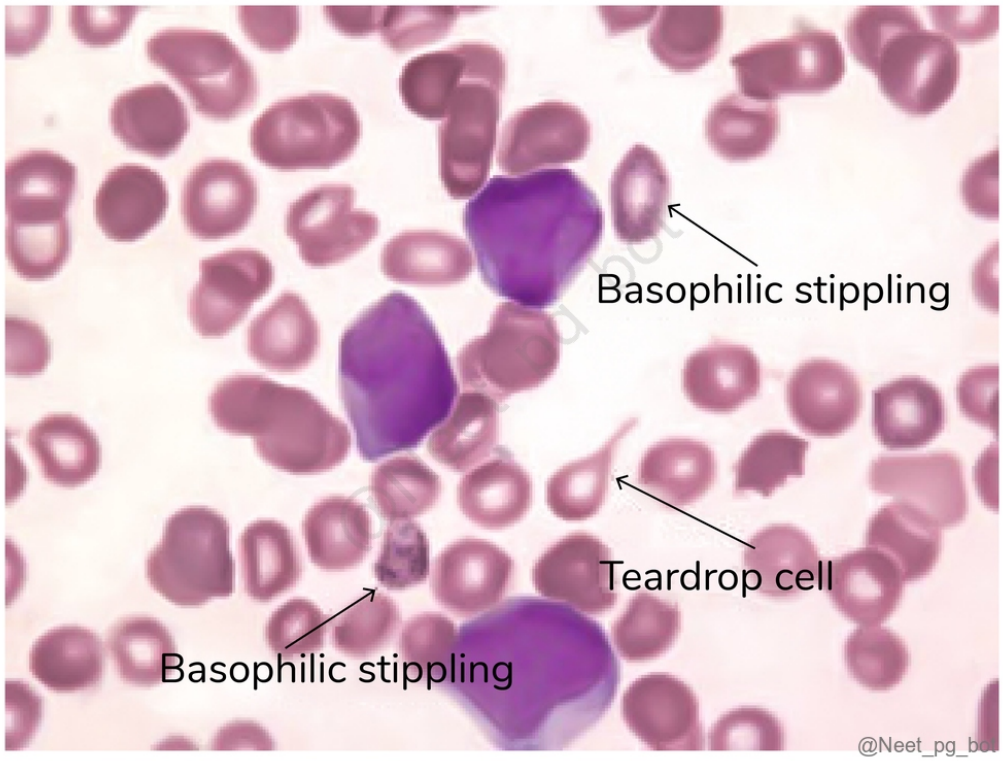
D. Arsenic poisoning



Correct Answer: B. Saturnism

Explanation: Correct Option B - Saturnism: Saturnism, also known as chronic lead poisoning, can cause a variety of hematological abnormalities, including anemia, basophilic stippling, and the presence of nucleated red blood cells (RBCs) in the peripheral blood. In severe cases, lead poisoning can also lead to bone marrow suppression, which can result in pancytopenia. However, it is important to note that the hematological picture of lead poisoning can vary depending on the level and duration of exposure, as well as individual factors such as age and nutritional status. Incorrect Options: Option A - Minamata disease : While it is possible that mercury toxicity may lead to some degree of hematological abnormalities, such as anemia, the typical hematological picture of Minamata disease does not include specific features that would clearly distinguish it from other causes of anemia. Option C - Chronic iron toxicity: Chronic iron toxicity can lead to a hematological picture of microcytic hypochromic anemia, which is characterized by small red blood cells that contain insufficient hemoglobin. While this is a specific hematological feature that can be seen in chronic iron toxicity, it is not unique to this condition and can also occur in other forms of anemia. Option D - Arsenic poisoning: Arsenic poisoning can lead to a variety of hematological abnormalities, including anemia, leukopenia, and thrombocytopenia. The specific hematological picture may vary

depending on the severity and duration of exposure. However, the presence of anemia alone is not specific enough to diagnose arsenic poisoning, as anemia can also occur in many other conditions.



References:

Prepladder Notes

↑ *Back to this question in Part A*

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• [12_Forensic Psychiatry] 026 Forensic Psychiatry

« Back to Folder Directory

[12_Forensic Psychiatry] 026 Forensic Psychiatry — Quick Jump

Q1 (p. 1222) *Q2 (p. 1223)* *Q3 (p. 1223)* *Q4 (p. 1224)* *Q5 (p. 1225)* *Q6 (p. 1226)*
Q7 (p. 1227) *Q8 (p. 1228)* *Q9 (p. 1229)* *Q10 (p. 1230)* *Q11 (p. 1231)*

Q1: Which of the following best describes the core principle of the McNaughten Rule in determining legal insanity? (Q847160)

A. The accused was suffering from a delusion at the time of the offence

B. The accused could not control their actions due to a mental disorder

C. The accused could not understand the nature or wrongness of their actions due to a mental defect

D. The accused had a history of psychiatric illness before the offence

Correct Answer: C. The accused could not understand the nature or wrongness of their actions due to a mental defect

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: McNaughten Rule , which is the legal test for insanity recognised in Section 22 of the Bharatiya Nyaya Sanhita (BNS), 2023 , derived from Section 84 of the Indian Penal Code (IPC) . Section 22, BNS states "Nothing is an offence which is done by a person who, at the time of doing it, by reason of unsoundness of mind, is incapable of knowing the nature of the act, or that he is doing what is either wrong or contrary to law." The principle focuses on cognitive incapacity — not knowing the nature or wrongfulness of the act. Legal Test of Insanity (Right or Wrong Test): A person is not criminally responsible if they did not know the nature of their act or that it was wrong at the time of the crime. Requirements include: Evidence of a mental disease. The mental disease must be present at the time of the crime The condition must be severe enough to prevent understanding that the act is wrong or illegal The accused was suffering from a delusion at the time of the offence. (Option A): This may support an insanity defence but doesn’t fully capture the McNaughten Rule's focus on understanding. The accused could not control their actions due to a mental disorder. (Option B): This suggests a lack of control, which is not the core principle of the McNaughten Rule, which emphasises understanding over control. The accused had a history of psychiatric illness before the offence (Option D): While relevant, prior psychiatric history alone doesn’t establish insanity; the focus is on the mental state at the time of the offence.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Pages 403, 416

https://www.mha.gov.in/sites/default/files/2024-04/250883_english_01042024.pdf Page 12

↑ *Back to this question in Part A*

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Q2: Which of the following is NOT a rule for criminally insane individuals? (Q847164)

A. Curren’s Rule

B. Durham’s Rule

C. American Law Institute Test

D. Morrison's Rule

Correct Answer: D. Morrison's Rule

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Morrison’s Rule is not a recognised rule related to the criminal responsibility of insane individuals. Morrison's Rule states that after five months of fetal development, the crown-heel length in centimetres can be divided by five to estimate the fetal age in months. This provides a simple method for assessing gestational age based on fetal size. Criminal responsibility of insane persons rules: Durham’s Rule (1954) : An accused is not criminally responsible if their unlawful act results from a mental disease or defect. (Option B ruled out) Curren’s Rule (1964) : An accused is not criminally responsible if, due to a mental disease or defect, they were unable to regulate their conduct according to the law at the time of the act. (Option A ruled out) American Law Institute Test (1970) : A person is not responsible for criminal actions if, due to mental disease or defect, they lack adequate capacity to understand the wrongfulness of their actions or to conform to legal requirements. (Option C ruled out) Brawner Rule (1972) : Insanity determinations should be made by a jury, which has the discretion to decide the "insanity question." The Irresistible Impulse : This rule posits that an individual may recognize an act as illegal but, due to mental impairment, cannot control their actions. For example, Lorena Bobbitt was acquitted in 1994 by arguing that an irresistible impulse led her to commit her crime.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 417

https://www.intechopen.com/chapters/78121

↑ *Back to this question in Part A*

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Q3: Identify the FALSE statement on civil responsibilities of the insane from the following options: (Q847167)

A. A contract is void if one party lacks mental capacity at the time of the agreement.

B. Mentally ill individuals can serve as guardians for their own property.

C. The Hindu Marriage Act permits annulment if one party is mentally unfit at the time of the ceremony.

D. A holographic will must be entirely in the testator's handwriting and meet specific validity criteria.

Correct Answer: B. Mentally ill individuals can serve as guardians for their own property.

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Only individuals of sound mind are permitted to serve as legal guardians. Courts appoint guardians or managers under the Mental Healthcare Act, 2017 or Guardians and Wards Act, 1890 , when a person is mentally incapable of managing their property. Mentally ill individuals cannot be entrusted with the management of their own or others' estates. This also aligns with Section 22 of BNS, 2023 , which replaces IPC Section 84 and states that a person incapable of understanding the nature of their act due to mental illness is not criminally liable , further indicating lack of civil capacity. A contract is void if one party lacks mental capacity at the time of the agreement (Option A): Indian Contract Act, 1872 (Section 11) states that a person must be of sound mind to enter into a valid contract. If proven that a party lacked mental capacity at the time, the contract is void ab initio , unless made during a lucid interval . Such an individual is deemed legally incapable of understanding or forming rational judgments required for binding agreements. The Hindu Marriage Act permits annulment if one party is mentally unfit at the time of the ceremony (Option C): Hindu Marriage Act, 1955 – Section 5(ii) : Declares a marriage invalid if either party was incapable of giving valid consent due to unsoundness of mind. Annulment is permissible if one party is mentally unfit for marriage or procreation. Under Muslim law , a woman may seek divorce if the husband suffers from insanity for over 2 years . A holographic will must be entirely in the testator's handwriting and meet specific validity criteria (Option D): Though not specifically defined under Indian law, a holographic will is recognised as valid if: It is entirely handwritten and signed by the testator. Meets the criteria under Section 63 of the Indian Succession Act, 1925 . The testator must be of sound mind at the time of making the will (Testamentary Capacity). Individuals who are intoxicated , delusional , or suffering from advanced mental illness at the time cannot make valid wills.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 415, 24.

↑ *Back to this question in Part A*

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Q4: Which of the following best differentiates hallucination from illusion in perception disorders? (Q847170)

A. Hallucination occurs with external stimuli, while illusion occurs without any stimuli.

B. Hallucination is a false perception without an external stimulus, while illusion is a misinterpretation of a real external stimulus.

C. Hallucination and illusion are both voluntary perceptions of external objects.

D. Hallucination is always visual, while illusion is always auditory.

Correct Answer: B. Hallucination is a false perception without an external stimulus, while illusion is a misinterpretation of a real external stimulus.

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Hallucinations involve perceptions without any actual external stimuli, while illusions are distortions or misinterpretations of real stimuli. For example, seeing objects that do not exist (hallucination) versus mistaking a rope for a snake (illusion). Hallucination: Hallucination is a false perception experienced by the senses without any external stimulus. It can occur in conditions like insanity, high fever, drug intoxication, and withdrawal. (Option A ruled out) Types of Hallucinations: (Option D ruled out) Visual Auditory (most common type) Olfactory Gustatory Tactile Psychomotor Lilliputian Illusion: Illusion is a false interpretation of an external object or stimulus that has real existence. (Option A ruled out) A sane person can correct these false impressions, while an insane person persists in believing them despite clear evidence. Hallucination and illusion are both voluntary perceptions of external objects. (Option C): Both hallucinations and illusions are involuntary; individuals cannot control these experiences, especially hallucinations.

References:

The Essentials of Forensic Medicine, KS Narayan Reddy, 35th Edition, Page 369

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 404, 405

↑ *Back to this question in Part A*

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Q5: Match the following types of delusions with their appropriate descriptions. 1. Othello Syndrome a) Belief that one is dead or putrefying. 2. Cotard Syndrome b) Belief that a spouse is unfaithful. 3. de Clérambault's Syndrome c) Belief of being infested with parasites. 4. Ekbom Syndrome d) Belief that a higher-status person loves the individual. (Q847173)

A. 1-a, 2-c, 3-b, 4-a

B. 1-d, 2-c, 3-b, 4-a

C. 1-c, 2-a, 3-d, 4-b

D. 1-b, 2-a, 3-d, 4-c

Correct Answer: D. 1-b, 2-a, 3-d, 4-c

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Delusion: Delusion is a firmly held false belief based on incorrect inferences about external reality, despite evidence to the contrary. It is a symptom of schizophrenia and is not typically seen in neurotic disorders. Medico-legal Importance: Diminished responsibility can apply to individuals committing unlawful acts due to delusions. Types of Delusions: Delusion of Grandeur : Belief of being very important or wealthy, often seen in mania. Delusion of Poverty : Conviction of impending loss of all material possessions. Delusion of Infidelity/Jealousy (Othello Syndrome) : Belief that a spouse is unfaithful, leading to extreme actions. Males are more commonly affected. Delusion of Reference : Belief that media and others refer to the individual, often negatively. Delusion of Persecution : Belief that one is being harmed or poisoned by others, leading to potential violence. Delusion of Influence/Control : Belief that one's thoughts and actions are controlled by external forces. Hypochondriacal Delusion : Persistent fear of having a serious illness based on unrealistic interpretations. Delusion of Self-Reproach/Criticism : Self-blame for imagined offences, potentially leading to suicide. Nihilistic Delusion : Belief that one does not exist or that the world does not exist, often seen in depression. Delusion of Doubles (Doppelganger) : Patients believe that another person has been physically transformed into themselves. Erotomania (de Clérambault's Syndrome) : Belief that someone of higher social status is in love with the individual. Capgras Syndrome : Belief that a close person has been replaced by an exact double. Fregoli's Phenomenon : Strangers are identified as familiar people. Ekbom Syndrome (Delusions of Parasitosis) : Belief of being infested with parasites. Folie à Deux : Shared delusions between two people. Cotard Delusion/Syndrome : Belief that one is dead, does not exist, is putrefying, or has lost blood or internal organs.

References:

The Essentials of Forensic Medicine, KS Narayan Reddy, 35th Edition, Page 368, 369

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 403, 404

↑ *Back to this question in Part A*

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Q6: A 45 y/o man is brought to the psychiatric clinic by his wife. He claims that his wife has been replaced by an impostor who looks exactly like her but is not his real wife. He reports feeling anxious and confused about why others cannot see the difference. His medical history includes a previous diagnosis of paranoid schizophrenia. What is the most likely diagnosis? (Q847175)

A. Delusion of doubles

B. Capgras syndrome

C. Fregoli's phenomenon

D. Schizoaffective disorder

Correct Answer: B. Capgras syndrome

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The patient believes that his wife has been replaced by an impostor, which is characteristic of Capgras syndrome. Delusion of Doubles (Doppelganger) : Patients believe that another person has been physically transformed into themselves. (Option A ruled out) Capgras Syndrome : A delusion where a patient believes a close person has been replaced by an exact double. Fregoli's Phenomenon : A delusion where strangers are misidentified as familiar people from the patient's life. (Option C ruled out) Associated Mental Illnesses : Delusions are typically seen in schizophrenia, but not in neurotic illnesses. Medico-Legal Relevance : Delusions can impact legal responsibility under the doctrine of diminished responsibility. A person may not be fully accountable for unlawful acts if the delusion impairs their reasoning. Schizoaffective disorder (Option D) : While this disorder involves psychotic symptoms, the specific delusion of impostor replacement points to Capgras syndrome.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 404

↑ *Back to this question in Part A*

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Q7: A 25 y/o woman presents to the dermatologist with intense itching and anxiety, convinced that tiny insects are crawling on her skin. She frequently inspects her body and applies various lotions to prevent what she believes are infestations, although no evidence of insects or bites is found on examination. She is aware that her fear may be exaggerated, but she cannot stop feeling anxious about it. What is the most likely diagnosis? (Q847176)

A. Delusional parasitosis

B. Acarophobia

C. Acrophobia

D. Agoraphobia

Correct Answer: B. Acarophobia

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Acarophobia is the fear of mites or small insects crawling on the skin, which fits the patient's symptoms of irrational anxiety about infestations without objective evidence. Phobias : Classified under Neurotic and Somatoform Disorders. Defined as a persistent, unrealistic, and intense fear of an object or situation, often recognised as irrational by the individual. Types of phobias: Agoraphobia : Fear of open spaces, crowds, or leaving home; commonly affects women and may involve panic attacks. (Option D) Social Phobia : Fear of social interactions or situations (e.g., public speaking). Specific Phobia : Fear of particular objects or situations, examples include: Acrophobia Fear of heights (Option C) Acarophobia Fear of mites/insects (Option B) Claustrophobia Fear of confined spaces Needle Phobia Fear of injections Algophobia Fear of pain Xenophobia Abnormal fear of strangers Gamophobia Fear of marriage/relationships Zoophobia Fear of animals Delusional parasitosis (Option A) : In delusional parasitosis, patients have a fixed false belief of being infested with parasites, typically without insight into the irrationality of their belief.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Pages 405, 412, 413, 416, 417

https://www.ncbi.nlm.nih.gov/books/NBK541021/

↑ *Back to this question in Part A*

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Q8: Which of the following statements about the Mental Healthcare Act (MHCA) 2017 is NOT true? (Q847179)

A. The Act aims to align mental healthcare services with the United Nations Convention on the Rights of Persons with Disabilities.

B. It allows for both voluntary and involuntary admissions, with specific protocols for each.

C. The MHCA 2017 came into effect on July 7, 2020, replacing the previous Mental Health Act of 1987.

D. It introduces advance directives that enable individuals to express their treatment preferences in advance.

Correct Answer: C. The MHCA 2017 came into effect on July 7, 2020, replacing the previous Mental Health Act of 1987.

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The Mental Healthcare Act (MHCA), 2017 came into force on 7th July 2018 , not 2020. It replaced the Mental Health Act, 1987 . Mental Healthcare Act (MHCA) 2017 in India: Overview of the Act : Purpose : Aims to provide comprehensive mental healthcare and services, aligning with the UN Convention on the Rights of Persons with Disabilities (2006). (Option A ruled out) Implementation Date : Enacted on July 7, 2018, replacing the Mental Health Act of 1987. Key Provisions : Rights Protection : Focuses on protecting and promoting the rights of individuals during mental healthcare delivery; ensures treatment in the least restrictive environment. Admission Procedures : Specifies detailed protocols for voluntary and involuntary admissions; all admissions require notification to a Mental Health Review Board (MHRB) for stays exceeding 30 days. (Option B ruled out) Advance Directives : Introduces advance directives and nominated representatives, allowing individuals to express treatment preferences in advance . (Option D ruled out) Implementation Challenges : Resource Limitations : Acknowledges limited mental healthcare resources in India; provides a 10-year timeline for meeting international standards in human resource development for mental healthcare. Transition from Previous Legislation : Introduces stringent involuntary admission procedures compared to MHA 1987, requiring legal formalities that may delay treatment. Conclusion : The MHCA 2017 is a progressive step towards improving mental health care in India. Success depends on effective implementation despite existing resource constraints.

References:

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8277537/

↑ *Back to this question in Part A*

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Q9: A 34-year-old man is brought to the psychiatric unit after assaulting a bystander without provocation. He reports months of auditory hallucinations with threatening voices, disorganized thoughts, and paranoid delusions. He is distressed, has poor hygiene, has a flat affect, and shows no signs of manipulation or substance abuse. What is the most likely explanation for his symptoms? (Q847180)

A. True insanity

B. Feigned insanity

C. Delusional disorder

D. Personality disorder

Correct Answer: A. True insanity

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Given the presence of long-standing auditory hallucinations, paranoid delusions, disorganized thoughts, flat affect (a severe reduction in emotional expressiveness.), and poor hygiene, these are classic features of a psychotic disorder and suggest a genuine mental illness rather than feigned symptoms. Feature True Insanity

(Option A) Feigned Insanity (Option B) Onset Gradual Sudden Motive Absent Present (e.g., after a crime) Predisposing Factors Usually present (e.g., family history) Absent Signs and Symptoms Uniform, specific Variable, exaggerated Activity Careless, persists even when unobserved Only present when observed Mood Excited, depressed, fluctuating Overacted to appear abnormal Facial Expression Peculiar, vacant, worried Frequently changing, exaggerated Insomnia Present Inconsistent, resolves in a day or two Exertion Can endure exertion, fatigue Breaks down after short exertion Habits Dirty and filthy Clean, not neglected Dressing Careless Reasonably proper Skin and Lips Dry, harsh Normal Tongue Coated Clean Repeated Examinations Doesn't mind Resists for fear of detection Delusional disorder (Option C) involves fixed, non-bizarre delusions without prominent hallucinations or disorganised thinking, whereas this patient has broader psychotic symptoms like hallucinations and thought disorganisation. Personality disorder (Option D) does not typically present with acute psychotic symptoms such as auditory hallucinations or severe disorganisation.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 407, 408, 409

↑ *Back to this question in Part A*

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Q10: A 25 y/o man is brought to the ED after being found wandering outside his home late at night, appearing confused and disoriented. He has no recollection of the events that occurred while he was outside. This behaviour is consistent with which of the following? (Q847181)

A. Delirium

B. Somnambulism

C. Acute Psychosis

D. Hypnosis

Correct Answer: B. Somnambulism

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Somnambulism , or sleepwalking, involves automatic motor activity during sleep with no recollection upon awakening, consistent with the patient’s behaviour. Criminal Responsibility in Specific Cases: Delirium: Type: Organic mental disorder. Definition: An acute reversible mental disorder characterised by confusion and impaired consciousness. Context: Occurs in individuals with high fever, overwork, mental stress, acute poisoning, or chronic alcohol/drug intoxication. (Option A) Criminal Responsibility : Individuals may not be responsible for criminal acts due to impaired consciousness and irrational behaviour. Run Amok : (Run Amok) Definition: Describes an individual engaging in frenzied violence without clear provocation. Cultural Context: Aligns with Section 84 of the IPC , stating that a person is not liable for acts committed under unsoundness of

mind. Causes of run amok: Chronic poisoning of Cannabis sativa Somnambulism (Sleepwalking) : Category: Parasomnia involving automatic motor activity during sleep with no recollection upon waking. (Option B) Criminal Responsibility : Individuals committing criminal acts during sleepwalking episodes are not held responsible. Hypnosis : (Option D) : Related to delusion of control; criminal responsibility depends on hypnosis influence, nature of suggestion, and mental state. Acute Psychosis (Option C): This condition involves a loss of contact with reality, hallucinations, or delusions, which the patient does not exhibit in this case.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 403, 405, 409, 414

The Essentials of Forensic Medicine, KS Narayan Reddy, 35th Edition, Page 377, 457.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC181064/

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https://www.ncbi.nlm.nih.gov/books/NBK526132/

↑ *Back to this question in Part A*

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Q11: Which of the following statements is true about Psychosis? (Q847183)

A. In psychosis, contact with reality is often preserved.

B. Individuals with psychosis typically exhibit empathy

C. Insight is always present

D. An organic causative factor is present.

Correct Answer: D. An organic causative factor is present.

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Psychosis vs Neurosis Features Psychosis Neurosis 1. Contact with reality Lost Preserved (Option A ruled out) 2. Interpersonal behavior Marked disturbance in personality and behaviour Preserved 3. Empathy Absent Present (Option B ruled out) 4. Insight Absence of understanding of current symptoms (insight absent) Symptoms are recognized as undesirable (insight present) (Option C ruled out) 5. Organic causative factor Present Absent 6. Symptoms Delusions, illusions and hallucinations Usually physical or psychic symptoms 7. Dealing with reality Capacity is grossly impaired Preserved 8. Examples Dementia, schizophrenia Anxiety, phobia, depression, conversion disorder. Psychosis may be: Functional (e.g., schizophrenia) — no organic cause Organic (due to medical/neurological causes) Therefore, an organic cause is not always present .

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 406

↑ *Back to this question in Part A*

@Neet_pg_bot

• [12_Forensic Psychiatry] 027 Previous Year Questions

« Back to Folder Directory

[12_Forensic Psychiatry] 027 Previous Year Questions — Quick Jump

Q1 (p. 1233) *Q2 (p. 1234)* *Q3 (p. 1234)* *Q4 (p. 1235)*

Q1: A person who was mentally unsound at the time of committing a crime is exempt from liability if they were unaware of the nature of their actions or its consequences. What is this principle called? (Q860468)

A. McNaughton rule

B. Durham's rule

C. Currens rule

D. Irresistible impulse test

Correct Answer: A. McNaughton rule

Explanation: McNaughton Rule is a legal standard used to determine whether a defendant is criminally responsible if they were suffering from a severe mental illness at the time of the crime. McNaughten Rule: The key principle states that every person is presumed sane until proven otherwise. To establish a defence of insanity, it must be proven that the accused, at the time of the act, had a mental disease that prevented them from understanding the nature of the act or recognising it as wrong. Legal Test of Insanity (Right or Wrong Test): A person is not criminally responsible if they did not know the nature of their act or that it was wrong at the time of the crime. Requirements include: Evidence of a mental disease. The mental disease must be present at the time of the crime. The condition must be severe enough to prevent understanding that the act is wrong or illegal. Criminal responsibility of insane persons rules: Durham’s Rule (1954) : An accused is not criminally responsible if their unlawful act results from a mental disease or defect. (Option B ruled out) Curren’s Rule (1964) : An accused is not criminally responsible if, due to a mental disease or defect, they were unable to regulate their conduct according to the law at the time of the act. (Option C ruled out) American Law Institute Test (1970) : A person is not responsible for criminal actions if, due to mental disease or defect, they lack adequate capacity to understand the wrongfulness of their actions or to conform to legal requirements. Brawner Rule (1972) : Insanity determinations should be made by a jury, which has the discretion to decide the "insanity question." The Irresistible Impulse : This rule posits that an individual may recognize an act as illegal but, due to mental impairment, cannot control their actions. For example, Lorena Bobbitt was acquitted in 1994 by arguing that an irresistible impulse led her to commit her crime. (Option D ruled out)

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 417

Forensic Osteology and Identification | IntechOpen.

↑ *Back to this question in Part A*

@Neet_pg_bot

Q2: According to the law, nothing is an offense if a person is of an unsound mind and is not able to understand that the nature and consequences of his/her act are wrong. Which rule of insanity applies in this case? (Q857947)

A. Durham's rule

B. Mc Naughton's rule

C. Curren's rule

D. Irresistible impulse rule

Correct Answer: B. Mc Naughton's rule

Explanation: - Mc Naughton's rule McNaughton's rules state that "Nothing is an offense done by a person who is incapable of knowing that he is doing is wrong due to mental illness". The rules of insanity in forensic medicine are primarily governed by the McNaughten Rules (1843), which establish the legal criteria for determining criminal responsibility in cases involving mental illness. McNaughten Rules (Key Principles): Presumption of Sanity: Every individual is presumed sane unless proven otherwise. Defect of Reason: The accused must suffer from a severe mental disease causing a defect of reason. Inability to Understand the Nature of the Act: The individual must be unable to understand the nature and quality of the act they were committing. Inability to Distinguish Right from Wrong: The person must be incapable of understanding that the act was wrong due to their mental condition. Durham's Rule (Option A): states that a criminal cannot be convicted of a crime if the act was a result of a mental disease or defect the criminal had at the time of the incident. Curren's Rule (Option C): An accused person will not be criminally responsible if, at the time of committing the act, he did not have the capacity to regulate his conduct to the requirements of law, as a result of mental disease or defect. Irresistible impulse rule (Option D): According to the Irresistible Impulse rule in jurisdictions defendants typically must present sufficient evidence to prove the existence of mental illness and that the mental illness caused the inability to control one's actions or conform one's conduct to the law.

References:

Mcnaughtan rule

↑ *Back to this question in Part A*

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Q3: McNaughten's rule is? (Q857616)

A. IPC 82

B. IPC 83

C. IPC 84

D. IPC 85

Correct Answer: C. IPC 84

Explanation: 84 McNaughten Rule: Sec. 84 IPC deals with the criminal responsibility of insane persons. It states that: “Nothing is an offence which is done by a person who, at the time of doing it, because of unsoundness of mind, is incapable of knowing the nature of the act, or what he is doing is either wrong or contrary to the law”. BNS Section 22: Nothing is an offence done by a person who, at the time of doing it, because of unsoundness of mind, is incapable of knowing the nature of the act, or that he is doing what is either wrong or contrary to law. The key principle states that every person is presumed sane until proven otherwise. To establish a defence of insanity, it must be proven that the accused, at the time of the act, had a mental disease that prevented them from understanding the nature of the act or recognising it as wrong. Legal Test of Insanity (Right or Wrong Test): A person is not criminally responsible if they did not know the nature of their act or that it was wrong at the time of the crime. Requirements include: Evidence of a mental disease. The mental disease must be present at the time of the crime. The condition must be severe enough to prevent understanding that the act is wrong or illegal. IPC 82 (Option A) : Deals with children under 7 years of age who are presumed incapable of committing a crime due to their age, and thus cannot be held criminally responsible. IPC 83 (Option B) : Concerns children between 7 and 12 years old . They can be criminally liable, but only if they possess the maturity to understand the nature of their act. It allows a defense of insanity if the child is incapable of understanding the nature of the act. IPC 85 (Option D) : Addresses acts done by persons of unsound mind under the influence of intoxication. If intoxication is involuntary, the person can use it as a defense to not be held criminally responsible.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 403, 416

BNSPage 12.

↑ *Back to this question in Part A*

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Q4: A man continues to call females. Achieves sexual gratification by talking obscenity & sharing obscene pictures.The condition is? (Q859422)

A. Frotteurism

B. Voyeurism

C. Scatologia

D. Coprophilia

Correct Answer: C. Scatologia

Explanation: Based on the provided information, the patient most likely has scatologia . Scatologia refers to a paraphilic disorder in which a person achieves sexual arousal and gratification by engaging in obscene or sexually explicit talk or behavior. It involves the use of obscene language, sharing obscene píctures , or engaging in explicit conversations with others, often without their consent. Incorrect Options: Frotteurism (Option A): This is a paraphilic disorder in which a person derives sexual pleasure from rubbing against or touching non-consenting individuals in crowded places.It typically involves non-consensual physical contact. Voyeurism (Option B): Voyeurism intense sexual interest in observing others while they are undressing, naked, or engaged in sexual activities, without their knowledge or consent. Coprophilia (Option D): Coprophilia is a paraphilic disorder in which a person derives sexual pleasure from feces or associated activities.

References:

Scatalogia

↑ *Back to this question in Part A*

@Neet_pg_bot

• [13_Court of Law] 028 Previous Year Questions

« Back to Folder Directory

[13_Court of Law] 028 Previous Year Questions — Quick Jump

Q1 (p. 1237) *Q2 (p. 1237)* *Q3 (p. 1238)* *Q4 (p. 1239)* *Q5 (p. 1240)* *Q6 (p. 1241)*
Q7 (p. 1241) *Q8 (p. 1242)* *Q9 (p. 1243)*

Q1: Section 314 IPC deals with (Q855262)

A. Causing miscarriage with the consent of the mother

B. Causing miscarriage without the consent of the mother

C. Death of the mother by act done with intent to cause miscarriage

D. Causing the death of the quick unborn child by an act amounting to culpable homicide

Correct Answer: C. Death of the mother by act done with intent to cause miscarriage

Explanation: Section 314 IPC When the woman dies due to an act intended to cause miscarriage (whether or not miscarriage actually occurs) Now it corresponds to BNS 90. IPC Section Description 312 Causing a miscarriage with consent. (Option A ruled out) 313 Causing miscarriage without a woman's consent. (Option B ruled out) 314 Death caused by an act done with intent to cause miscarriage, if act done without woman's consent. (Option C) 315 Act done with intent to prevent a child being born alive or to cause it to die after birth. 316 Causing death of a quick unborn child by act amounting to culpable homicide. (Option D ruled out)

References:

https://www.indiacode.nic.in/repealedfileopen?rfilename=A1860-45.pdf (page 8)

CORRESPONDENCE TABLE and COMPARISON SUMMARY OF THE BHARTATIYA NYAYA SANHITA, 2023 (BNS) to THE INDIAN PENAL CODE, 1860 (IPC)

↑ *Back to this question in Part A*

@Neet_pg_bot

Q2: While recording evidence in the court of law, the opposing lawyer asked the witness, “Did A kill B in your presence?” The witness said, “Yes”. Which procedural route would this type of question be permitted in the court of law? (Q856324)

A. Examination-in-chief

B. Direct examination

C. Cross-examination

D. Re-direct examination

Correct Answer: C. Cross-examination

Explanation: Correct Option C - Cross-examination Cross-examination is the correct procedural route in the court of law for this type of question. Aspect Examination-in-Chief (Direct Examination) (Option A and B) Cross-Examination (Option C) Re-Examination (Option D) Conducted By Party who calls the witness (e.g., public prosecutor) Opposing party (typically defense) Party who called the witness Purpose Present all relevant facts Provide expert interpretation if applicable Challenge witness's credibility Elicit favorable facts Test accuracy Clarify issues raised during cross-examination Leading Questions Not allowed unless the witness is declared hostile Allowed (Sec. 146 BSA) Not allowed Nature of Questions Open-ended questions to elicit narrative Can include leading questions to control the narrative Generally clarifying questions Time Limit Typically structured and may have time constraints No set time limit; may last for hours or even days Generally limited to clarification purposes Judicial Oversight Judge may intervene to ensure questions are relevant and not leading Court can disallow indecent or scandalous questions (Sec. 154, BSA) Judge monitors to ensure focus remains on clarification

References:

Gautam Biswas Review of Forensic Medicine and Toxicology 3rd Edition Page 48, 49, 50

↑ *Back to this question in Part A*

@Neet_pg_bot

Q3: When an individual commences employment with a second employer, the new employer assumes responsibility for the individual's actions, under which doctrine? (Q856686)

A. Vicarious liability

B. Doctrine of negligent choice

C. Contributory negligence

D. Borrowed servant doctrine

Correct Answer: D. Borrowed servant doctrine

Explanation: The Borrowed Servant Doctrine refers to a situation where an employee is temporarily transferred from one employer to work under the direction and control of another employer. In this case, the new employer assumes responsibility for the employee’s actions while they are under their supervision. Essentially, even though

the employee remains on the payroll of the original employer, the new employer has control over the employee's work and, therefore, is liable for the employee's actions while they are working for them. Vicarious Liability/ Respondeat Superior Employers are liable for the negligent acts of their employees under certain conditions. Also called the Master-Servant rule. Conditions : Employer-employee relationship. Conduct occurs within the scope of employment. Incident occurs while on the job. Principal doctors can be held responsible for the negligence of their assistants. Temporary Relationships : Surgeons assisting each other may create an employer-employee relationship thus being liable for each other's actions. Borrowed Servant Doctrine : An employee can serve multiple employers (e.g., a nurse assisting a surgeon is a "borrowed servant" during surgery). Negligence occurring due to borrowing of temporary staff from another department. Hospital Liability : Hospitals are liable for the acts of employees under their supervision, but not for senior staff if due care in hiring is proven. Direct Supervision : Physicians are responsible for the acts of interns and residents they supervise. Defense Against Liability: Employers can avoid liability by proving the employee was not negligent or was acting outside the scope of employment. Incorrect Options: Vicarious liability (Option A) : While this doctrine does involve holding an employer responsible for the actions of an employee, it generally refers to the principal employer 's responsibility for their own employees' actions, rather than the responsibility when an employee is temporarily working for another employer. Doctrine of negligent choice (Option B) : This refers to the liability of an employer for hiring an individual who is unfit or negligent in their duties, leading to harm or injury. It does not relate to the responsibility of the new employer for the employee's actions once employed. Contributory negligence (Option C) : This is a defense in tort law where the injured party's own negligence contributes to their injury. It does not pertain to the responsibility of an employer for an employee's actions.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 21

↑ *Back to this question in Part A*

@Neet_pg_bot

Q4: Which of the following defines rape under the Bharatiya Nyaya Sanhita (BNS)? (Q856887)

A. Section 63 BNS

B. Section 64 BNS

C. Section 65 BNS

D. Section 70 BNS

Correct Answer: A. Section 63 BNS

Explanation: Exceptions: Section 63 BNS: Defines rape as a man committing sexual penetration by penis, insertion of any body part or object, manipulation, or oral application involving a woman, with or without her consent under certain circumstances. Consent must be free, voluntary, informed, and unequivocal. Rape includes sexual acts done against her will, without consent, or when consent is obtained by putting the woman or someone

she cares about in fear of death or hurt. Consent is invalid if the woman is under 18 years of age, or mentally incapacitated, or intoxicated to the extent of being unable to understand the act. Marital rape is exempted if the wife is 18 years or older. Medical procedures are excluded and do not constitute rape. Covers various scenarios such as deception, coercion, or lack of communication of consent. Provides a comprehensive and modernized definition of rape replacing IPC Section 375. Section 64 BNS (Option B): Prescribes punishment for the offence of rape, including rigorous imprisonment and fine depending on circumstances. Section 65 BNS (Option C): Specifies enhanced punishment for rape of a woman under certain ages (below 16 or 12 years), including life imprisonment or death penalty. Section 70 BNS (Option D): Deals with gang rape, prescribing stringent penalties for rape committed by a group or with common intention, with imprisonment terms and fines.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 367

The Essentials of Forensic Medicine & Toxicology, K. S. Narayan Reddy, 35th Edition, Page 320Section 63

↑ *Back to this question in Part A*

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Q5: The court summons a member of the public who witnessed the incident to provide testimony and document their account. What kind of evidence does the witness offer to the court? (Q857939)

A. Oral evidence

B. Hearsay evidence

C. Subpoena

D. Circumstantial evidence

Correct Answer: A. Oral evidence

Explanation: : Hearsay evidence refers to a testimony that is provided by a witness and is not based on any personal communication. Subpoena (Option C): Subpoena is a formal written order that requires a person to appear before a court, or other legal proceedings and testify, or produce documentation. Circumstantial evidence (Option D): Circumstantial evidence is evidence of facts that the court can draw conclusions from.

References:

Oral evidence

↑ *Back to this question in Part A*

@Neet_pg_bot

Q6: Who is responsible for handling the investigation in the case of a custodial death? (Q857952)

A. Police inspector

B. Jail superintendent

C. Superintendent of Police

D. Judicial magistrate

Correct Answer: D. Judicial magistrate

Explanation: Judicial magistrate Section 176 (l) of the Code of Criminal Procedure (CrPC) states that if a person in custody dies or disappears or a woman is raped in custody, the Judicial Magistrate (Executive Magistrate) has the power to order an inquiry. Conditions for Magistrate inquest: A - Death in Asylum B - Death in hostels C - Custodial death/rape D - Dowry death E - Exhumation Police Inquest Magistrate Inquest 174 CrPC 176 CrPC Most common inquest in India Best Inquest Type of magistrate Inquest: Judicial Executive In the court of law (for conducting trial) Appointed by high court In maintaining law & Order in the society Appointed by state Govt. Designated as District Magistrate (DM) Following govt officials can be appointed as executive magistrate: District Collector Tehsildar RDO Deputy collector

References:

Inquest

↑ *Back to this question in Part A*

@Neet_pg_bot

Q7: Who conducts inquest in Police custodial death? (Q860431)

A. Higher police official

B. Judicial magistrate

C. Medical examiner

D. Coroner

Correct Answer: B. Judicial magistrate

Explanation: In cases of police custodial deaths, the inquest is conducted by a Judicial Magistrate. In India, there are two types of inquests: police inquest and magistrate inquest. 1. Police Inquest (Section 194, BNSS) (Option A) Most common type of inquest in India. Conducted by a police officer , generally not below the rank of Head

Constable . The police officer, upon receiving information about the unnatural death, visits the site. ↓ Involves two or more witnesses from the local area, called panchas , to assist in the investigation. The report is referred to as a panchnama . ↓ If the cause of death appears to be accidental or non-suspicious, the body is handed over to the family for funeral proceedings. ↓ In case of suspicious circumstances , the police officer forwards the body for a postmortem to a certified medical officer and sends the report to the Magistrate . 2. Magistrate Inquest (Section 196, BNSS) Conducted by an Executive Magistrate , or Judicial Magistrate . It's mandatory in specific circumstances, including: Death, the disappearance of a person, or alleged rape in police custody (Option B) or any custody authorized by the court Deaths due to police firing Deaths in jail Deaths of women within 7 years of marriage if, Commits suicide In any circumstances raising a reasonable suspicion that some other person committed an offence Any relative of the woman has made a request on this behalf There is any doubt regarding the cause of death Deaths where there's suspicion of rape before death Deaths with suspicion of foul play or where a relative of the deceased has made a request Also conducted if the case is referred by police due to suspicion arising during their investigation An inquiry by a Judicial Magistrate or Metropolitan Magistrate is required in instances of custodial death, disappearance, or custodial rape where foul play is suspected or there are allegations of an offense. In all other situations, the inquiry can be conducted by an Executive Magistrate. The magistrate is responsible for forwarding the body for postmortem examination to a Civil Surgeon or another authorized doctor within 24 hours of the death. Feature Police Inquest Magistrate Inquest Conducted by Police officer Magistrate (DM, SDM, Judicial, or Executive Magistrate) Involvement of witnesses Requires signatures of panchas Does not require witness signatures Witness statements Admissible in court Not admissible in court Can order arrest No, but can arrest in cognizable offenses Can issue arrest warrants Exhumation Cannot order exhumation Can order exhumation of a body Autopsy orders Sends bodies for autopsy indiscriminately Orders autopsy only when necessary Forensic analysis Cannot order chemical analysis of viscera Can order chemical analysis Differences Between Police and Magistrate Inquests: Medical examiner (Option C) does not conduct inquests. Coroner (Option D) can not conduct an inquest in police custodial death

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page. 43, 44.

The Essentials of Forensic Medicine and Toxicology, K S Narayan Reddy, OP Murty, 35th Edition, Page. 5, 6.

https://bprd.nic.in/uploads/pdf/COMPARISON%20SUMMARY%20BNS%20to%20IPC%20.pdf

↑ *Back to this question in Part A*

@Neet_pg_bot

Q8: What is the minimum age at which a woman can give valid consent for Medical Termination of Pregnancy (MTP) in India? (Q865254)

A. 18 years

B. 16 years

C. 25 years

D. 20 years

Correct Answer: A. 18 years

Explanation: In India, the minimum age at which a woman can provide valid consent for a Medical Termination of Pregnancy (MTP) is 18 years . According to the Medical Termination of Pregnancy (MTP) Act, 1971, a woman aged 18 years or older can consent to an abortion independently. Medical Termination of Pregnancy (MTP) Act: The original act was passed in 1971 and amended in 2021. Indications : Maternal Risk Fetal Risk: Spina bifida, Down syndrome. Eugenic Conditions: Risks to both mother and fetus. Humanitarian Cause: Pregnancy resulting from rape. Contraceptive Failure.

References:

Williams Obstetrics, 26th Edition, Page 212.

Medical Termination of Pregnancy Act, 2023 Amendment Guidelines, Page 1-5

↑ *Back to this question in Part A*

@Neet_pg_bot

Q9: As per the MTP (Amendment) Act, 2021, the opinion of two registered medical practitioners is required for termination of pregnancy at which gestational age? (Q865275)

A. 16-20 weeks

B. 20-24 weeks

C. Up to 12 weeks

D. 12-16 weeks

Correct Answer: B. 20-24 weeks

Explanation: As per the Medical Termination of Pregnancy (Amendment) Act, 2021 , the opinion of two registered medical practitioners is required for the termination of pregnancy between 20 and 24 weeks of gestation. Medical Termination of Pregnancy (MTP) Act: The original act was passed in 1971 and amended in 2021. Indications : Maternal Risk Fetal Risk: Spina bifida, Down syndrome. Eugenic Conditions: Risks to both mother and fetus. Humanitarian Cause: Pregnancy resulting from rape. Contraceptive Failure. Qualifications : MBBS, MD/DNB/DGO MBBS who has trained in gynaecology for 6 months MBBS who has performed 25 MTPs under supervision ASHA and AYUSH cannot perform MTP. The MTP Act 1971 and The MTP Act Amendments 2021: MTP Act 1971 The MTP Amendment Act 2021 Indications (Contraceptive failure) Only applies to married women. Unmarried women are also covered Gestational Age Limit 20 weeks for all indications 24 weeks for rape survivors. Beyond 24 weeks for substantial fetal abnormalities Medical practitioner opinions required before termination One RMP till 12 weeks Two RMPs till 20 weeks One RMP till 20 weeks Two RMPS 20-24 weeks Medical Board approval after 24 weeks Abortions >24 weeks in cases of significant fetal anomalies with no

gestational upper limit - to be decided by a state medical board (gynecologist, pediatrician, radiologist). Breach of the woman's confidentiality Fine up to Rs 1000 Fine and/or Imprisonment of 1 year.

References:

Williams Obstetrics, 26th Edition, Page 212.

Medical Termination of Pregnancy Act, 2023 Amendment Guidelines, Page 1-5

MTP

↑ *Back to this question in Part A*

@Neet_pg_bot

• [14_IPC Sections] 029 Bns Sections - I

« Back to Folder Directory

[14_IPC Sections] 029 Bns Sections - I — Quick Jump

Q1 (p. 1245) *Q2 (p. 1246)* *Q3 (p. 1246)* *Q4 (p. 1247)* *Q5 (p. 1248)* *Q6 (p. 1249)*
Q7 (p. 1249) *Q8 (p. 1250)* *Q9 (p. 1251)* *Q10 (p. 1252)* *Q11 (p. 1253)* *Q12 (p. 1253)*
Q13 (p. 1254) *Q14 (p. 1255)* *Q15 (p. 1256)* *Q16 (p. 1257)* *Q17 (p. 1258)* *Q18 (p. 1258)*
Q19 (p. 1259)

Q1: Match the BNS sections with the offense BNS Section Offense 1. 104 a. Attempt to commit suicide. 2. 107 b. Punishment for murder by life convict. 3. 109 c. Abetment of suicide of child or insane person. 4. 226 d. Attempt to murder. (Q846952)

A. 1-b, 2-c, 3-d, 4-a

B. 1-c, 2-d, 3-b, 4-a

C. 1-a, 2-b, 3-c, 4-d

D. 1-b, 2-a, 3-d, 4-c

Correct Answer: A. 1-b, 2-c, 3-d, 4-a

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: BNS Section Offense 104 Punishment for murder by life convict. Punishment: Death penalty 105 Punishment for culpable homicide not amounting to murder. Punishment : Part I: Life imprisonment or up to 10 years and fine. Part II: Up to 10 years imprisonment or fine. 107 Abetment of suicide of child or insane person. Punishment : Death penalty or life imprisonment or up to 10 years and fine. 108 Abetment of suicide. Punishment: Up to 10 years imprisonment and fine. 109 Attempt to murder. Punishment: Up to life imprisonment or up to 10 years and fine. If injury occurs, may extend to life imprisonment. 110 Attempt to commit culpable homicide. Punishment : Up to 3 years imprisonment or fine, or both. If injury occurs, may extend to 7 years. 226 Attempt to commit suicide to compel or restrain a public servant from performing lawful duty Punishment: Up to 1 year imprisonment or fine.

References:

www.ncib.in/pdf/indian-penal-code.pdf

https://www.mha.gov.in/sites/default/files/250883_english_01042024.pdf

↑ *Back to this question in Part A*

@Neet_pg_bot

Q2: Bestiality is a term given to which of the following unnatural sexual offenses? (Q846994)

A. Anal intercourse

B. Oral intercourse

C. Female homosexuality

D. Sexual intercourse with an animal

Correct Answer: D. Sexual intercourse with an animal

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Sexual intercourse by a human with a lower animal is called bestiality Sodomy -anal intercourse (Option A) Buccal coitus -intercourse through the mouth (Option B) Tribadism -female homosexuality (Option C) Bestiality -sexual intercourse by a human with a lower animal

References:

Parikh's Textbook of Medical Jurisprudence, Forensic Medicine and Toxicology, 8th Edition, Pages 424, 426-427

www.mha.gov.in/sites/default/files/250883_english_01042024.pdf

bprd.nic.in/uploads/pdf/COMPARISON%20SUMMARY%20BNS%20to%20IPC%20.pdf

↑ *Back to this question in Part A*

@Neet_pg_bot

Q3: Which of the following acts cannot be considered as rape? (Q846988)

A. Inserting an article into the urethra

B. Manipulating any part of a woman’s body to cause penetration

C. Penetrating wife (aged >18 years) without consent

D. Hugging or kissing without sexual penetration

Correct Answer: D. Hugging or kissing without sexual penetration

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Legally, rape involves sexual penetration - vaginal, anal, oral, or the non-consensual insertion of a body part or object. Non-consensual hugging or kissing, while potentially assault or harassment, does not constitute rape because it lacks penetration. Rape BNS BNS 63 (Old: Section 375 IPC) Definition Unlawful sexual intercourse by a man with a woman through force or under certain conditions Acts considered Penetrates his penis into the vagina, mouth, urethra, or anus Inserts any object or body part (not his penis) or applies his mouth to the vagina, mouth, urethra, or anus (Option A ruled out) (Option D ruled out) Manipulates any part of the woman's body to cause penetration into the vagina, urethra, or anus (Option B ruled out) Circumstances Against her will Without her consent With her consent obtained through fear of death or hurt With her consent, when she believes he is her husband due to impersonation When she cannot understand the nature of consent due to unsoundness of mind, intoxication, or being drugged Statutory rape: With or without her consent, if she is under 18 years of age When she is unable to communicate consent Exception Medical interventions or procedures Sexual intercourse by a man with his wife if she is not under 18 years of age (Option D ruled out)

References:

Goutam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Page 367

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↑ *Back to this question in Part A*

@Neet_pg_bot

Q4: Match the BNS sections with the offences BNS Section Offense 1. 97 a. Importing a girl under 21 years into India from a foreign country for illicit intercourse 2. 137 (1) (b) b. Abducting a minor from lawful guardianship 3. 96 c. Abducting a child under 10 years to take any moveable property 4. 141 d. Procuring a girl under 18 years for illicit intercourse (Q846970)

A. 1-a, 2-b, 3-c, 4-d

B. 1-c, 2-b, 3-d, 4-a

C. 1-d, 2-c, 3-b, 4-a

D. 1-b, 2-c, 3-a, 4-d

Correct Answer: B. 1-c, 2-b, 3-d, 4-a

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Kidnapping refers to taking or enticing any person beyond the limits of India without the consent of that person or someone legally authorized. Kidnapping from lawful guardianship refers to taking or enticing a minor or person of unsound mind out of the keeping of a lawful guardian without the guardian's consent. Consent of minor is immaterial. New Old About BNS 97 Section 369 IPC Kidnapping or abducting a child under 10 years with the intent to take dishonestly any moveable property from the child BNS 137 (1)(b) Section 361 IPC Kidnapping or abducting a minor from lawful guardianship: Boy under 16 years Girl under 18 years BNS 96 Section 366A IPC Procuring a girl under 18 years old for illicit intercourse or for prostitution BNS 141 Section 366B IPC Importing a girl under 21 years into India from a foreign country for illicit intercourse

References:

Parikh's Textbook of Medical Jurisprudence, Forensic Medicine and Toxicology, 8th Edition, Page 69

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↑ *Back to this question in Part A*

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Q5: A man attacks a woman in public and tries to disrobe her. What is the punishment he will get for this? (Q846968)

A. 3-7 years of imprisonment and fine

B. 1-3 years of imprisonment

C. 7-10 years of imprisonment

D. 4-7 years of imprisonment

Correct Answer: A. 3-7 years of imprisonment and fine

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Public disrobing is considered an indecent assault and is punishable under Section BNS 76 for 3-7 years imprisonment and fine Assault: An offer, threat, or attempt to apply force to another person's body in a hostile manner BNS 130 (Old: IPC Section 351) Indecent Assault Definition Unwanted sexual behavior or touching of a female without her consent, intending to outrage her modesty Legal Aspect BNS 74 Old: Section 354 IPC 1-5 years imprisonment and/or fine The offense is cognizable, non-bailable, and non-compoundable Tried by any Magistrate Whoever assaults or uses criminal force on any woman or abets such act with the intention of disrobing or compelling her to be naked BNS 76 Old: Section 354-B IPC 3-7 years imprisonment and fine (Option A)

References:

Goutam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Pages 295, 397

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↑ *Back to this question in Part A*

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Q6: Acid attack comes under which of the following BNS sections? (Q846966)

A. BNS 124

B. BNS 119 (1)

C. BNS 123

D. BNS 119 (2)

Correct Answer: A. BNS 124

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Acid attack is under section Section BNS 124 (1) and Section BNS 124 (2). Acid attack Definition Throwing or attempting to throw acid or any corrosive substance that can cause bodily injury, disfigurement, scars, temporary or permanent disability, or grievous hurt BNS sections Section BNS 124 (1) and Section BNS 124 (2) (Option A) Punishment Imprisonment from 5 to 7 or 10 years to life and fine

References:

Parikh's Textbook of Medical Jurisprudence, Forensic Medicine and Toxicology, 8th Edition, Page 554

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↑ *Back to this question in Part A*

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Q7: A 32 year old man gets into an argument and intentionally causes severe injuries to another person, resulting in a broken arm and significant physical pain. The police decided to charge him under the appropriate section of the BNS. Which section of the

BNS is appropriate in this context? (Q846961)

A. He is charged under the section BNS 115 (1)

B. He is charged under the section BNS 115 (2)

C. He is charged under the section BNS 117 (2)

D. He is charged under the section BNS 124 (2)

Correct Answer: C. He is charged under the section BNS 117 (2)

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: BNS 117 (2): Specifies the punishment for voluntarily causing grievous hurt, which can result in imprisonment for up to seven years and a fine. (Option C) Old: Section 325 IPC BNS 115 (1): Defines voluntarily causing hurt. (Option A ruled out) Old: Section 321 IPC BNS 115 (2): Deals with the punishment for voluntarily causing hurt, which carries a lesser penalty than grievous hurt, with imprisonment up to one year or a fine of up to ■1,0000. (Option B ruled out) Old: Section 323 IPC, where fine was up to ■1000 . BNS 124 (2): Covers voluntarily throwing or attempting to throw acid, with a minimum imprisonment of 5 years and a fine. (Option D ruled out) Old: Section 326B IPC

References:

Goutam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Page 298

N S Narayana Reddy and OP Murty, The Essentials of Forensic Medicine & Toxicology, 35th Edition, Page 226

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↑ *Back to this question in Part A*

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Q8: A 35 year old man was assaulted, leading to several injuries and is hospitalized. You are tasked with determining whether the case fits the legal classification of grievous hurt under BNS 116 for some of the expected events. Which of the following scenarios would NOT be classified as grievous hurt? (Q846959)

A. The person dies due to an injury that, under normal circumstances, was not intended to cause death.

B. The person suffers an abdominal injury causing the intestines to protrude and is hospitalized for 22 days.

C. The person sustains a deep injury with a fracture

D. The person is in a coma for 20 days following a severe head injury.

Correct Answer: A. The person dies due to an injury that, under normal circumstances, was not intended to cause death.

■ *Listen to Audio 1*

Explanation: This situation involves an unintended fatal outcome, which falls under the category of culpable homicide or accidental death, not grievous hurt. Grievous hurt pertains to severe injuries, not necessarily causing death. BNS 116 (Old Section 320 IPC) defines following injuries as grievous: Emasculation (cutting off the penis, castration, or causing loss of power of erection due to spinal injury) Permanent privation of the sight of either eye Permanent privation of the hearing of either ear Privation of any member (part, organ, limb) or joints Destruction or permanent impairment of the powers of any member or joint Permanent disfiguration of head or face Fracture or dislocation of a bone or a tooth Any hurt which endangers life, or which causes the sufferer to be, during the space of 15 days or more, in severe bodily pain, or unable to follow his ordinary pursuits The person suffers an abdominal injury causing the intestines to protrude and is hospitalized for 22 days (Option B): This qualifies as grievous hurt because it endangers life and also results in the inability to follow ordinary pursuits for more than 15 days. The person sustains a deep injury with a fracture (Option C): Fracture of a bone is specifically listed under grievous hurt, irrespective of severity. Therefore, it is grievous hurt. The person is in a coma for 20 days following a severe head injury (Option D): Prolonged unconsciousness leading to inability to follow ordinary pursuits for more than 15 days qualifies as grievous hurt under BNS 116.

References:

Goutam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Page 296

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https://bprd.nic.in/uploads/pdf/COMPARISON%20SUMMARY%20BNS%20to%20IPC%20.pdf

↑ *Back to this question in Part A*

@Neet_pg_bot

Q9: A 40-year-old man sustained multiple injuries during a fight. According to Bharatiya Nyaya Sanhita (BNS) Section 116, which of the following does not qualify as grievous hurt? (Q846957)

A. Permanent impotence from a serious genital injury

B. Loss of a single tooth from a punch to the face

C. A facial cut that temporarily alters appearance

D. Fracture of the wrist from a heavy fall

Correct Answer: C. A facial cut that temporarily alters appearance

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: A temporary cut or injury that does not result in permanent disfigurement does not meet the criteria for grievous hurt. BNS 116 (Old Section 320 IPC) defines the following injuries as grievous: Emasculation (cutting off the penis, castration, or causing loss of power of erection due to spinal injury) (Option A ruled out) Permanent privation of the sight of either eye Permanent privation of the hearing of either ear Privation of any member (part, organ, limb) or joints Destruction or permanent impairment of the powers of any member or joint Permanent disfiguration of the head or face Fracture or dislocation of a bone or a tooth. (Options B and D ruled out) Any hurt which endangers life, or which causes the sufferer to be, during the space of 15 days, in severe bodily pain, or unable to follow his daily routine

References:

Goutam Biswas Review of Forensic Medicine and Toxicology, 3rd Edition, Page 296

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https://bprd.nic.in/uploads/pdf/COMPARISON%20SUMMARY%20BNS%20to%20IPC%20.pdf

↑ *Back to this question in Part A*

@Neet_pg_bot

Q10: Which of the following correctly defines the term "injury" as per legal terminology? (Q846954)

A. Harm caused to a person’s reputation, body, or property, irrespective of legality.

B. Any harm legally or illegally caused to a person's mind, body, or property.

C. Any harm caused to a person's physical body.

D. Any harm illegally caused to a person, in body, mind, reputation, or property.

Correct Answer: D. Any harm illegally caused to a person, in body, mind, reputation, or property.

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: IPC Term BNS Definition 44 Injury Sec 2(14) The word "injury" denotes any harm illegally caused to any person, in body, mind, reputation, or property. (Option D) 45 Life Sec 2(17) The word "life" denotes the life of a human being, unless the contrary appears from the context. 46 Death Sec 2(6) The word "death" denotes the death of a human being, unless the contrary appears from the context. Harm caused to a person’s reputation, body, or property, irrespective of legality (Option A): The term "injury" specifically denotes illegal harm, not general

harm regardless of legality. Any harm legally or illegally caused to a person's mind, body, or property (Option B): Injury refers to illegal harm, not legal or illegal. Any harm caused to a person's physical body (Option C): Injury encompasses more than just physical harm; it includes harm to mind, reputation, and property.

References:

www.indiacode.nic.in/bitstream/123456789/4219/1/THE-INDIAN-PENAL-CODE-1860.pdf

www.mha.gov.in/sites/default/files/250883_english_01042024.pdf

bprd.nic.in/uploads/pdf/COMPARISON%20SUMMARY%20BNS%20to%20IPC%20.pdf

↑ *Back to this question in Part A*

@Neet_pg_bot

Q11: A 11-year old child accused of murder was let go free after the trial. What could be the likely explanation in this case? (Q846905)

A. BNS 20 - depending on the mental maturity

B. BNS 20 - never held liable

C. BNS 21 - depending on the mental maturity

D. BNS 21 - never held liable

Correct Answer: C. BNS 21 - depending on the mental maturity

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: BNS 21 deals with children between 7-12 years cannot be held liable if they lack sufficient maturity/understanding. BNS 20 (Option B): Child below 7 years of age will not be held criminally responsible for his/her act. Minimum age of criminal responsibility: 7 years (BNS) 5 years (Indian Railways Act) Minimum age of full criminal responsibility: 18 years BNS 21 (Option C): A child between 7-12 years of age can be held liable for any crime depending on their mental maturity. Mental maturity is determined by the - Court of Law .

References:

Gautam Biswas Review of Forensic Medicine & Toxicology, 5th Edition, Page 76.

↑ *Back to this question in Part A*

@Neet_pg_bot

Q12: A 60 year old man gets into a heated argument with his neighbor during a community event. In a fit of rage, he pushes the neighbour hard, causing him to fall and hit his head on a concrete surface. The neighbor sustains a severe head injury and dies a few hours later in the hospital. He did not intend to kill but was reckless during the confrontation. Which section of the BNS would he be most likely be charged under? (Q846951)

A. BNS 301

B. BNS 104

C. BNS 105

D. BNS 102

Correct Answer: C. BNS 105

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: In this case, the accused intentionally pushed the neighbour during a heated argument. Although he did not intend to kill, he used force in a reckless manner that was likely to cause serious injury. The act resulted in death. This does not amount to murder under BNS 103 because there was no clear intention to cause death or such bodily injury that was sufficient in the ordinary course of nature to cause death. However, the accused had the knowledge that forcefully pushing someone onto a concrete surface could likely cause serious harm or death. Therefore, the offence falls under BNS 105 – Culpable Homicide Not Amounting to Murder . BNS 301 (Option A): This section deals with trespassing on burial places. It has no relevance to causing death during a physical altercation. BNS 104 (Option B): This section provides punishment for murder committed by a person already serving life imprisonment. The present case does not involve a life convict, and the act itself does not qualify as murder under BNS 103. BNS 102 (Option D): This section applies when a person intends to kill one individual but accidentally causes the death of another (transferred malice). In the present case, there was no intention to kill anyone, so this section does not apply.

References:

www.ncib.in/pdf/indian-penal-code.pdf

https://www.mha.gov.in/sites/default/files/250883_english_01042024.pdf

↑ *Back to this question in Part A*

@Neet_pg_bot

Q13: A driver intentionally runs his car into a pedestrian after a personal dispute, fully aware that the impact is likely to cause death. The pedestrian dies on the spot.

Under which section of the BNS would the driver be liable? (Q846944)

A. BNS 304

B. BNS 103

C. BNS 303

D. BNS 109

Correct Answer: B. BNS 103

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The driver intentionally ran his car into the pedestrian after a personal dispute and was fully aware that death was likely. This satisfies the ingredients of Murder under BNS 101 , because: There was an intention to cause death, OR At a minimum, the intention to cause bodily injury sufficient in the ordinary course of nature to cause death, OR Knowledge that the act was so imminently dangerous that it would in all probability cause death. Since death actually occurred, punishment would be under BNS 103 (Punishment for Murder) . BNS 106 (Option A): Incorrect because this section applies when death occurs due to a rash or negligent act without intention or knowledge . Here, the act was deliberate and intentional. BNS 105 (Option C): Incorrect because culpable homicide applies when intention/knowledge exists, but the case falls under exceptions to murder (grave and sudden provocation, private defence exceeding limits, etc.). No such mitigating exception exists here. BNS 109 (Option D): Incorrect because this section applies only when death does not occur . In the given case, the pedestrian died, so it is not an attempt.

References:

www.ncib.in/pdf/indian-penal-code.pdf

https://www.mha.gov.in/sites/default/files/250883_english_01042024.pdf

↑ *Back to this question in Part A*

@Neet_pg_bot

Q14: Match the BNS sections with the offense BNS Section Offense 1.274 a. Adulteration of food or drink intended for sale 2. 275 b. Sale of adulterated drugs 3. 276 c. Sale of noxious food or drink 4. 277 d. Adulteration of drugs (Q846941)

A. 1-a, 2-c, 3-d, 4-b

B. 1-c, 2-d, 3-b, 4-a

C. 1-a, 2-b, 3-c, 4-d

D. 1-b, 2-a, 3-d, 4-c

Correct Answer: A. 1-a, 2-c, 3-d, 4-b

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: BNS Section Offense 274 Adulteration of food or drink intended for sale. Punishment: Imprisonment upto 6 months or fine. Bailable 275 Sale of noxious food or drinks. Punishment: Imprisonment upto 6 months or fine. Bailable 276 Adulteration of drugs. Punishment: Imprisonment upto 6 months or fine. Non bailable 277 Sale of adulterated drugs. Punishment: Imprisonment upto 6 months or fine. Bailable BNS section 286: Negligent conduct with respect to poisonous substances.

References:

www.ncib.in/pdf/indian-penal-code.pdf

https://www.mha.gov.in/sites/default/files/250883_english_01042024.pdf

↑ *Back to this question in Part A*

@Neet_pg_bot

Q15: A 32-year-old man, unaware that he is HIV positive, has been in a relationship with a woman for the past year. Neither of them has undergone recent medical check-ups, and they have engaged in unprotected intercourse. She subsequently tests positive for HIV. Under which section of the Bharatiya Nyaya Sanhita (BNS) does this act fall? (Q846925)

A. BNS Section 271

B. BNS Section 272

C. BNS Section 106A

D. BNS Section 109

Correct Answer: A. BNS Section 271

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: A man, unaware of his HIV-positive status, engages in unprotected intercourse with his partner. She contracts HIV. Option Section Pertains To Applicability in Case BNS 271 (Option A) Negligent act likely to spread infection Requires knowledge or reason to believe the act is likely to spread infection. Not applicable – he was unaware. BNS 272 (Option B ruled out) Adulteration of food/drug Related to tampering with consumables . Not related. BNS 106A (Option C ruled out) Organised crime/terror-related offences Not related to infectious

disease or health violations . Not applicable. BNS 109 (Option D ruled out) Abetment of an offence Secondary offence when someone aids/instigates a crime. Not primary here. If the individual was truly unaware of his HIV-positive status and had no reasonable grounds to suspect infection, none of the listed BNS sections apply directly. However, if subsequent evidence shows that: He had prior symptoms or risk factors, He was advised or had reason to get tested, Or he had past risk exposures (e.g., unprotected sex, blood transfusion, intravenous drug use), Then BNS Section 271 may be considered applicable, as it addresses negligent transmission of a disease when a person should have known their status but failed to take precautions.

References:

www.ncib.in/pdf/indian-penal-code.pdf

https://www.mha.gov.in/sites/default/files/250883_english_01042024.pdf

↑ *Back to this question in Part A*

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Q16: Match the Following (Based on BNS Sections): Code Description 1) BNS 227 a) Giving false evidence under oath 2) BNS 229 b) Punishment for giving false evidence under oath 3) BNS 234 c) Punishment for issuing a false certificate 4) BNS 238 d) Punishment for causing disappearance of vital evidence (Q846919)

A. 1-b, 2-a, 3-c, 4-d

B. 1-b, 2-a, 3-d, 4-c

C. 1-a, 2-b, 3-c, 4-d

D. 1-a, 2-b, 3-d, 4-c

Correct Answer: C. 1-a, 2-b, 3-c, 4-d

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Correct Matches: Section Description BNS 227 Giving false evidence under oath (Perjury) BNS 229 Punishment for giving false evidence under oath (Punishment for perjury) BNS 234 Punishment for issuing a false certificate BNS 238 Punishment for disappearance of vital evidence Relevant BNS Sections for False Evidence and Related Offences: Section Offence Punishment BNS 227 Giving false evidence/statement under oath by a witness (Perjury) As defined under law BNS 228 Fabrication of evidence As per provisions BNS 229 Punishment for giving false evidence under oath Up to 7 years imprisonment + fine BNS 234 Punishment for issuing a false certificate Up to 7 years imprisonment + fine BNS 238 Disappearance of vital evidence Up to 7 years imprisonment + fine BNS 239 Intentional omission of vital information by a person legally bound to inform As per provisions

References:

Gautam Biswas Review of Forensic Medicine & Toxicology, 5th Edition, Pages 48, 51, 471.

↑ *Back to this question in Part A*

@Neet_pg_bot

Q17: Person presented to ED with complaints of severe chest pain for 1 hour. CT chest done revealed the presence of Aortic dissection. Patient was taken up for an emergency endovascular surgery without obtaining consent as there were no caregivers present at the time of presentation. Patient succumbed to hypotensive shock during the procedure. The surgeon will not be held liable under which legal provision? (Q846912)

A. BNS 26

B. BNS 27

C. BNS 28

D. BNS 30

Correct Answer: D. BNS 30

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Aortic dissection is a surgical emergency without which the patient would die, and does not warrant an obtained consent under emergency circumstances, and so the Surgeon will not be held liable for any unforeseen consequences during/after the procedure under BNS 30 . This is known as the Doctrine of Anticipation. BNS 25 Act not intended to cause death/grievous hurt done by a person >18 years of age after rightful consent. BNS 26 (Option A) Act done in good faith for a person's benefit after obtaining lawful consent. BNS 27 (Option B) Act done in good faith for the benefit of a child (<12 years) or a person with unsound mind with guardian's consent BNS 28 (Option C) Consent given by a person under fear or threat/under misconception of fact/child under 12 years of age/person of unsound mind/under intoxicated state is considered invalid. BNS 30 (Option D) An act done in good faith for the benefit of a person without their consent is not an offense. This is true if the circumstances make it impossible for the person to give consent. Known as Doctrine of Anticipation.

References:

Gautam Biswas Review of Forensic Medicine & Toxicology, 5th Edition, Pages 23, 24.

↑ *Back to this question in Part A*

@Neet_pg_bot

Q18: BNS 27 deals with (Q846909)

A. Act done in good faith for the benefit of a child (<12 years) with guardian's consent

B. Act done in good faith for a person's benefit after obtaining lawful consent

C. Act not intended to cause death/grievous hurt done by a person >18 years of age

D. Consent is not valid when it is given by fear/misconception

Correct Answer: A. Act done in good faith for the benefit of a child (<12 years) with guardian's consent

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: BNS 27 deals with the Act done in good faith for the benefit of a child (<12 years) or a person of unsound mind. BNS related to consent BNS 25 (Option C) Any act which causes harm except the act intended to cause death or grievous hurt is not an offense if it is done with the consent of a person who is above 18 years of age. Consent can be either Implied (or) Expressed. E.g., two boxers fighting each other in an olympic match. BNS 26 (Option B) If a person commits an act done in good faith and with the consent for the benefit of that person, it will not be considered an offense. E.g., a surgeon performing surgery after getting consent. BNS 27 (Option A) Any act done in good faith for the benefit of a child (<12 years) or a person of unsound mind after obtaining guardian's (caregiver's) consent. Neither the Doer nor the Caregiver would be held responsible for any unforeseen consequences. E.g., a doctor doing necessary medical examination on a child (<12years) after obtaining guardian's consent. BNS 28 (Option D) Consent is not valid if it is given by a person under fear or threat /under misconception of fact/child under 12 years of age /person of unsound mind /under intoxicated state . E.g., a female giving consent for sex to her boss under fear of losing her job is considered invalid.

References:

Gautam Biswas Review of Forensic Medicine & Toxicology, 5th Edition, Page 23.

↑ *Back to this question in Part A*

@Neet_pg_bot

Q19: Husband physically assaults his wife following a verbal altercation between them. On enquiry, it is known that the Husband was under the influence of alcohol during this act and his wife reveals that he is a chronic alcoholic, drinks on a daily basis. Which section deals with the liable act done by her husband? (Q846907)

A. BNS 20

B. BNS 22

C. BNS 23

D. BNS 24

Correct Answer: D. BNS 24

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Her husband would be held liable under BNS 24 - deals with voluntary intoxication (as there is no history of the husband being forced to drink). BNS dealing with Criminal liability BNS 20 (Option A) Act done by a child below 7 years of age - NOT held liable BNS 21 Act done by a child between 7-12 years of age can/cannot be held liable depending on the mental maturity (assessed by The court of law) BNS 22 (Option B) Act of a person of unsound mind/insane - NOT held liable (McNaughten's rule) BNS 23 (Option C) Act of a person done under involuntary intoxication - NOT held liable BNS 24 (Option D) Act of a person done under voluntary intoxication - Held liable

References:

Gautam Biswas Review of Forensic Medicine & Toxicology, 5th Edition, Pages 76, 415, 416, 552.

↑ *Back to this question in Part A*

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• [14_IPC Sections] 030 Previous Year Questions

« Back to Folder Directory

[14_IPC Sections] 030 Previous Year Questions — Quick Jump

Q1 (p. 1261) *Q2 (p. 1261)* *Q3 (p. 1262)*

Q1: The Protection of Children from Sexual Offences (POCSO) Act covers which of the following groups? (Q866423)

A. Girls below 18 years

B. All children below 18 years

C. Girls below 16 years

D. All children below 16 years

Correct Answer: B. All children below 18 years

Explanation: The POCSO Act, 2012 provides a gender-neutral legal framework to protect all children (boys and girls) under the age of 18 years from sexual abuse, sexual harassment, and exploitation. The Act clearly defines a “child” as any person below 18 years . Protection is irrespective of gender or consent in cases involving minors. Other options narrow protection incorrectly by gender or age.

↑ *Back to this question in Part A*

@Neet_pg_bot

Q2: A case of death of a married female within three years of marriage is reported. Who is primarily responsible for conducting the inquest and inquiry into the cause of death in such cases? (Q852467)

A. Judicial

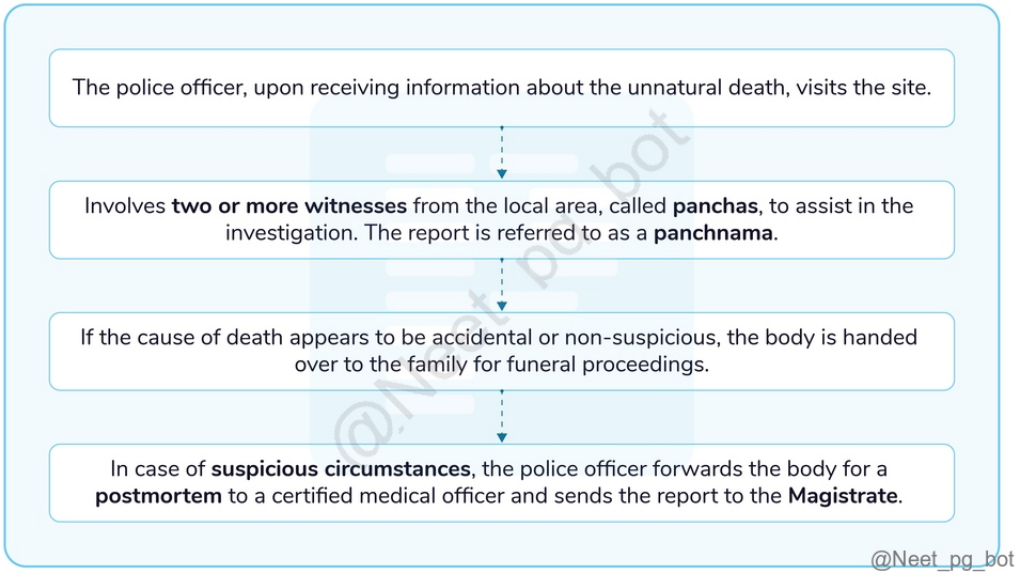
B. Police

C. Coroner

D. Magistrate

Correct Answer: D. Magistrate

Explanation: Under Section 194 and Section 196 of the Bharatiya Nagarik Suraksha Sanhita (BNSS) , a Magistrate - such as the District Magistrate, Sub■Divisional Magistrate, or other Executive Magistrate empowered for inquests - has the authority to conduct inquiries into suspicious deaths , including the death of a married woman within seven years of marriage. The Magistrate examines the police report, records evidence, and determines the cause of death (especially if foul play like dowry death is suspected). Police assist in the investigation, but the Magistrate oversees the inquest , and coroners or other judicial officers are not generally involved. Judicial officer (Option A) do not typically conduct inquests; their role is mainly in trials and hearings, not preliminary death inquiries. Police (Option B) assist in investigations but do not have the legal authority to conduct an inquest under BNSS. Coroner (Option C) is not part of the Indian/BNSS system for investigating suspicious deaths; the law vests this authority with the Magistrate.



References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page. 43, 44. The Essentials of Forensic Medicine and Toxicology, K S Narayan Reddy, OP Murty, 35th Edition, Page. 5, 6. https://bprd.nic.in/uploads/pdf/COMPARISON%20SUMMARY%20BNS%20to%20IPC%20.pdf

↑ *Back to this question in Part A*

@Neet_pg_bot

Q3: Which of the following does not constitute grievous hurt under Section 320 of the Indian Penal Code (IPC)? (Q854641)

A. Emasculation

B. Fracture of femur

C. Permanent privation of hearing

D. 7 days hospital admission

Correct Answer: D. 7 days hospital admission

Explanation: BNS 116 (Old Section 320 IPC) defines following injuries as grievous: Emasculation (cutting off the penis, castration, or causing loss of power of erection due to spinal injury). (Option A ruled out) Permanent privation of the sight of either eye. Permanent privation of the hearing of either ear. (Option C ruled out) Privation of any member (part, organ, limb) or joints Destruction or permanent impairing of powers of any member or joint. Permanent disfiguration of head or face. Fracture or dislocation of a bone or a tooth. (Option B ruled out) Any hurt which endangers life , or which causes the sufferer to be, during the space of 20 days , in severe bodily pain, or unable to follow his daily routine.

References:

Goutam Biswas Review of Forensic Medicine and Toxicology, 3rd edition, page 296

https://www.mha.gov.in/sites/default/files/250883_english_01042024.pdf

https://bprd.nic.in/uploads/pdf/COMPARISON%20SUMMARY%20BNS%20to%20IPC%20.pdf

↑ *Back to this question in Part A*

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• [15_General Toxicology] 031 General Toxicology

« Back to Folder Directory

[15_General Toxicology] 031 General Toxicology — Quick Jump

Q1 (p. 1264)	*Q2 (p. 1266)*	*Q3 (p. 1267)*	*Q4 (p. 1267)*	*Q5 (p. 1268)*	*Q6 (p. 1269)*
Q7 (p. 1270)	*Q8 (p. 1271)*	*Q9 (p. 1272)*	*Q10 (p. 1273)*	*Q11 (p. 1274)*	*Q12 (p. 1275)*
Q13 (p. 1276)	*Q14 (p. 1278)*	*Q15 (p. 1278)*	*Q16 (p. 1280)*	*Q17 (p. 1281)*	*Q18 (p. 1282)*
Q19 (p. 1283)	*Q20 (p. 1284)*	*Q21 (p. 1285)*	*Q22 (p. 1286)*	*Q23 (p. 1287)*	*Q24 (p. 1288)*
Q25 (p. 1289)	*Q26 (p. 1290)*	*Q27 (p. 1291)*	*Q28 (p. 1292)*	*Q29 (p. 1293)*	

Q1: A 30-year-old military officer suffered a burn to his back from the mishandling of hand grenades. He presents to the emergency department with severe pain, blistering, and a garlicky odor coming from the burn site as shown below. which of the following is inconsistent with it? (Q847156)

A. Phosphorescent vomit

B. Kidney failure

C. Hypertrophy of the liver

D. Full-thickness burn



Correct Answer: C. Hypertrophy of the liver

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The given image shows a Phosphorus burn Phosphorus poisoning typically leads to fatty changes and yellow atrophy of the liver, not hypertrophy. Stage Symptoms First Stage Burning pain in the throat, stomach, and abdomen Nausea, vomiting, pain, diarrhea Onset: 1-2 days post-poisoning Fatty changes or liver failure Yellow atrophy of the liver Painful penetrating burns (2nd and 3rd degree) Painful, necrotic, and yellowish with a characteristic smell of garlic Commonly, full-thickness burns result from chemical and thermal insults. (Option D) Garlicky odor in breath and excreta Luminous vomiting and feces (diagnostic) (Option A) Smoking stool syndrome (white, faint fumes from stool) Second Stage Asymptomatic period Duration: 3-4 days Third Stage Multi-organ failure Liver and RBC involvement Flapping tremor (Asterixis) Kidney failure (Option B) Jaundice Encephalopathy Systemic involvement Mechanism of Toxicity: Mechanism Effect Oxidative cellular damage Destruction of cell membranes Hepatocellular necrosis Acute fatty degeneration of liver Mitochondrial dysfunction Reduced ATP production Free radical formation Lipid peroxidation Direct GI irritation Severe vomiting and abdominal pain Treatment There is no specific antidote , so treatment is mainly supportive and decontamination-based: Gastric lavage with potassium permanganate (1:5000) or copper sulfate Activated charcoal Avoid fats and oils (increase phosphorus absorption) IV fluids N-acetylcysteine (NAC) Vitamin K Liver support Liver transplantation

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 514

↑ *Back to this question in Part A*

Q2: A police officer is accused of sexually assaulting a child under the age of 12. The case is prosecuted under the POCSO Act. According to POCSO 2019, what is the potential punishment for the officer if convicted? (Q847188)

A. 20 years to the death penalty

B. 10 years to life imprisonment

C. 5 years to 10 years imprisonment

D. Life imprisonment without parole

Correct Answer: A. 20 years to the death penalty

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: This case falls under Aggravated Penetrative Sexual Assault under the Protection of Children from Sexual Offences (POCSO) Act, 2012 , as amended in 2019 . Two aggravating factors are present: The victim is below 12 years of age Offender is a police officer (authority figure) Both conditions are listed as aggravating circumstances under Section 5 of the POCSO Act . Therefore, the punishment is governed by Section 6 of the POCSO Act (amended in 2019) . Punishment (Section 6) Minimum punishment: 20 years rigorous imprisonment Maximum punishment: Life imprisonment (imprisonment for the remainder of natural life) or death penalty Fine: Also imposed and may be used for victim rehabilitation Penetrative Sexual Assault (Section 3) Penetrative sexual assault includes: Penetration of penis into vagina, anus, mouth, or urethra Insertion of objects or body parts into these orifices Manipulation of body parts causing penetration Oral contact with genitalia or anus Punishment for penetrative sexual assault is provided under Section 4 , which is: Minimum 10 years imprisonment May extend to life imprisonment Plus fine Aggravated Penetrative Sexual Assault (Section 5) Penetrative sexual assault becomes aggravated when committed under certain conditions: Authority figures (Police officer, armed forces, public servant) Relationship to child (Parent, guardian, relative) Age of victim (Child below 12 years) Institutional setting (Jail, remand home, hospital, school) Multiple offenders (Gang assault) Special vulnerability (Disabled or mentally ill child) Severe consequences (Pregnancy, HIV infection, grievous injury) Repeated assault Punishment for these acts is given under Section 6 . Other Sexual Offences Under POCSO Offence Section Punishment Sexual Assault (non-penetrative touching with sexual intent) Sec 7 Defined offence Punishment for Sexual Assault Sec 8 3–5 years imprisonment + fine Aggravated Sexual Assault Sec 9 Defined offence Punishment for Aggravated Sexual Assault Sec 10 5–7 years imprisonment + fine Sexual Harassment Sec 11 Defined offence Punishment for Sexual Harassment Sec 12 Up to 3 years imprisonment + fine Child Pornography Under POCSO Child pornography includes photographs, videos, digital images, or computer-generated sexual depiction of a child . Section Offence Punishment Sec 13 Use of a child for pornographic purposes Defines offence Sec 14 Punishment for child pornography Up to 5 years for first offence , 7 years for subsequent offences Sec 15 Storage or possession of child pornographic material Punishable offence

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Pages 37-38

↑ *Back to this question in Part A*

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Q3: When a patient is already dead upon arrival at the hospital, which of the following actions is incorrect? (Q847187)

A. Only Death Report Form 2 is sent

B. A post-mortem is necessary in this case

C. The doctor informs the police

D. The doctor fills out MCCD Form 4A

Correct Answer: D. The doctor fills out MCCD Form 4A

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: When a patient is brought dead to the hospital , the doctor cannot certify the cause of death because: The doctor did not attend the patient during the illness The cause of death is unknown Such cases are usually treated as Medico-Legal Cases (MLC) Therefore: Police must be informed Post-mortem examination is required Medical Certificate of Cause of Death (MCCD) is NOT issued Instead, the Death Report Form 2 under the Registration of Births and Deaths (RBD) Act, 1969 is submitted. Process Details Forms Involved MCCD (Form 4A) Death Report (Form 2) Recipient Registrar or Sub-Registrar of the state government Timeframe for Issuance A death certificate must be issued within 21 days If the patient is already dead upon arrival at a hospital Only Form 2 is sent (Option A) Form 4A is not used. The doctor informs the police (Option C) A post-mortem is conducted to determine the cause of death (Option B) This is classified as a medico-legal case.

References:

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4923180/

↑ *Back to this question in Part A*

@Neet_pg_bot

Q4: Under the Registration of Birth and Death Act, 10(3), who is obligated to certify the cause of death when a patient passes away after being attended by a medical practitioner? (Q847186)

A. Any licensed healthcare provider who saw the patient

B. RMP who attended the patient’s last illness

C. A medical officer appointed by the government

D. A registered nurse who provided care

Correct Answer: B. RMP who attended the patient’s last illness

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Under the Registration of Births and Deaths (RBD) Act, 1969 – Section 10(3), the Registered Medical Practitioner (RMP) who attended the patient during the last illness is legally responsible for certifying the cause of death. Aspect RBD ACT-10(3) Section 174(3) CrPC Scope Registration of Birth and Death Act Police Inquest Applicability Obligatory for Registered Medical Practitioners (RMP) who attended the patient's last illness Applicable when the cause of death is unclear Fee for Cause of Death No fee charged N/A Certification Cause of death provided instantly by RMP Police refer to a doctor for postmortem Cause of Death Certified by RMP Identified through postmortem if needed Registration of Birth and Death Under the Registration of Births and Deaths Act, 1969 , b irths and deaths must be registered within 21 days of occurrence. If registration is delayed: Time After Event Procedure Within 21 days Normal registration 21–30 days Late registration with the prescribed fee 30 days – 1 year Registration with the written permission of the prescribed authority After 1 year Registration only after magistrate's order Registration of Birth and Death of NRIs The RBD Act also applies to Indian citizens residing abroad . If a child is born outside India to Indian parents : Birth should be registered with the Indian Embassy/Consulate in that country The consulate records the birth under the RBD Act provisions The child can obtain an Indian birth certificate and citizenship documentation If an Indian citizen dies outside India : The death is first registered with the local authority of that country It should also be reported to the Indian Embassy/Consulate The consulate issues a Consular Death Registration Certificate , which serves as an official record in India Options (A, C, and D) do not fulfill the legal obligation specified in the Registration of Birth and Death Act, 10(3).

References:

https://site.bbmp.gov.in/citizenservisfaq/Birthanddeath.pdf

↑ *Back to this question in Part A*

@Neet_pg_bot

Q5: A 70-year-old man with poorly controlled diabetes mellitus develops a foot ulcer that becomes infected. Despite treatment, the infection worsens, leading to gangrene of the affected foot. He is later admitted to the hospital with septicemia and unfortunately succumbs to the illness. What is the antecedent cause of death in this scenario? (Q847185)

A. Diabetes mellitus

B. Gangrene

C. Septicemia

D. Foot ulcer

Correct Answer: B. Gangrene

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Gangrene serves as the antecedent cause that occurs between the primary cause (diabetes mellitus) and the immediate cause of death (septicemia). Medical certification of cause of death (MCCD) Doctor's Duty To diagnose the person as dead, declare death, conclude and certify cause of death Cause of Death Underlying/Primary Cause: Disease or injury that initiated events (e.g., Diabetes mellitus) Antecedent/Intermediate Cause: Occurs between primary and immediate causes (e.g., Gangrene) Immediate Cause: Final complication due to disease or injury (e.g., Septicemia) Example Pathway Diabetes mellitus (Primary cause) → Gangrene (Intermediate cause) → Septicemia (Immediate cause) Mortality Statistics Underlying/Primary cause written in mortality statistics (e.g., Diabetes mellitus) Contributory Conditions (Part II) Conditions not related to the disease but contributed to death (e.g., Smoking, Chronic obstructive pulmonary disease (COPD), Diabetes mellitus) Example Pathway (Part I) I mmediate Cause: Rupture of the myocardium → Antecedent Cause: Myocardial infarction → Underlying Cause: Coronary artery thrombosis → Atherosclerosis

References:

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4923180/

↑ *Back to this question in Part A*

@Neet_pg_bot

Q6: Which of the following statements regarding the Human Organ Transplantation Act (HOTA) is incorrect? (Q847184)

A. Authorized by any donor above 18 years of sound mind

B. The most commonly donated organ is kidney

C. The most commonly donated tissue is skin

D. Commercial dealing in organs can result in imprisonment for up to 5 years.

Correct Answer: C. The most commonly donated tissue is skin

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: This statement is incorrect because the most commonly donated tissue is actually the cornea, not the skin. Human Organ Transplantation Act (HOTA-1994) Now, Transplantation of Human Organs and Tissues Act (THOTA-2014) Purpose Removal, storage, and transplantation of human organs and tissues Prevention of commercial dealing. Definition of Human Organ Any part of the human body that cannot be replicated if removed Requires declaration of brainstem death by authorized doctors. Declaration of Brain stem death by Treating doctor, In-charge doctor, Neurologist or neurosurgeon, Intensivist, anesthetist, physician, Independent specialist authorized by the government. Types of Donation Living Donation: Near relatives (parents, children, siblings, grandparents, grandchildren) Non-relatives (requires prior approval) Swap transplantation. Cadaveric Donation: Authorized by any donor above 18 years of sound mind (Option A) Will must be written before death in the presence of two witnesses If no will is written then the consent is given by the one who has the legal possession of the body. Unknown/Unclaimed dead body for more than 48 hours, consent is given by a doctor or in-charge doctor of the hospital. Medicolegal cases need autopsy surgeon approval. Most Commonly Donated Organs Kidney > Liver > Heart (Option B) Other organs are the liver, thymus, intestine, lungs, and pancreas. Most Commonly Donated Tissues Cornea > Bone > Tendon Other tissues are the cartilage, middle ear, veins, heart valves, skin, tendons, and ligaments. Punishment Human organ/tissue transplantation without authorization 10 years plus 20 lacs fine. Applicable for medical staff and paramedical staff. Additional punishment for the doctor The State Medical Council nullifies registration. 1 offense → 3 years. Subsequent offense → Penal erasure or professional death sentence. For commercial dealing 2-7 years plus a fine (Option D)

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 30

pubmed.ncbi.nlm.nih.gov/7598460/#

www.sciencedirect.com/topics/medicine-and-dentistry/collins-solution#

www.ectrx.org/detail/current/2021/19/6/0/511/0

↑ *Back to this question in Part A*

@Neet_pg_bot

Q7: In the case of children in conflict with the law, the Juvenile Justice Board consists of three members. Which of the following statements about the Board's composition is correct? (Q847182)

A. All members must be magistrates

B. The Board must include a female social worker

C. The Board must include a judge from the Supreme Court

D. Only two members are necessary to form the Board

Correct Answer: B. The Board must include a female social worker

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The Juvenile Justice (Care and Protection of Children) Act, 2015: In India, the act focuses on the protection, treatment, and rehabilitation of children in conflict with the law and those in need of care and protection. Applies to children under 18 years. Children aged 16-18 involved in heinous crimes can be tried as adults. Child Welfare Committees (CWC): Handle cases of children in need of care and protection. Juvenile Justice Boards (JJB) : Handle cases involving children in conflict with the law. Three members of the juvenile justice board: One 1st class judicial magistrate and two social workers (one should be female). (Option B) Rehabilitation and Social Reintegration: Focuses on rehabilitation through child care institutions, adoption, foster care, and sponsorship. Adoption Regulations: The act includes provisions for adoption, including inter-country adoption, with strict guidelines. Penalties for Offenses Against Children: Strict punishments for cruelty, exploitation, and abuse of children. Punishment of juveniles Normal offense: 7 years. Minors aged 16-18 accused of serious crimes like rape or murder will undergo psychiatric evaluation and face trial as adults. Other orders: Counselling, Fines, Special homes, Community service.

References:

www.indiacode.nic.in/bitstream/123456789/8864/1/201602.juvenile2015pdf.pdf

↑ *Back to this question in Part A*

@Neet_pg_bot

Q8: A sewer worker is brought to the emergency department after collapsing inside a sewage tank. He has respiratory failure, mydriasis, confusion, and a characteristic rotten egg odor. Which of the following is not useful in treating this patient? (Q847178)

A. Sodium thiosulfate

B. Sodium nitrite

C. Amyl nitrite

D. High-flow oxygen

Correct Answer: A. Sodium thiosulfate

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The sewer worker is probably having hydrogen disulfide poisoning in this scenario. Sodium thiosulfate is ineffective against hydrogen sulfide poisoning as the body spontaneously detoxifies sulfmethemoglobin with the administration of nitrites itself. Hydrogen sulphide Physical Appearance Colorless

gas, “rotten egg” odor Sources Decay of organic sulfur-containing products such as fish, manure, sewage, septic tank contents Exposure while cleaning out sewers Industrial sources- paper mills, leather industry, petroleum distillation and refining Natural sources—volcanoes, caves, and sulfur springs Mode of Action Inhibits cytochrome oxidase- cellular hypoxia and anaerobic metabolism Clinical Features Respiratory arrest Mydriasis, urinary retention, seizures, tremor, hallucinations, confusion, and cardiac arrhythmias Treatment High-flow oxygen (Option D ruled out) Antidote: Amyl nitrite (Option C ruled out) Sodium nitrite (Option B ruled out) Sodium thiosulfate is not useful (Option A) Autopsy Findings Greenish discoloration of grey matter of the brain, viscera, and bronchial secretions Characteristic rotten egg smell Nitrites mechanism of action: It induces methemoglobinemia formation, and H■S preferentially binds to methemoglobin over cytochrome oxidase, forming sulfmethemoglobin.

References:

Modern Medical Toxicology, VV Pillay, 4th Edition, Page 354-356

↑ *Back to this question in Part A*

@Neet_pg_bot

Q9: A 38-year-old man is brought to the emergency department after collapsing in a closed warehouse where he was working with industrial chemicals. Upon arrival, the patient is unconscious with a blood pressure of 80/40 mmHg, rapid breathing, and oxygen saturation of 95% on room air. His skin is noted to have a flushed, "brick-red" discoloration. ABG analysis shows severe metabolic acidosis with a pH of 7.05 and elevated lactate levels. The patient's coworkers reported a strong odor of burning plastic in the warehouse at the time of the incident. Lee-Jones test confirms the diagnosis. The medical team prepares to administer the antidote. Which of the following treatments is incorrect for this patient? (Q847177)

A. Inhalation of Amyl nitrite

B. Intravenous Hydroxocobalamin

C. Hyperbaric oxygen

D. Intravenous Methylene blue

Correct Answer: D. Intravenous Methylene blue

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The patient is probably having cyanide poisoning in this scenario. Methylene blue is NOT an antidote for cyanide poisoning and should not be used. Cyanide poisoning Clinical Features Inhalation: Dizziness, vertigo, and constriction of the throat Ingestion: Nausea, headache, loss of muscular power, hypotension, cardiovascular

failure, and convulsion Skin: Brick-red color of skin and mucous membranes Anion gap metabolic acidosis and lactic acidosis Diagnosis Lee-Jones Test: A chemical test used to detect cyanide in blood or gastric contents Principle The sample is treated with ferrous sulfate and ferric chloride in an alkaline medium If cyanide is present, it forms Prussian blue (ferric ferrocyanide) Result Blue coloration → positive test for cyanide Treatment Severe acidosis (pH < 7.1): Administer sodium bicarbonate Antidotal therapy (Eli Lilly cyanide kit approach) First step: Inhalation of Amyl nitrite (Option A ruled out) Second step: Sodium nitrite (3% solution) IV Third step: Sodium thiosulfate (25% solution) IV Other Antidotes 4-dimethylaminophenol (4-DMAP) Hydroxocobalamin (Vitamin B12): Combines with cyanide to form cyanocobalamin, which is excreted in the urine (Option B ruled out) Hyperbaric oxygen (Option C ruled out) Note: Methylene blue is NOT an antidote for cyanide and must NOT be used (Option D). It is the specific antidote for methemoglobinemia. Autopsy Findings Bitter almond's odour Brick-red color of skin and mucous membranes Cyanosis of extremities Hemorrhagic gastritis Disseminated petechiae in brain, meninges, pleura, lungs, and pericardium Pulmonary and cerebral edema Note: Mechanism of action of nitrites: It converts hemoglobin to methemoglobinemia which causes the detachment of cyanide from the heme group of cytochrome oxidase. Mechanism of action of sodium thiosulfate: Forms non-toxic thiocyanate, which is excreted in the urine.

References:

Modern Medical Toxicology, VV Pillay, 4th Edition, Pages 364-369

↑ *Back to this question in Part A*

@Neet_pg_bot

Q10: A 50-year-old woman is found dead in her apartment after a fire broke out in her house building. At autopsy, her skin and mucosal membranes are noted to have a cherry red discoloration, and there are cutaneous bullae on her wrists and calves. What is the most likely cause of these findings? (Q847174)

A. Cyanide poisoning

B. Thermal burns from the fire

C. Carbon monoxide poisoning

D. Severe dehydration

Correct Answer: C. Carbon monoxide poisoning

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The cherry red discoloration of the skin and cutaneous bullae are classic findings in carbon monoxide poisoning, particularly in victims of house fires. Carbon Monoxide Poisoning Source of Poisoning Incomplete combustion of carbon-containing fuels: automobile exhaust, coal/gas heaters, generators, furnaces, burning charcoal, house fires Physical Properties Colorless, odorless, tasteless, non-irritant gas Mechanism of Toxicity CO

binds hemoglobin with ~200–250 times greater affinity than oxygen , forming carboxyhemoglobin (COHb) → Decreases oxygen carrying capacity and shifts oxyhemoglobin dissociation curve to the left → Tissue hypoxia CO also binds myoglobin and cytochrome oxidase , impairing cellular respiration and causing mitochondrial dysfunction Clinical Features Early: Headache, dizziness, weakness, nausea, vomiting, confusion Moderate: Dyspnea, chest pain, blurred vision, ataxia, tachycardia Severe: Seizures, coma, arrhythmias, hypotension, respiratory failure Autopsy Findings in Carbon Monoxide Poisoning Cherry red (pink) color of skin, inner aspects of lips, nail beds, tongue, palms and soles Cutaneous bullae (skin blisters) in the calves, buttocks, wrists, and knees Cherry pink color of blood and tissues Firmer white matter of the brain Necrosis and cavitation of basal ganglia Diagnosis Measurement of carboxyhemoglobin by co-oximetry , exposure history, metabolic acidosis Treatment Immediate 100% oxygen therapy, airway support, hyperbaric oxygen therapy in severe cases Indications for Hyperbaric Oxygen: COHb >25% Pregnancy with COHb >15–20% Severe neurological symptoms Cardiac ischemia Severe metabolic acidosis Cyanide poisoning (Option A): While it can occur in fires, especially when burning plastics, the cherry red discoloration of the skin and mucosal membranes is more characteristic of carbon monoxide poisoning. Cyanide poisoning presents with a brick-red color of skin and mucus membranes. Thermal burns from the fire (Option B) : It is common in fires but would typically cause blistering and charring in areas exposed to direct flames. The presence of cutaneous bullae in non-exposed areas like the wrists and calves, along with the cherry red discoloration, points more toward carbon monoxide poisoning. Severe dehydration (Option D): Prolonged exposure to heat or lack of water can cause severe dehydration, but it would not explain the cherry red discoloration or the blisters. Dehydration typically leads to dry mucous membranes, decreased skin turgor, and hypovolemic shock.

References:

Modern Medical Toxicology, VV Pillay, 4th Edition, Page 358-365

The Essentials of Forensic Medicine and Toxicology, KS Narayan Reddy, OP Murthy, 35th Edition, Page 244-248.

↑ *Back to this question in Part A*

@Neet_pg_bot

Q11: A 9-year-old child is found dead after being intentionally neglected by caregivers, showing signs of severe malnutrition and wasting. Autopsy reveals a distended gallbladder and a complete absence of subcutaneous fat. What postmortem finding is least likely to be present in this case of starvation? (Q847172)

A. Brown atrophy of the heart

B. Ankle edema

C. Enlarged liver

D. Tissue-paper-like intestinal wall

Correct Answer: C. Enlarged liver

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: This scenario describes homicidal starvation due to intentional neglect , leading to severe malnutrition and wasting . Starvation produces generalized atrophy of body tissues and organs , therefore organ size decreases rather than increases . Hence, the liver usually shows atrophy and fatty degeneration . Postmortem Findings in Starvation External: Internal: Rigor mortis sets in and disappears early Face is pale with inelastic and hyperpigmented skin Ankle edema is present (Option B ruled out) Hair is dry, lustreless, and brittle Extreme emaciation and the general reduction in size and weight of all organs, except the brain Gall bladder is distended with bile Necrosis and atrophy of the liver (Option C) Brown atrophy of the heart (Option A ruled out) Fat is completely absent in subcutaneous tissue, sparing the female breast and orbit Stress fracture due to demineralization and osteomalacia Wall of the intestine appears like tissue paper with atrophy of the mucosa (Option D ruled out)

References:

The Essentials of Forensic Medicine and Toxicology, KS Narayan Reddy, OP Murthy, 35th Edition, Pages 259, 260

↑ *Back to this question in Part A*

@Neet_pg_bot

Q12: A 55-year-old male worker in the battery industry presents with muscle cramps, Parkinson-like tremors, yellow teeth, and bronchitis. Blood tests show elevated levels of both cadmium and manganese. Urine analysis shows hematuria and proteinuria. Despite removal from exposure, his neurological symptoms worsen. Which treatment option would be particular for neurological symptoms? (Q847169)

A. Dimercaprol (BAL)

B. CaNa2 EDTA

C. DMSA

D. Sodium para-aminosalicylic acid

Correct Answer: D. Sodium para-aminosalicylic acid

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Sodium para-aminosalicylic acid (PAS) is the preferred treatment for manganese-induced neurotoxicity, particularly for patients presenting with Parkinson-like symptoms due to chronic manganese exposure. Manganese Poisoning Clinical Features Dust or fumes exposure Bronchitis, pneumonia Parkinson-like syndrome (manganism) Manganese madness (Locura manganica) - insomnia, confusion, anxiety, hallucinations,

and bizarre behavior Angurugu syndrome or Groote Eylandt syndrome- upper motor neuron, cerebellar, and oculomotor symptoms and sings Metal fume fever due to inhalation of manganese oxide fumes Treatment To help with neurological symptoms- Sodium para-aminosalicylic acid is used (Option D) Chelation therapy with CaNa2 EDTA is useful in some patients Mostly supportive measures Cadmium Poisoning Clinical Features Nausea, metallic taste, salivation, vomiting, abdominal pain, diarrhea, and myalgia Sudden muscle cramps- cries out in pain (Itai-Itai disease, or Ouch-Ouch disease) Bone demineralization with osteomalacia and pathological fractures Yellow staining of teeth (yellow teeth line) Rhinitis and anosmia (due to damage to the olfactory nerve) Renal damage- microhaematuria, proteinuria Treatment Acute poisoning Chelation with CaNa2 EDTA or DMSA (Options B & C ruled out) BAL is contraindicated (Option A ruled out) Chronic poisoning No chelating agents Removal from exposure and supportive treatment



References:

Modern Medical Toxicology, VV Pillay, 4th Edition, Page 103, 104, 108, 109.

↑ *Back to this question in Part A*

@Neet_pg_bot

Q13: Hatter’s shake is seen in which of the following? (Q847166)

A. Mercury poisoning

B. Iron poisoning

C. Lead poisoning

D. Arsenic poisoning

Correct Answer: A. Mercury poisoning

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Hatter’s shake refers to a coarse intention tremor seen in chronic mercury poisoning . It typically begins in the hands and gradually involves the lips, tongue, and other voluntary muscles , worsening during intentional movements such as writing or holding objects. It is associated with mercury poisoning due to chronic exposure, particularly in industries like hat-making and glass-blowing, where workers are exposed to mercury nitrate used in felting hats , leading to neurological toxicity. Mottled skin from mercury poisoning Chronic Mercury Poisoning Minamata Disease Organic (Methyl) Mercury exposure from shellfish in Japan Erethism Shyness, depression, anxiety, loss of confidence, suicidal thoughts Danberry Tremor Coarse tremors in hands, lips, tongue; slurred speech; early symptom is worsening handwriting Hatter’s Shake Affects mobility (walking, dressing) Glass-Blower Shake Similar to Hatter’s Shake; it appears later Concussio Mercurialis Most severe form; bed-ridden with no activity Mercurialentis Brown discoloration of anterior lens capsule; seen via slit lamp; Visual Acuity is Intact Acrodynia (Pink Disease) Puffy, painful hands/feet; pinkish color; pruritus, perspiration; skin peeling similar to Kawasaki disease Iron poisoning (Option B) causes gastrointestinal corrosion, metabolic acidosis, and hepatic injury , not intention tremors. Lead poisoning (Option C) produces lead palsy (wrist drop), abdominal colic, and Burtonian line , but not Hatter’s tremor. Arsenic poisoning (Option D) causes garlic odor, severe gastroenteritis, neuropathy, and Mees lines , not intention tremors.



References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Pages 494-497

↑ *Back to this question in Part A*

@Neet_pg_bot

Q14: A 43-year-old man presents with abdominal pain, diarrhea, and progressive numbness in his limbs after consuming food at a barbecue. Over the next few weeks, he develops hair loss and severe neurological deficits, including confusion and muscle weakness. He is non-hypertensive and diabetic. What is the most likely diagnosis? (Q847163)

A. Acute gastroenteritis

B. Guillain-Barré Syndrome

C. Thallium poisoning

D. Diabetic neuropathy

Correct Answer: C. Thallium poisoning

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Thallium poisoning is consistent with the entire clinical picture, including gastrointestinal symptoms, progressive neurological deficits, hair loss, and a history of potential exposure through food. Thallium poisoning Symptoms Alopecia (1-2 weeks) Painful polyneuropathy (GBS-like) Butterfly-pattern maculopapular rash Loss of lateral 2/3 of eyebrows (Sign de Sourcil) Mee's lines on nails (Other causes: Arsenic poisoning, selenium poisoning, renal failure and chemotherapy) Antidote Prussian Blue (Berlin Blue; potassium ferric hexacyanoferrate) which sequesters thallium ions in the intestine, preventing their absorption Acute gastroenteritis (Option A): While the initial symptoms of abdominal pain and diarrhea could suggest this, the subsequent neurological deficits and hair loss are not typical for gastroenteritis. Guillain-Barré Syndrome (Option B): is unlikely because it doesn't typically present hair loss. Diabetic neuropathy (Option D): Although the patient has diabetes, the acute onset of these symptoms, especially following a specific event, points more towards poisoning rather than chronic diabetic complications.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Pages 508-509

www.ncbi.nlm.nih.gov/pmc/articles/PMC7994691/#

↑ *Back to this question in Part A*

@Neet_pg_bot

Q15: A 35-year-old male vineyard worker presents with abdominal pain, increased salivation, and bluish-green vomiting. His laboratory tests indicate hemolysis. Which

of the following statements regarding the poisoning is incorrect? (Q847159)

A. Shows ptyalism

B. Interstitial pulmonary fibrosis may occur

C. D-penicillamine is the chelating agent

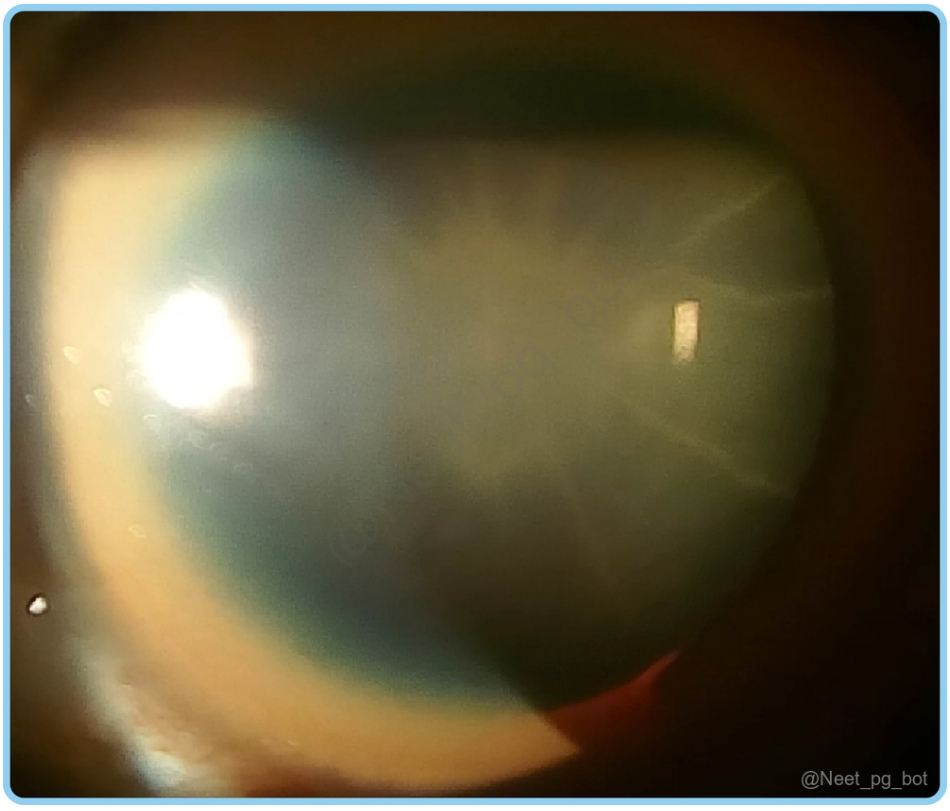
D. Never affects the eyes

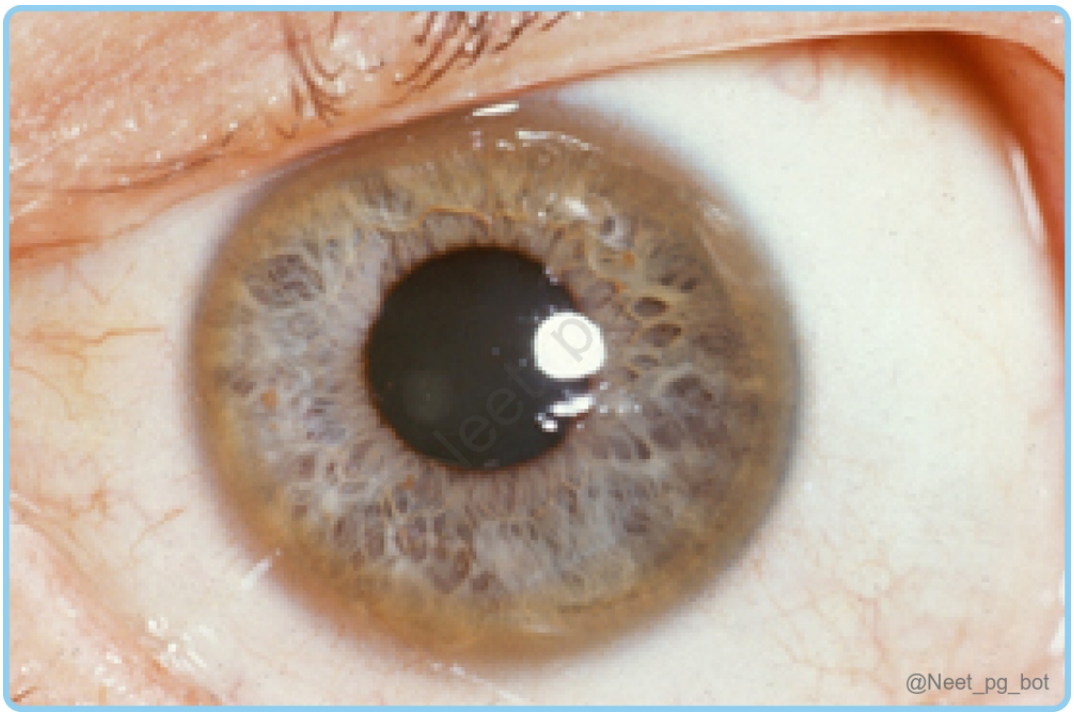
Correct Answer: D. Never affects the eyes

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: This is a case of copper poisoning. Copper poisoning can cause ocular manifestations, such as chalcosis oculi, where copper deposits in the eye occur. Category Details Signs and Symptoms Pain in throat and abdomen increased salivation (ptyalism) Bluish-green vomiting Hemolysis in RBC, liver, and kidney Copper depositions in tissues (chalcosis) Copper deposition in the eye (chalcosis oculi) Wilson disease (sunflower cataract, Kayser-Fleischer ring) Fig: Sunflower cataract Fig: KF ring Green lines in gums (Clapton lines) Hair turning green Interstitial pulmonary fibrosis and granuloma in vineyard sprayer's lung disease due to CuSO■ exposure. Toxic Compounds Copper Sulfate (CuSO■): Blue vitriol; fatal dose: 30g Copper Subacetate (Verdigris): Fatal dose: 15g Copper Arsenite (Scheele's Green) Copper Aceto-Arsenite (Paris Green) Treatment Gastric lavage with 1% Potassium ferrocyanide The chelating agent of choice is D-penicillamine.





References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Pages 505-507

↑ *Back to this question in Part A*

@Neet_pg_bot

Q16: Which of the following is not a characteristic of an ideal homicidal poison? (Q847082)

A. Highly toxic

B. Has an antidote

C. Causes no noticeable postmortem changes

D. Dissolves in food or drink without altering its appearance

Correct Answer: B. Has an antidote

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: An ideal homicidal poison should have no antidote . Qualities of an Ideal Homicidal Poison Cost Irrelevant Availability Easily accessible Physical Characteristics Colorless, odorless, tasteless Toxicity Highly

toxic (Option A ruled out) Antidote No available antidote (Option B) Solubility Dissolves in food or drink without noticeable change (Option D ruled out) Signs and Symptoms Resemble natural disease or delayed onset to avoid suspicion Metabolism Rapidly destroyed or undetectable in bodily fluids Detection Undetectable by chemical or other tests Postmortem Changes Does not cause visible postmortem changes (Option C ruled out) Examples Arsenic, aconite, thallium, oleander, insulin Legal Definition Category Intent Medicine Given with intent to save life Poison Given with intent to cause bodily harm Symptoms Suggestive of Poisoning Sudden abdominal pain, nausea, vomiting, diarrhea, collapse Sudden onset of coma with pupil constriction Unexplained coma, especially in children Properties of Ideal Suicidal Poison are: Cheap Easily available Highly toxic Tasteless or of pleasant taste Capable of being taken easily with food or drink Capable of producing painless death

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 465, 468

↑ *Back to this question in Part A*

@Neet_pg_bot

Q17: A body is brought for autopsy. On postmortem examination, a garlic odor was detected in the stomach. Which of the following findings is inconsistent with this observation? (Q847155)

A. Luminous in dark

B. Opaque appearance

C. Inflammable

D. Highly toxic

Correct Answer: B. Opaque appearance

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The presence of a garlic odor in the stomach during an autopsy suggests the possible ingestion of white phosphorus, which is known for its characteristic garlicky smell. Opaque appearance is the finding that is inconsistent with the observation of a garlic odor in the stomach, as this characteristic is more associated with red phosphorus, not white phosphorus. Feature White Phosphorus Red Phosphorus 1. Color White or yellow Reddish-brown 2. Appearance Crystalline, waxy, translucent Amorphous or crystalline, opaque 3. Solubility Organic solvents: Yes Water: Very low (~ 3 mg/l) Organic solvents: No Water: Insoluble 4. Odor Characteristic garlicky odor Odorless 5. Taste Garlicky Tasteless 6. Chemiluminescence Luminous in dark (Option A) Non-luminous 7. Ignitability Inflammable, spontaneous ignition in air at room temp (emits white fumes) and in chlorine (Option C) Non-inflammable, ignites only at > 260°C; heat necessary for ignition in chlorine 8. Reaction with Aqueous Alkali Produces phosphine None 9. Toxicity Highly toxic (Option D) Low toxicity 10. Uses Fertilizers, insecticides, rodenticides, incendiary bombs, smoke screens, fireworks On the sides of the box

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 514

↑ *Back to this question in Part A*

@Neet_pg_bot

Q18: A 30-year-old male farm worker presents to the emergency department with respiratory distress, excessive salivation, miosis, and bradycardia (heart rate 50 bpm). His blood pressure is 100/60 mmHg. What is the next best step in management? (Q847152)

A. Administer intravenous atropine

B. Provide activated charcoal orally

C. Start pralidoxime

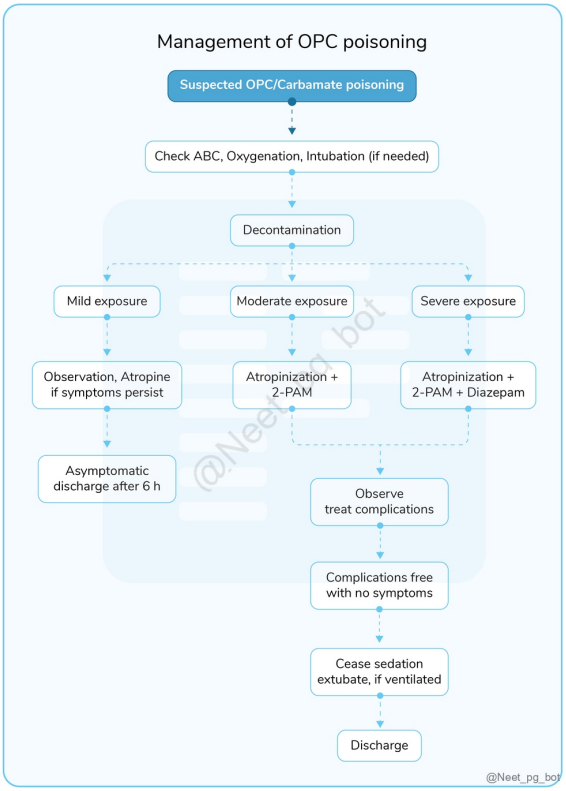
D. Administer beta-blockers

Correct Answer: A. Administer intravenous atropine

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The patient’s respiratory distress, excessive salivation, miosis, and bradycardia indicate acute organophosphate poisoning causing a cholinergic crisis. The next best step is intravenous atropine , a muscarinic antagonist that reverses muscarinic effects - improving respiratory function and stabilizing heart rate. Stages of Organophosphate Poisoning: Stage Time of Onset Main Features Stage 1: Acute Cholinergic Crisis Minutes to hours Muscarinic Effects: Diarrhea, Urination, Miosis, Bronchospasm, Emesis, Lacrimation, and Salivation (DUMBELS) Nicotinic Effects: Muscle fasciculations, Muscle weakness, Paralysis, Hypertension, and Tachycardia Stage 2: Intermediate Syndrome 24–96 hours Weakness of proximal limb muscles Neck flexor weakness Respiratory muscle paralysis Cranial nerve palsies Stage 3: Organophosphate-Induced Delayed Neuropathy (OPIDN) 1–3 weeks Peripheral neuropathy Weakness in lower limbs Foot drop Sensory disturbances Progressive motor paralysis Management: Provide activated charcoal orally (Option B): Only useful if the poison was ingested recently; does not treat systemic cholinergic toxicity. Start Pralidoxime (Option C): Supports acetylcholinesterase reactivation but must be given after or along with atropine , not as the immediate first step. Administer Beta-blockers (Option D): Contraindicated, as they can worsen bradycardia and hypotension in organophosphate poisoning.



References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Pages 597-600

↑ *Back to this question in Part A*

@Neet_pg_bot

Q19: A 5-year-old child presents with abdominal pain, irritability, and developmental delays. On examination, the child shows a wrist drop. Which of the following chelating agents is the most appropriate first-line treatment for this condition? (Q847150)

A. Dimercaprol (BAL)

B. Succimer (meso-DMSA)

C. D-penicillamine

D. Calcium disodium EDTA (Ca Na 2 EDTA)

Correct Answer: B. Succimer (meso-DMSA)

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Succimer (meso-DMSA) is the preferred oral chelating agent for lead poisoning in children due to its effectiveness and safety profile. Common Chelating Agents Chelating Agent Indication Administration Route Dimercaprol (BAL) (Option A ruled out) Arsenic and mercury poisoning Intramuscular (IM) Succimer (meso-DMSA) (Option B) Lead poisoning (especially in children) Oral Unithiol (DMPS) Mercury and lead toxicity Oral or Intravenous (IV) D-penicillamine (Option C ruled out) Copper and lead poisoning Oral (but with side effects) CaNa 2 EDTA (Option D ruled out) Lead poisoning IV Deferoxamine (DFO) Iron overload (e.g., in thalassemia) IV or IM Prussian Blue Thallium and cesium poisoning Oral Acute lead poisoning It's rare, and there may be exacerbations of chronic lead poisoning. Symptoms: Astringent or metallic taste, dry throat, thirst, burning abdominal pain, nausea, vomiting, diarrhoea, peripheral circulatory collapse, paraesthesia, depression, coma, and death. Chronic lead poisoning (also known as Plumbism or Saturnism) Clinical manifestations Description Facial pallor It is caused by vasospasm and specifically occurs circumorally , which is the earliest and most specific feature. Anemia Type: Microcytic-hypochromic . Enzymes inhibited: Ferrochelatase ALA-dehydratase Coproporphyrinogen oxidase Blood picture: Cabot rings in RBCs Microcytic-hypochromic Sideroblasts (nucleated red cells) Anisocytosis Poikilocytosis Polycythemia Basophilic stippling or Punctate basophilia Multiple blue-coloured pinhead dots in RBCs due to the toxic action of lead on porphyrin metabolism (inhibition of enzyme 5- Pyrimidine nucleotidase) (PNN). Accumulation of ribosomes in RBC Lead line or Burtonian lines The stippled blue line observed on the gums, resulting from a subepithelial deposit of granules that develops within one week, is seen in 50-70% of cases and is more common in individuals with carious teeth (bacteria form lead sulfide). Lead osteopathy/Lead line (Bone-line) In children, calcium deposition occurs at the growth plates of bones (specifically the lower end of the femur and the upper end of the tibia), which appears as a radiopaque band and occurs over 4 weeks due to the inhibition of osteoclastic activity. Colic and constipation (Painter's Colic or Devonshire colic) Late presentation occurs in 85% of cases, typically at night, and is characterised by spasmodic pain relieved by pressure. Lead palsy Predominantly motor features include: Dry belly ache Wrist drop (Radial nerve) Foot drop (Common peroneal nerve) Encephalopathy This condition is seen in nearly all cases, is associated with tetraethyl lead exposure, primarily affects children, results in permanent brain damage in 85% of cases, and accounts for 25% of fatalities. Reproductive system Amenorrhea Dysmenorrhea Abortion Sterility derangements (both sexes) Cardiovascular system and Kidneys Hypertension (vascular constriction) Permanent arteriolar degeneration Nephritis Gout Saturnine gout (due to decreased excretion of uric acid) Others These include generalised weakness, anorexia, dyspepsia, emaciation, exhaustion, irritability, foul breath, headache, vertigo, alopecia, and dizziness.

References:

https://pubmed.ncbi.nlm.nih.gov/16305472/ The Essentials of Forensic Medicine and Toxicology, KS Narayan Reddy, 35th Edition, Pages 412, 413. Modern Medical Toxicology, by VV Pillai, 4th Edition, Pages 85, 86.

↑ *Back to this question in Part A*

@Neet_pg_bot

Q20: A 35-year-old man presents to the emergency department after ingesting ethylene glycol. His symptoms include confusion, metabolic acidosis, and renal impairment. What is the most appropriate antidote for this patient? (Q847148)

A. Sodium Thiosulfate

B. Prussian Blue

C. Fomepizole

D. Naloxone

Correct Answer: C. Fomepizole

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Fomepizole is a competitive inhibitor of alcohol dehydrogenase, it prevents the conversion of ethylene glycol into toxic metabolites. It is the preferred antidote over ethanol due to fewer side effects and easier administration. Antidotes and their mechanisms: Poisoning Type Antidote Mechanism Arsenic BAL (Dimercaprol) IM, chelates arsenic for excretion Succimer (DMSA) Oral chelation DMPS IV, transitioned to oral chelation Copper Potassium Ferrocyanide Forms insoluble copper complexes, reducing absorption Penicillamine Chelates copper Cyanide Sodium Nitrite Forms methemoglobin to bind cyanide Sodium Thiosulfate (Option A ruled out) Converts cyanide to thiocyanate for renal excretion Hydroxocobalamin Binds cyanide, forming cyanocobalamin Dicobalt Edetate, Methylene Blue Alternative antidotes Ethylene Glycol Ethanol/Fomepizole (Option C) Inhibits alcohol dehydrogenase to prevent toxic metabolites Iron Desferrioxamine Chelates iron for excretion Magnesium Hydroxide/Sodium Bicarbonate Note: BAL should not be used in iron, cadmium, or selenium poisoning due to formation of toxic complexes. Precipitate iron, reducing absorption Lead Sodium/Magnesium Sulfate Forms insoluble lead sulfate Calcium Chloride/Gluconate Promotes bone deposition of lead CaNa2EDTA + BAL Chelation therapy for lead elimination Mercury Sodium Formaldehyde Sulfoxylate Reduces toxic mercury ions BAL (Dimercaprol) Traditional chelator; oral agents preferred Methanol Ethanol/Fomepizole Compete for alcohol dehydrogenase, preventing toxic metabolites. Opium Naloxone (Option D ruled out) Blocks opioid receptors, reversing opioid effects Organophosphate Atropine Blocks muscarinic receptors to manage cholinergic symptoms Pralidoxime (2-PAM) Reactivates acetylcholinesterase Phenol Magnesium Sulfate Absorbs phenol in the stomach Phosphorus Potassium Permanganate Oxidizes phosphorus into harmless phosphates Strychnine Barbiturates Depress CNS, preventing seizures Thallium Prussian Blue (Option B ruled out) Binds thallium in the intestine, preventing absorption Digitalis toxicity Digoxin-specific antibody (Digoxin Fab fragments) Binds circulating digoxin forming inactive complexes Hydrofluoric acid (HF) Calcium gluconate Binds fluoride ions preventing hypocalcemia Amphetamine toxicity Acidification of urine / Benzodiazepines Enhances drug excretion and controls agitation Benzodiazepine overdose Flumazenil Competitive benzodiazepine receptor antagonist Methemoglobinemia (nitrates, aniline) Methylene blue Reduces methemoglobin to hemoglobin

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Pages 487, 491, 496, 500, 508, 509, 515, 539, 555, 574, 584, 599, 612

↑ *Back to this question in Part A*

@Neet_pg_bot

Q21: A 55-year-old male presents to the emergency department with altered mental status. The medical team is considering administering the "coma cocktail." Which of the following is not a component of the traditional coma cocktail? (Q847145)

A. Dextrose

B. Naloxone

C. Flumazenil

D. Midazolam

Correct Answer: D. Midazolam

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Midazolam is a benzodiazepine and is not part of the traditional coma cocktail; it is typically used to induce sedation rather than for treating altered mental status in emergency settings. The concept of a "coma cocktail" refers to a combination of treatments administered to patients with altered mental status, particularly in emergency settings Components Dextrose (Option A ruled out) Treats hypoglycemia Naloxone (Option B ruled out) For suspected opioid overdose Thiamine Prevents Wernicke's encephalopathy Flumazenil (Option C ruled out) Used for benzodiazepine overdose (not routine)

References:

https://pubmed.ncbi.nlm.nih.gov/12483195/

https://www.ncbi.nlm.nih.gov/books/NBK430722/

https://pubmed.ncbi.nlm.nih.gov/26469689/

↑ *Back to this question in Part A*

@Neet_pg_bot

Q22: A 30-year-old male presents with suspected poisoning from an unknown substance. Which statement about the universal antidote is true? (Q847143)

A. It consists of only activated charcoal

B. Tannic acid is safe for all types of poisoning

C. Its use has declined due to ineffectiveness and hepatotoxicity

D. Gastric lavage is recommended for all poisonings

Correct Answer: C. Its use has declined due to ineffectiveness and hepatotoxicity

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Research indicates that activated charcoal is superior, and the presence of hepatotoxic components contributed to the decline of the universal antidote. Universal Antidote: Definition: The term "universal antidote" implies a single solution for all poisonings, which is misleading. Decline in Use: No longer recommended since the mid-1980s, and is currently unavailable. Components of the Universal Antidote: (Option A ruled out) Component Purpose Powdered Charcoal Adsorbs alkaloids Magnesium Oxide Neutralizes acids Tannic Acid Precipitates alkaloids, glycosides, and metals Used in the ratioof 1:1:2 Reasons for Discontinuation Activated Charcoal Superiority: Research shows activated charcoal is more effective than the universal antidote in reducing toxin absorption. Tannic Acid Issues: Interferes with activated charcoal's toxin absorption. Identified as hepatotoxic, posing risks to patients. (Option B ruled out) Current Recommendations Avoid Universal Antidote: Emphasis on identifying the specific poison to administer the appropriate antidote. Activated Charcoal: Recommended as a first-line treatment if the poison is unknown. Gastric Lavage Considerations Purpose: Stomach washing procedure to remove ingested poisons. It is contraindicated in corrosive poisoning, convulsant poisoning, comatose patients, volatile poisons, and when there is a risk of hemorrhage or perforation. (Option D ruled out)

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Pages 473, 475

↑ *Back to this question in Part A*

@Neet_pg_bot

Q23: Which of the following statements about gastric lavage is false? (Q847140)

A. Gastric lavage is most effective if performed within 1 hour of poison ingestion

B. It is contraindicated in patients with esophageal varices

C. Tap water should never be used for gastric lavage in adults

D. Lavage can cause complications such as aspiration

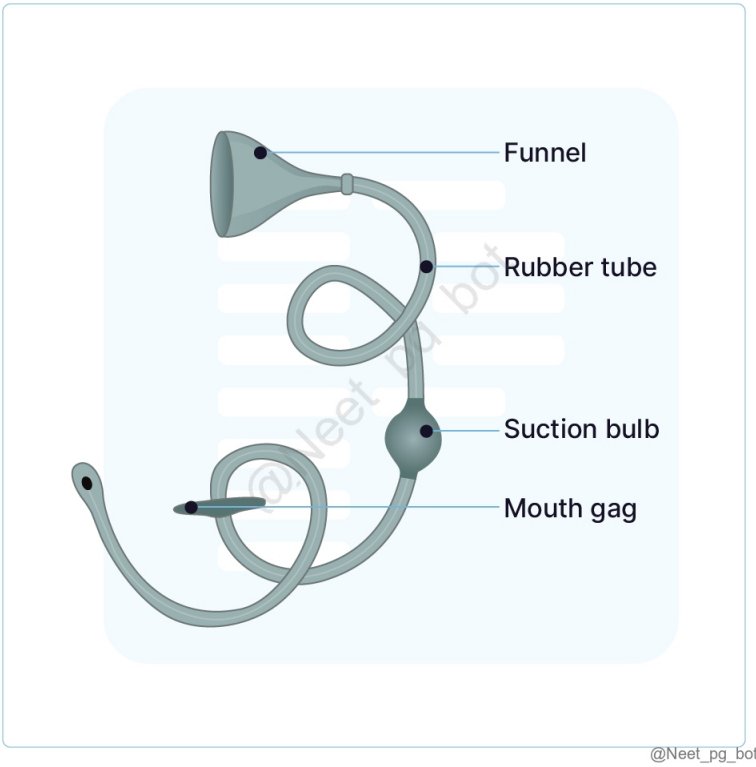
Correct Answer: C. Tap water should never be used for gastric lavage in adults

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Tap water is generally acceptable for gastric lavage in adults unless specific solutions are required for certain poisons. However, saline is recommended for infants to avoid electrolyte imbalance. Gastric Lavage in Poisoning Management Gastric lavage is a procedure to remove ingested poison by introducing and withdrawing fluids through an orogastric tube. Its effectiveness depends on timing, proper technique, and patient-specific considerations. Timing and Effectiveness Most effective within 1 hour of ingestion (Option A ruled out) Can be beneficial up to 4-6 hours in select cases Beyond 6 hours , poison likely passes into the intestines, reducing lavage

efficacy Procedure Steps: Patient Positioning Trendelenburg: Head down to prevent aspiration Left lateral decubitus: Reduces chance of poison entering the duodenum Tube Placement Confirmation Inject air and listen for gastric bubbling sounds Watch for coughing or bubbles (indicates misplacement in trachea) Fluid Administration Fluid is administered and aspirated using a syringe attached to the tube Fluid Selection Tap water for most cases (Option C) Normal saline for infants Specific solutions (e.g., potassium permanganate) may be used for certain poisons Residual Fluid Leave a small amount of fluid to neutralize the remaining poison Contraindications Corrosive Poisoning: Avoid except for carbolic acid (phenol) to prevent perforation Convulsant Poisons: Risk of triggering seizures (e.g., strychnine) Comatose Patients: High aspiration risk Volatile Poisons/Hydrocarbons: May cause aspiration pneumonitis Risk of Hemorrhage/Perforation: Avoid if esophageal varices or recent surgery present (Option B ruled out) Additional Contraindications to Emetics Severe heart or lung diseases Advanced pregnancy CNS depression or seizures



References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 473, 474

↑ *Back to this question in Part A*

@Neet_pg_bot

Q24: A 45-year-old man is found dead at home. On examination, his postmortem staining is as shown in the image. Which of the following is the most likely cause of death? (Q847117)

A. Opium poisoning

B. Hydrogen sulfide poisoning

C. Carbon monoxide poisoning

D. Organochlorine poisoning



Correct Answer: C. Carbon monoxide poisoning

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: The given image shows Cherry-red discoloration Cherry-red discoloration of the skin and tissues is characteristic of carbon monoxide poisoning due to the formation of carboxyhemoglobin (COHb), particularly when levels exceed 30%. Postmortem staining (Livor mortis) is the skin discoloration after death due to blood settling in dependent areas. Poison Postmortem Staining Characteristics Opium (Option A ruled out) Purple or blackish staining Carbon monoxide (Option C) Cherry red discoloration (COHb > 30%) Hydrogen sulfide (Option B ruled out) Greenish discoloration in tissues Datura Asphyxial signs (no specific color) Organochlorine/Kerosene (Option D ruled out) Asphyxial signs (no specific color)

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 539, 564, 587, 590, 602.

↑ *Back to this question in Part A*

@Neet_pg_bot

Q25: A forensic pathologist is examining a deceased individual and notes a garlic-like odor around the mouth. Which of the following poisons is most likely associated with this characteristic smell? (Q847114)

A. Hydrogen cyanide (HCN)

B. Zinc Phosphide

C. Phosphorus

D. Methyl salicylates

Correct Answer: C. Phosphorus

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Phosphorus is known to produce a garlic-like odor, which is a key characteristic. Odor Characteristics of Various Poisons- Poison Odor Phosphorus, heavy metals (arsenic, selenium, thallium), parathion, malathion, alphos (Option C) Garlic-like Ethanol, methyl/propyl alcohol, chloroform, nitrites, acetone Sweet and fruity Paraldehyde, chloral hydrate Acrid Hydrogen sulfide (H2S), mercaptans, disulfiram Rotten eggs Hydrogen cyanide (HCN) (Option A ruled out) Bitter almond Carbolic acid Phenolic Organophosphates Kerosene-like Zinc phosphide (Option B ruled out) Fishy Methyl salicylates (Option D ruled out) Oil of wintergreen Marijuana Burnt rope, hemp

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 469

↑ *Back to this question in Part A*

@Neet_pg_bot

Q26: A 30-year-old male is brought to the emergency department with suspected poisoning after ingesting an unknown substance. A toxicological analysis is performed, and the following specimens are collected: blood, urine, gastric contents, and liver tissue. Which of the following specimens is most crucial for detecting heavy metal poisoning analysis? (Q847110)

A. Blood

B. Urine

C. Hair

D. Liver

Correct Answer: C. Hair

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Hair accumulates heavy metals over time, making it valuable for detecting such poisoning. Specimens for Toxicological Analysis Blood Primary specimen; collect from femoral, iliac, or axillary veins to avoid contamination. (Option A ruled out) Preservative: Lithium heparin or EDTA tube, fluoride/oxalate, if alcohol is suspected Urine Useful for detecting parent compounds and metabolites of poisons. (Option B ruled out) Preservative: No preservative, sodium fluoride is added, if alcohol is suspected Gastric Contents Helps identify ingested poisons and their concentrations through vomitus and stomach contents analysis. Preservative: Saturated salt solution if there is no chance of acid poison. Rectified spirit if poisoned by acid. Liver Analyzes metabolism and concentration of drugs; critical when blood/urine concentrations are low. Bile can detect specific substances like chlorpromazine and morphine. (Option D ruled out) Preservative: Saturated salt solution if there is no chance of acid poison. Rectified spirit if poisoned by acid. Hair and Nails Detects heavy metal poisoning; metals accumulate in keratin. Neutron activation analysis identifies specific metals and exposure patterns. (Option C) Scene Residues Provides clues about the poison through materials found at the scene, such as tablets or empty containers.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 478

↑ *Back to this question in Part A*

@Neet_pg_bot

Q27: A 28-year-old man is brought to the emergency department for acute intoxication after using an illegal narcotic drug. Upon examination, he is found to be in possession of 300 mg of heroin. According to the Narcotic Drugs and Psychotropic Substances Act, 1985, what is the most appropriate legal consequence he would face for this offense? (Q847107)

A. Rigorous imprisonment for up to 5 years and a fine of ■1 lakh to ■2 lakh

B. Rigorous imprisonment for 10 to 20 years and a fine of ■1 lakh to ■2 lakh

C. Rigorous imprisonment for 15 to 25 years and a fine of ■1 lakh to ■2 lakh

D. Rigorous imprisonment for 20 to 30 years and a fine of ■1 lakh to ■2 lakh

Correct Answer: B. Rigorous imprisonment for 10 to 20 years and a fine of ■1 lakh to ■2 lakh

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: Under the Narcotic Drugs and Psychotropic Substances (NDPS) Act, 1985, punishment depends on the quantity of the drug possessed. The Act classifies drugs into three categories: Small quantity Quantity greater than small but less than commercial (intermediate) Commercial quantity In the question, the person is found with

300 mg of heroin. Small quantity of heroin = 250 mg Commercial quantity of heroin = 250 g Since 300 mg is more than a small quantity but far less than a commercial quantity, it falls under an intermediate quantity. Therefore, punishment under Section 21 of the NDPS Act is: Rigorous imprisonment: 10–20 years (Options A, C, & D ruled out) Fine: ■1 lakh – ■2 lakh

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Pages 465, 466

↑ *Back to this question in Part A*

@Neet_pg_bot

Q28: A 45-year-old woman is admitted to the emergency room after ingesting an unknown substance. The doctor provides immediate supportive care and stabilizes her condition. Upon suspicion of homicidal poisoning, what is the next legal duty of the doctor (in India)? (Q847100)

A. Notify the patient's family before taking any further action

B. Preserve evidence such as food, vomitus, and stomach wash samples

C. Immediately report the case to the nearest police station or magistrate

D. Administer activated charcoal as the first step in treatment

Correct Answer: C. Immediately report the case to the nearest police station or magistrate

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: In India, upon suspicion of homicidal poisoning after providing immediate supportive care and stabilizing the patient, the next legal duty of the doctor is to immediately report the case to the nearest police station or magistrate. Law Section Provision Relevance for Doctors BNSS 2023 Section 39 Public duty to give information of certain offences Doctors must inform police about serious offences like homicide, poisoning, etc. BNS 2023 Section 202 Intentional omission to give information of an offence by a person legally bound to inform Punishment for failing to report crime BNS 2023 Section 203 Giving false information regarding an offence Punishment for misleading authorities BNS 2023 Section 176 Omission to give notice or information to public servant Applies if a doctor knowingly fails to inform authorities Punishment for Failure to Report Offence Punishment (BNS) Failure to report offence (Section 202) Imprisonment up to 6 months , or fine, or both Providing false information (Section 203) Imprisonment up to 2 years , or fine, or both Omission to give information to public servant (Section 176) Simple imprisonment up to 1 month or fine Additionally, the doctor must preserve all evidentiary materials such as food, vomitus, and stomach wash samples, properly sealed and labeled, to help in forensic analysis. However, reporting to the police or magistrate has priority as the next legal step after initial patient stabilization. (Option B ruled out) Notify the patient's family before taking any further action (Option A): Wrong, as informing the family is not a legal requirement before reporting to authorities.

Administer activated charcoal as the first step in treatment■■■■■■■ (Option D): This is a medical treatment, not a legal obligation.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 470, 471

↑ *Back to this question in Part A*

@Neet_pg_bot

Q29: Which of the following statements about an ideal suicidal poison is false? (Q847084)

A. It should have no known antidote

B. It should be easily accessible

C. It should be highly palatable and sweet-tasting

D. It should be highly toxic

Correct Answer: C. It should be highly palatable and sweet-tasting

■ *Listen (English)*

■ *Listen (Hindi)*

Explanation: An ideal suicidal poison should be tasteless or have a pleasant taste, but not necessarily sweet-tasting, making this statement false. Ideal Characteristics of a Suicidal Poison: Affordable : Should be inexpensive. Easily Available : Readily accessible. (Option B ruled out) Physical Traits : Tasteless or pleasant-tasting, with no unpleasant odor. (Option C) High Toxicity : Should be lethal. (Option D ruled out) No Antidote : Must lack an antidote. (Option A ruled out) Solubility : Easily dissolvable in food or drink. Effect : Should cause painless death. Examples of Ideal Suicidal Poisons: Poison Category Potassium Cyanide (KCN) Cyanide compound Hydrogen Cyanide (HCN) Cyanide gas Opium Narcotic Barbiturates Sedative Aluminum Phosphide (Alphos) Phosphide compound Organophosphates Pesticides Characteristics of Ideal Homicidal poison: Cheap Easily available Colourless, odourless, tasteless Capable of being administered with food, drink or medicine, without producing visible changes Highly toxic Signs and symptoms should resemble a natural disease or the serious ill side effects should be delayed long enough for the criminal to escape suspicion There should not be an antidote There should not be any post-mortem changes It should not be detected by chemical tests or other methods It must be rapidly destroyed in the body

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 465, 468

↑ *Back to this question in Part A*

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• [15_General Toxicology] 032 Previous Year Questions

« Back to Folder Directory

[15_General Toxicology] 032 Previous Year Questions — Quick Jump

Q1 (p. 1295) *Q2 (p. 1296)* *Q3 (p. 1297)* *Q4 (p. 1298)* *Q5 (p. 1298)* *Q6 (p. 1299)*
Q7 (p. 1301) *Q8 (p. 1302)* *Q9 (p. 1303)*

Q1: An alcoholic patient is admitted to the hospital 48 hours after his last drink. He presents with altered consciousness, disorientation, and severe agitation. What is the most likely diagnosis? (Q866635)

A. Delirium tremens

B. Alcohol withdrawal symptoms

C. Cocaine intoxication

D. Korsakoff psychosis

Correct Answer: A. Delirium tremens

Explanation: Based on the timing (48 hours), severe agitation, and altered mental status in this patient strongly point to Delirium tremens rather than simple alcohol withdrawal or other causes. Delirium tremens is the most severe manifestation of alcohol withdrawal, typically occurring 48–72 hours after the last drink. It presents with altered consciousness, disorientation, severe agitation, autonomic hyperactivity (tachycardia, hypertension, fever), and sometimes hallucinations. DT is a medical emergency with high mortality if untreated (5–15%). It is caused by CNS hyperexcitability due to the sudden removal of chronic ethanol's depressant effect. Management: ICU care, high-dose benzodiazepines, thiamine supplementation, and supportive measures. Risk factors: Prior severe withdrawal Concurrent illness Heavy, prolonged alcohol use. Time since last drink Common features Severe complications 6–12 hrs Tremors, anxiety, insomnia, GI upset — 12–24 hrs Visual/tactile hallucinations — 24–48 hrs Seizures (generalized tonic-clonic) — 48–72 hrs Confusion, agitation, autonomic instability → Delirium tremens Death if untreated Incorrect Options: Alcohol withdrawal symptoms (Option B): This is a broad term that includes all manifestations after cessation of alcohol; however, this patient's severe agitation and altered consciousness indicate Delirium tremens, the most severe form, not just mild/moderate withdrawal. Cocaine intoxication (Option C): Can cause agitation and confusion, but typically occurs during or shortly after use, not 48 hrs after stopping alcohol. Also accompanied by mydriasis, chest pain, hypertension, and arrhythmias. Korsakoff psychosis (Option D): A late complication of thiamine deficiency (often following untreated Wernicke encephalopathy) with irreversible anterograde/retrograde amnesia and confabulation; it is chronic, not acute like DT.

↑ *Back to this question in Part A*

@Neet_pg_bot

Q2: The compound shown in the image can be used in the treatment of which of the following poisonings? (Q853109)

A. Aluminum Phosphide

B. Mercury

C. Phosphorus

D. Arsenic



Correct Answer: C. Phosphorus

Explanation: Copper sulfate (shown in pic) acts as an oxidizing agent and converts elemental phosphorus into less toxic compounds. It is specifically used in phosphorus poisoning cases. Aluminum Phosphide (Option A): Aluminum phosphide poisoning is treated with supportive care, magnesium sulfate, and antioxidants. Mercury (Option B): Mercury poisoning is treated with chelating agents such as dimercaprol, succimer, or DMSA. Arsenic (Option D): Arsenic poisoning is treated with chelators like dimercaprol or succimer.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 487, 491, 496, 500, 508, 509, 515, 539, 555, 574, 584, 599, 612

↑ *Back to this question in Part A*

@Neet_pg_bot

Q3: A student presents with shock, pulmonary edema, and a positive silver nitrate breath test after consuming an unknown substance. What is the antidote? (Q853110)

A. BAL

B. Pralidoxime

C. MgSO■

D. Atropine

Correct Answer: C. MgSO■

Explanation: The silver nitrate breath test detects phosphine gas, confirming aluminum phosphide poisoning. Aluminum phosphide poisoning releases phosphine gas, which causes severe mitochondrial dysfunction, circulatory collapse, and pulmonary edema. Magnesium sulfate stabilizes myocardial membranes and helps counteract hypomagnesemia, a common complication. Management includes supportive care (fluids, vasopressors, oxygen therapy), magnesium sulfate, and antioxidants. Antidotes and their mechanisms Poisoning Type Antidote Mechanism Arsenic BAL (Dimercaprol) (Option A ruled out) IM, chelates arsenic for excretion. Succimer (DMSA) Oral chelation. DMPS IV, transitioned to oral chelation. Copper Potassium Ferrocyanide Forms insoluble copper complexes, reducing absorption. Penicillamine Chelates copper. Cyanide Sodium Nitrite Forms methemoglobin to bind cyanide. Sodium Thiosulfate Converts cyanide to thiocyanate for renal excretion. Hydroxocobalamin Binds cyanide, forming cyanocobalamin. Dicobalt Edetate, Methylene Blue Alternative antidotes. Ethylene Glycol Ethanol/Fomepizole Inhibits alcohol dehydrogenase to prevent toxic metabolites. Iron Desferrioxamine Chelates iron for excretion. Magnesium Hydroxide/Sodium Bicarbonate Note: BAL should not be used in iron, cadmium, or selenium poisoning due to formation of toxic complexes. Precipitate iron, reducing absorption. Lead Sodium/Magnesium Sulfate Forms insoluble lead sulfate. Calcium Chloride/Gluconate Promotes bone deposition of lead. CaNa2EDTA + BAL Chelation therapy for lead elimination. Mercury Sodium Formaldehyde Sulfoxylate Reduces toxic mercury ions. BAL (Dimercaprol) Traditional chelator; oral agents preferred. Methanol Ethanol/Fomepizole Compete for alcohol dehydrogenase, preventing toxic metabolites. Opium Naloxone Blocks opioid receptors, reversing opioid effects. Organophosphate Atropine (Option D ruled out) Blocks muscarinic receptors to manage cholinergic symptoms. Pralidoxime (2-PAM) (Option B ruled out) Reactivates acetylcholinesterase. Phenol Magnesium Sulfate Absorbs phenol in the stomach. Phosphorus Potassium Permanganate Oxidizes phosphorus into harmless phosphates. Strychnine Barbiturates Depress CNS, preventing seizures. Thallium Prussian Blue Binds thallium in the intestine, preventing absorption.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 487, 491, 496, 500, 508, 509, 515, 539, 555, 574, 584, 599, 612

↑ *Back to this question in Part A*

@Neet_pg_bot

Q4: A 10-year-old child was brought to the emergency department after consuming a significant quantity of iron tablets at home. The child is presenting with severe abdominal pain, profuse gastrointestinal bleeding episodes, and lethargy. What is the preferred treatment for this case? (Q820300)

A. Pencillamine

B. BAL

C. Activated charcoal

D. Deferoxamine Mesylate

Correct Answer: D. Deferoxamine Mesylate

Explanation: Correct Option D - Deferoxamine Mesylate This is the correct answer. Deferoxamine Mesylate is a chelating agent specifically used to treat iron poisoning. It forms a complex with iron, which is then excreted through the urine. Iron poisoning can lead to severe complications, such as gastrointestinal bleeding and organ damage, so prompt and effective treatment with Deferoxamine Mesylate is essential. Incorrect Options: Option A - Pencillamine: Penicillamine is a chelating agent primarily used to treat Wilson's disease and rheumatoid arthritis. It is not the preferred treatment for iron poisoning. Option B - BAL (British Anti-Lewisite or Dimercaprol): BAL is a chelating agent used to treat heavy metal poisoning, such as lead and arsenic poisoning. It is not the preferred treatment for iron poisoning. Option C - Activated charcoal: Activated charcoal is used to absorb certain toxins in the gastrointestinal tract. However, in the case of iron poisoning, it is not effective because iron tablets have already been absorbed and are causing systemic effects.

↑ *Back to this question in Part A*

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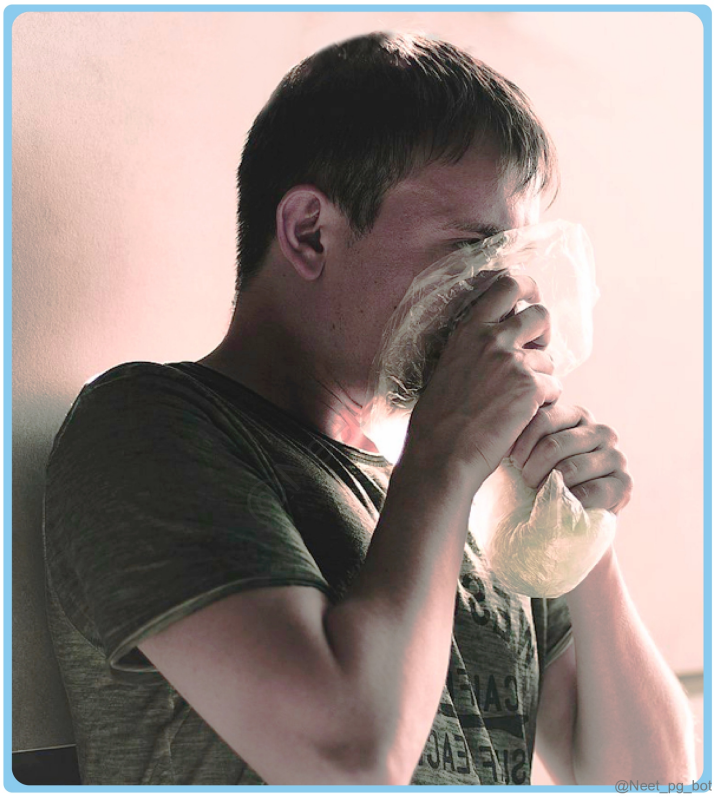
Q5: Identify the method of substance abuse as shown in the image below. (Q859429)

A. Snorting

B. Bagging

C. Sniffing

D. Huffing



Correct Answer: B. Bagging

Explanation: Methods of substance abuse

References:

Substance abuse

↑ *Back to this question in Part A*

@Neet_pg_bot

Q6: A man was found to be lying dead on the ground. His friend saw a snake passing in the area and took a picture of it and showed it to the doctor (image below). What is the most probable cause of death of this man? (Q859430)

A. Shock

B. Respiratory failure

C. Coagulopathy

D. Renal failure



Correct Answer: B. Respiratory failure

Explanation: The most probable cause of death in this scenario is respiratory failure, commonly associated with neurotoxic snake venom. The snake seen was likely an elapid (krait), which are neurotoxic species. {{caption_text}} Neurotoxic venom affects the nervous system, leading to paralysis of the respiratory muscles (diaphragm). Mechanism : Neurotoxins block neuromuscular transmission by inhibiting acetylcholine at the neuromuscular junction. Leads to progressive muscle paralysis, including respiratory muscles, causing respiratory failure and death. Incorrect Options: Shock (Option A): Typically seen in viper bites (vasculotoxic) due to severe hypotension and tissue damage. Coagulopathy (Option C): Common in viper bites causing hemotoxic effects like bleeding and DIC. Renal failure (Option D): Seen in hemotoxic bites causing acute tubular necrosis due to hemoglobinuria or myoglobinuria.



References:

Snakes

↑ *Back to this question in Part A*

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Q7: Match the following substances with their appropriate antidotes: Substance Antidote 1 Benzodiazepines i BAL 2 Alcohol ii Naloxone 3 Opioid iii Flumazenil 4 Arsenic iv Fomepizole (Q879110)

A. 1-iii, 2-iv, 3-ii, 4-i

B. 1-ii, 2-iii, 3-iv, 4-iv

C. 1-iii, 2-i, 3=ii, 4-iv

D. 1-iv, 2-iii, 3-ii, 4-i

Correct Answer: A. 1-iii, 2-iv, 3-ii, 4-i

Explanation: The substances and their corresponding antidotes are: Substance Antidote MOA of Antidote Benzodiazepines Flumazenil Specific competitive antagonist at benzodiazepine receptors Alcohol (Methanol or Ethylene glycol toxicity) Fomepizole Inhibits alcohol dehydrogenase, preventing toxic metabolite formation Opioid Naloxone Rapid-acting opioid receptor antagonist used in opioid overdose Arsenic BAL (British

Anti-Lewisite) or Dimercaprol Chelating agent used for arsenic poisoning

References:

Flumazenil - StatPearls - NCBI Bookshelf

Treatment of patients with ethylene glycol or methanol poisoning: focus on fomepizole - PMC

Naloxone DrugFacts | National Institute on Drug Abuse (NIDA)

Dimercaprol - StatPearls - NCBI Bookshelf

↑ *Back to this question in Part A*

@Neet_pg_bot

Q8: A girl is found dead in a bathroom. On examination cherry red hypostasis is noted. Her parents report a geyser malfunction and poor ventilation in the bathroom. What is the most likely cause of death? (Q879150)

A. Carbon monoxide

B. OP

C. Nitrites / Methane

D. Hydrogen sulphide

Correct Answer: A. Carbon monoxide

Explanation: Cherry-Red Hypostasis/Livor Mortis: This is a hallmark sign of carbon monoxide (CO) poisoning . Carbon monoxide binds to hemoglobin with a much higher affinity than oxygen, forming carboxyhemoglobin (COHb) . This compound is bright red and causes the characteristic pink/cherry-red discoloration seen in the skin and post-mortem lividity (hypostasis). OP (organophosphates) (Option B) → would cause increased secretions, constricted pupils, but not cherry-red discoloration. Nitrites / Methane (Option C) → methane can cause asphyxia but not cherry-red livor; nitrites cause methemoglobinemia → brownish/blue skin, not cherry red. Hydrogen sulphide (Option D) → can cause cyanide-like inhibition of cytochrome oxidase, and in high doses can cause a blue-gray skin or “greenish discoloration,” but rarely cherry red; more associated with sewer gas, not typical from geyser.

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 273, 539, 564, 587, 590, 602.

↑ *Back to this question in Part A*

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Q9: Match the drug with its primary effect: Drugs Effects 1. Datura A) Deliriant 2. LSD B) Hallucinogen 3. Opioids C) Depressant / somniferous 4. Alcohol D) Inebriant\ (Q879151)

A. 1-A, 2-B, 3-C, 4-D

B. 1-B, 2-A, 3-C, 4-D

C. 1-C, 2-B, 3-A, 4-D

D. 1-A, 2-C, 3-B, 4-D

Correct Answer: A. 1-A, 2-B, 3-C, 4-D

Explanation: Datura → Deliriant Datura contains scopolamine and atropine, causing delirium and confusion. LSD → Hallucinogen LSD is a classic psychedelic/hallucinogen. Opioids → Depressant / somniferous Opioids depress the CNS and induce sleep/sedation. Alcohol → Inebriant Alcohol is classified as an inebriant due to its intoxication effects.

References:

Essentials of Forensic Medicine, K. S. Narayan Reddy, 35th Edition, Page 454-459

↑ *Back to this question in Part A*

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• [16_Sexual Jurisprudence] 033 Previous Year Questions

« Back to Folder Directory

[16_Sexual Jurisprudence] 033 Previous Year Questions — Quick Jump

Q1 (p. 1304)

Q1: During the visit to the outpatient department, a female patient aged 18 years was examined. The genital examination disclosed the following observations. These observations suggest: 1. Labia majora - separated 2. Labia minora - flabby 3. Fourchette tear present 4. Roomy vagina seen with intact hymen (Q855311)

A. True virgin

B. False virgin

C. Premenstrual stage

D. Molestation

Correct Answer: B. False virgin

Explanation: Category True Virgin (Option A ruled out) False Virgin Genital Signs Intact, rigid, inelastic hymen; admits only a fingertip, causing pain. Thick, fleshy labia majora that close the vaginal orifice; small, pink labia minora covered by labia majora. Narrow vagina with prominent rugae; full finger cannot be admitted. Present fossa navicularis, intact fourchette, narrow vestibule, small clitoris, intact posterior commissure. Intact hymen that may be loose, elastic, or thick; admits two fingers easily. Less fleshy labia majora; vaginal orifice may be visible; enlarged, pigmented labia minora. Roomy vagina with less prominent rugae; full finger can be admitted. Disappearance of fossa navicularis; torn and healed fourchette; wider vestibule; enlarged clitoris; possibly torn posterior commissure. Extra-Genital Signs Small, hemispherical, firm breasts; pink areola. Larger, pendulous, flabby breasts; pigmented areola. Premenstrual stage (Option C) genitalia are underdeveloped, with thick labia majora, small labia minora, and a firm hymen admitting only small instruments. The patient's findings suggest a post-pubertal state, not a premenstrual stage. Molestation (Option D) may involve bruises, hymenal tears, and disrupted commissures. While a fourchette tear is present, the intact hymen and absence of other trauma make this less likely.

References:

Hymen

Hymen & Virginity

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page 353, 354, 355

Knight’s Forensic Pathology, 4th Edition, Page 431

↑ *Back to this question in Part A*

@Neet_pg_bot

• [17_Indian Legal System _ Medical Jurisprudence] 034 Previous Year Questions

« Back to Folder Directory

[17_Indian Legal System _ Medical Jurisprudence] 034 Previous Year Questions — Quick Jump

Q1 (p. 1306) *Q2 (p. 1306)* *Q3 (p. 1308)* *Q4 (p. 1308)* *Q5 (p. 1309)* *Q6 (p. 1310)*
Q7 (p. 1311) *Q8 (p. 1312)* *Q9 (p. 1312)* *Q10 (p. 1313)* *Q11 (p. 1314)* *Q12 (p. 1315)*
Q13 (p. 1315) *Q14 (p. 1316)*

Q1: Who order the autopsy in case of RTA? (Q844176)

A. Forensic expert

B. Police

C. Lawyer

D. forensic doctor

Correct Answer: B. Police

Explanation: Correct Option B - Police: In cases of Road Traffic Accidents (RTA), the police are responsible for ordering an autopsy to determine the cause of death. This is part of their duty to investigate the circumstances surrounding the death and to ensure proper legal procedures are followed. The police will request an autopsy if there is a need to understand the cause of death more clearly or if it is required for legal reasons. Incorrect Options: Option A - Forensic expert: A forensic expert conducts the autopsy but does not order it. The role of the forensic expert is to perform the examination and provide a report based on their findings. Option C - Lawyer: A lawyer may request an autopsy as part of legal proceedings, but they do not have the authority to order an autopsy in cases of RTA. Their role is generally more related to the legal representation of the parties involved. Option D - Forensic doctor: Similar to the forensic expert, the forensic doctor performs the autopsy but does not order it. The forensic doctor provides medical expertise in the examination and interpretation of findings.

↑ *Back to this question in Part A*

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Q2: A forensic expert received a summons from the district court to record his evidence in a criminal case, but two days prior, he already received a summons for a civil case in the same district court for the same date. What should the doctor do?

(Q852468)

A. Inform both courts and wait.

B. Attend the court for which the summons came first.

C. Attend the court for the criminal case.

D. Do not attend either court.

Correct Answer: C. Attend the court for the criminal case.

Explanation: Criminal cases take precedence over civil cases due to their public importance and urgency. The forensic expert must attend the criminal case and inform the civil court about the conflict, requesting a rescheduled date. Ignoring a court summons can lead to legal consequences, so prioritizing the criminal case is mandatory. Summons/Subpoena: A subpoena is a legal order mandating a witness to appear before a court on a specific date, time, and location to provide testimony or evidence, under penalty. A subpoena is issued by the court in writing, signed by the presiding officer, and carries the court's official seal (Sec. 63 BNSS) . Delivered to the witness by a police officer, court official, or public servant. The witness must sign and return a duplicate copy of the subpoena to acknowledge receipt (Sec. 64 BNSS). Types of Subpoenas Subpoena duces tecum : The witness is required to bring specific documents or items to the court (e.g., medico-legal reports or postmortem findings). For expert witness. Subpoena ad testificandum : The witness is required to appear in court to provide oral testimony. For common witnesses. Punishment for Failing to Comply with a Subpoena/Summons: 1. Civil Cases: The witness may be ordered to pay damages for failing to attend court. This involves compensation for the inconvenience caused to the parties involved in the case. 2. Criminal Cases: If a witness fails to appear in court without a justified reason, the following actions can be taken: Under 63 – 71 BNSS , the court may issue a notice to the witness to explain their absence. The court may issue notice under Section 389, BNSS and after hearing the witness, if it finds that the witness neglected to attend the court without a justified reason, may punish him under Section 208 and 209, BNS , and sentence him/her to: A fine (Rs.1000/-), OR Imprisonment (6 months), OR Both fine and imprisonment. Also, the Court may issue bailable or non-bailable warrants to secure the presence of the witness (S.206 to 209, BNS and S.90, BNSS). Prioritization of Summons: Criminal vs. Civil Courts : If a witness is summoned by both criminal and civil courts for the same day, they must attend the criminal court , which takes precedence. Higher vs. Lower Courts : When summoned by two courts of the same jurisdiction (e.g., civil or criminal), the witness must attend the higher court first. Multiple Summons : If the witness receives multiple summonses from the same type of court, they should attend the court that issued the first summons and notify the other. Inform both courts and wait (Option A): While informing both courts is a good step, simply waiting without attending either court is not advisable, as it could lead to legal consequences. Attend the court for which the summons came first (Option B): The order in which the summons were received does not determine priority. The nature of the case (criminal vs. civil) takes precedence. Do not attend either court (Option D): Ignoring court summons can result in contempt of court or other legal penalties.

References:

The Essentials of Forensic Medicine and Toxicology, K S Narayan Reddy, OP Murty, 35th Edition, Page. 7.
Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page. 47, 48
https://prsindia.org/files/bills_acts/bills_parliament/2023/Bharatiya_Nagarik_Suraksha_Sanhita,_2023.pdf

↑ *Back to this question in Part A*

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Q3: A man with multiple stab wounds is brought to the emergency department in a critical condition. He is conscious but not expected to survive for long. The Magistrate is not immediately available. According to medico-legal procedure, what should be done regarding the dying declaration? (Q852472)

A. Wait for the Magistrate to arrive before recording the statement

B. The attending doctor should record the dying declaration after certifying the patient's consciousness

C. Ask the police officer on duty to record the declaration under oath

D. Leading questions should be asked to clarify facts quickly

Correct Answer: B. The attending doctor should record the dying declaration after certifying the patient's consciousness

Explanation: When a patient is conscious and likely to die soon, the dying declaration must be recorded immediately to preserve evidence. If a magistrate is not available, the attending doctor is authorized to record it. The doctor must certify that the patient is conscious, oriented, and capable of giving the statement, and record the declaration verbatim. This ensures the declaration is legally valid and admissible in court. Incorrect Options: Option A) Wait for the Magistrate to arrive before recording the statement : Incorrect because waiting may result in loss of the opportunity to record the declaration; the patient could die before the magistrate arrives. Option C) Ask the police officer on duty to record the declaration under oath: Incorrect because police officers cannot legally record a dying declaration. Only a magistrate or, if unavailable, a doctor can record it. Option D) Ask leading questions to clarify facts quickly: Incorrect because leading questions can compromise the voluntariness of the declaration. The statement must be recorded verbatim.

References:

Gautam Biswas Review of Forensic Medicine and Toxicology 3rd Edition Page 48, 49

↑ *Back to this question in Part A*

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Q4: A married female died in unnatural condition within 3 years of marriage. Her father filed a report to police and inquiry will be done under which section? (Q852474)

A. 194 BNSS/174 CrPC

B. 296 BNSS/276 CrPC

C. 116 BNS & 194 BNSS

D. 106 BNS & 194 BNSS

Correct Answer: A. 194 BNSS/174 CrPC

Explanation: In cases of a married woman's unnatural death within 7 years of marriage, after a police inquest (section 194, BNSS) is followed by a Magistrate-led inquiry, is mandatory under Section 196 BNSS . This ensures a thorough and impartial investigation, especially when foul play, suicide, or dowry-related violence is suspected. In India, there are two types of inquests: police inquest and magistrate inquest. 1. Police Inquest (Section 194, BNSS) Most common type of inquest in India. Conducted by a police officer , generally not below the rank of Head Constable . The police officer, upon receiving information about the unnatural death, visits the site. ↓ Involves two or more witnesses from the local area, called panchas , to assist in the investigation. The report is referred to as a panchnama . ↓ If the cause of death appears to be accidental or non-suspicious, the body is handed over to the family for funeral proceedings. ↓ In case of suspicious circumstances , the police officer forwards the body for a postmortem to a certified medical officer and sends the report to the Magistrate . 2. Magistrate Inquest (Section 196, BNSS) Conducted by an Executive Magistrate , or Judicial Magistrate . It's mandatory in specific circumstances, including: Death, the disappearance of a person, or alleged rape in police custody or any custody authorized by the court Deaths due to police firing Deaths in jail Deaths of women within 7 years of marriage if, Commits suicide In any circumstances raising a reasonable suspicion that some other person committed an offence Any relative of the woman has made a request on this behalf There is any doubt regarding the cause of death Deaths where there's suspicion of rape before death Deaths with suspicion of foul play or where a relative of the deceased has made a request Also conducted if the case is referred by police due to suspicion arising during their investigation An inquiry by a Judicial Magistrate or Metropolitan Magistrate is required in instances of custodial death, disappearance, or custodial rape where foul play is suspected or there are allegations of an offense. In all other situations, the inquiry can be conducted by an Executive Magistrate. The magistrate is responsible for forwarding the body for postmortem examination to a Civil Surgeon or another authorized doctor within 24 hours of the death. Differences Between Police and Magistrate Inquests: Feature Police Inquest Magistrate Inquest Conducted by Police officer Magistrate (DM, SDM, Judicial, or Executive Magistrate) Involvement of witnesses Requires signatures of panchas Does not require witness signatures Witness statements Admissible in court Not admissible in court Can order arrest No, but can arrest in cognizable offenses Can issue arrest warrants Exhumation Cannot order exhumation Can order exhumation of a body Autopsy orders Sends bodies for autopsy indiscriminately Orders autopsy only when necessary Forensic analysis Cannot order chemical analysis of viscera Can order chemical analysis

References:

Review of Forensic Medicine and Toxicology, Gautam Biswas, 3rd Edition, Page. 43, 44. The Essentials of Forensic Medicine and Toxicology, K S Narayan Reddy, OP Murty, 35th Edition, Page. 5, 6. https://bprd.nic.in/uploads/pdf/COMPARISON%20SUMMARY%20BNS%20to%20IPC%20.pdf

↑ *Back to this question in Part A*

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Q5: A 13-year-old girl is brought to the OPD by her mother with a complaint of abdominal pain. The patient's urine pregnancy test (UPT) is positive. What should be the first step by you as a medical officer? (Q854644)

A. Start physical examination

B. Inform the police

C. Take consent from the patient's mother

D. Preserve the patient's clothes

Correct Answer: B. Inform the police

Explanation: In cases involving minors with a positive pregnancy test, suspicion of sexual assault or abuse must be considered. The first step is to notify the police , as per the Protection of Children from Sexual Offenses (POCSO) Act, which mandates mandatory reporting of such cases to protect the child and initiate an investigation. Protection of Children from Sexual Offences (POCSO) Act Enacted in 2012, it is law in India designed to protect children under the age of 18 from sexual abuse, sexual harassment, and pornography. Key Features of the POCSO Act: Gender-neutral law It covers penetrative and non-penetrative assault, sexual harassment, and use of children for pornography Burden of proof is on the accused, unlike many other criminal laws where the burden is on the prosecution Mandatory reporting by adults and failure to do so can be punishable Special courts for the trial of offenses to ensure a child-friendly environment Identity of the victim is to be protected, and the proceedings are to be conducted in camera to prevent exposure Recent Changes and Developments in the POCSO Act: 2019 Amendment Stricter Punishments: Death penalty for aggravated sexual assault against children The minimum punishment for penetrative sexual assault increased to 10 years, and for aggravated penetrative sexual assault increased to 20 years, with the possibility of life imprisonment or death in extreme cases. Fast-track Courts to ensure swift disposal of POCSO cases, given the backlog of pending cases. Clarifications on ‘Touch’ and Sexual Intent: The intent behind physical contact is crucial in determining whether it qualifies as an offense under POCSO. Digital Crimes Against Children: Provisions related to the use of children for pornographic and online exploitation purposes have been emphasized with stricter penalties.

References:

https://bnblegal.com/bareact/the-protection-of-children-from-sexual-offences-amendment-act-2019/

↑ *Back to this question in Part A*

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Q6: The authority who investigates the death of a 14-year-old girl who was abducted by a man and subsequently died while in police custody will be? (Q859873)

A. Coroner

B. Police

C. Medical examiner

D. Judicial magistrate

Correct Answer: D. Judicial magistrate

Explanation: As per Section 176 CrPC (Code of Criminal Procedure, India), / 1 96 BNSS when a person dies in police custody or under suspicious circumstances, the investigation must be conducted by a Judicial Magistrate. Key Reasons: Judicial Magistrate ensures an impartial and independent inquiry. Mandatory for cases involving: Death in police custody. Death of minors under suspicious circumstances. Death due to abduction or unnatural causes. Coroner (Option A): Outdated in India, previously investigated unnatural deaths. Police (Option B): Cannot investigate deaths occurring in their custody independently due to conflict of interest. Medical Examiner (Option C): Conducts autopsies but does not have legal authority for formal investigation.

References:

Inquest

↑ *Back to this question in Part A*

@Neet_pg_bot

Q7: According to the Bharatiya Nyay Sanhita (BNS), which of the following is not classified as grievous hurt? (Q865325)

A. Pain lasting for 5 days

B. Elbow dislocation

C. Emasculation

D. Fracture of a tooth

Correct Answer: A. Pain lasting for 5 days

Explanation: Pain lasting for 5 days is incorrect as it does not meet the criteria for grievous hurt, as the law specifies a minimum duration of 15 days of severe bodily pain or inability to follow ordinary pursuits. BNS 116 (Old Section 320 IPC) defines following injuries as grievous: Emasculation (cutting off the penis, castration, or causing loss of power of erection due to spinal injury). (Option C) Permanent privation of the sight of either eye. Permanent privation of the hearing of either ear. Privation of any member (part, organ, limb) or joints Destruction or permanent impairing of powers of any member or joint. Permanent disfiguration of head or face. Fracture or dislocation of a bone or a tooth. (Option B and D ruled out) Any hurt which endangers life, or which causes the sufferer to be, during the space of 15 days, in severe bodily pain, or unable to follow his daily routine. (Option A)

References:

Goutam Biswas Review of Forensic Medicine and Toxicology, 3rd edition, page 296

https://www.mha.gov.in/sites/default/files/250883_english_01042024.pdf

https://bprd.nic.in/uploads/pdf/COMPARISON%20SUMMARY%20BNS%20to%20IPC%20.pdf

↑ *Back to this question in Part A*

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Q8: A doctor receives two summons, one to appear in court in a murder case and another to provide expert medical opinion. Which of the following should the doctor prioritise? (Q866616)

A. Appearance in the murder case

B. Appearance for providing medical expert opinion

C. The summon received first

D. None of the above

Correct Answer: A. Appearance in the murder case

Explanation: A criminal court summons in a murder case generally carries a legal imperative and higher priority; attendance is mandatory unless legally excused. Providing expert opinion is important, but when faced with a direct court order in a criminal case, the legal obligation to appear in court for the criminal matter is prioritized. Incorrect Options: Appearance for expert opinion (Option B): Important but typically subordinate to a direct criminal court summons. The summon received first (Option C) : The timing of receipt does not override the legal gravity of a murder case summons.

↑ *Back to this question in Part A*

@Neet_pg_bot

Q9: A man was abducted from his home, and his son subsequently claimed rights to his father’s property. As per Section 111 of the Bharatiya Sakshya Adhiniyam (BSA), until when is the son not entitled to claim inheritance? (Q866685)

A. 5 years

B. 6 years

C. 7 years

D. 10 years

Correct Answer: C. 7 years

Explanation: Section 111 of the Bharatiya Sakshya Adhiniyam (BSA) states that a person who has been missing and not heard of for 7 years by those who would naturally have heard from them is presumed dead. Until those 7 years are completed, legal heirs cannot claim inheritance. The burden of proving the fact of the missing lies on the person claiming the benefit of this presumption. For 7 years, property rights remain with the missing person's estate, and heirs cannot take possession. Incorrect Options: 5 years (Option A): No legal presumption of death at 5 years; heirs cannot claim property before the statutory period. 6 years (Option B): Falls short of the legal requirement; property rights remain frozen until 7 years. 10 years (Option D): Longer than required by law; Section 111 specifically sets the period at 7 years, not 10.

↑ *Back to this question in Part A*

@Neet_pg_bot

Q10: According to the amendment in the medical termination of pregnancy (MTP) Bill of 2020 , until what gestational age is it permissible to induce MTP in mentally ill rape victims? (Q793546)

A. 20 weeks

B. 22 weeks

C. 24 weeks

D. 28 weeks

Correct Answer: C. 24 weeks

Explanation: Correct Option C - 24 weeks: As per the Medical Termination of Pregnancy (Amendment) Bill, 2020, the limit for termination of pregnancy in a mentally ill woman or a woman who is a survivor of rape has been increased from 20 weeks to 24 weeks of gestation. Incorrect Options: Option A - 20 weeks: The Medical Termination of Pregnancy (Amendment) Bill, 2020, t, has increased the gestational limit for termination of pregnancy in certain cases from 20 weeks to 24 weeks. Option B - 22 weeks: As per the Medical Termination of Pregnancy (Amendment) Bill, 2020, the gestational age limit for termination of pregnancy in cases of rape, incest, and vulnerable women, including mentally ill women, has been increased from 20 weeks to 24 weeks. Option D - 28 weeks: Beyond 24 weeks, termination of pregnancy is only allowed in cases of substantial fetal abnormalities or if the continuation of the pregnancy poses a risk to the life of the mother.

References:

Prepladder Notes

↑ *Back to this question in Part A*

@Neet_pg_bot

Q11: As an internal medicine consultant at a private clinic, you are handling the case of a patient who has chronic renal disease and needs hemodialysis. You provide dietary and fluid management recommendations and closely monitor the patient. Unfortunately, the patient decides to take ayurvedic supplements and occasionally disregards your instructions without informing you. Consequently, the patient's condition deteriorates, leading to respiratory distress. Subsequently, the patient's attendant files a legal complaint, accusing the doctor of negligence. Which of the following can serve as a defense for the doctor in court? (Q793550)

A. Vicarious liability

B. Res Ipsa loquitur

C. Therapeutic misadventure

D. Contributory negligence

Correct Answer: D. Contributory negligence

Explanation: Contributory negligence is a valid legal defence in medical negligence cases. It applies when the patient (or their caregiver) fails to follow medical advice or engages in actions that contribute to their own harm , which reduces or nullifies the liability of the doctor. In this case: The doctor gave appropriate care and advice . The patient disregarded medical instructions and used alternative (ayurvedic) therapies . These actions directly contributed to the deterioration of the condition. Indian courts recognize contributory negligence as a valid defense in medical negligence cases. If it is shown that the patient’s non-compliance or independent actions played a role in the adverse outcome, the doctor’s liability can be reduced or even negated Thus, contributory negligence can protect the doctor from full liability. Vicarious liability (Option A): Refers to liability of an employer (e.g., hospital) for the actions of its employee. It does not apply to a private consultant being sued personally. Res Ipsa loquitur (Option B): Means "the thing speaks for itself". It is used when negligence is obvious , e.g., leaving a surgical instrument inside the body. In this case, the deterioration was not clearly due to the doctor's action. Therapeutic misadventure (Option C): Refers to an adverse event despite proper therapy , typically unavoidable or rare. Not applicable here as the decline was due to non-compliance , not an unexpected drug reaction or intervention.

References:

https://pmc.ncbi.nlm.nih.gov/articles/PMC5531144/

↑ *Back to this question in Part A*

@Neet_pg_bot

Q12: Which of the following statements is incorrect regarding cross-examination in a court of law? (Q793564)

A. The witness is questioned by the defense lawyer

B. Leading questions are not permitted

C. The purpose is to challenge or weaken the opponent’s case

D. There is no fixed time limit for cross-examination

Correct Answer: B. Leading questions are not permitted

Explanation: Correct Option B - Leading questions are not permitted The statement " Leading questions are not allowed" is incorrect regarding cross-examination in a court of law. In fact, leading questions are often used during cross-examination to elicit specific information or to challenge the witness's testimony, under section 143 IEA. Therefore, the statement "Leading questions are not allowed" does not apply during cross-examination in a court of law. The witness is questioned by the defense lawyer (Option A): True - Cross-examination is conducted by the opposing party, often the defense if the prosecution presented the witness. The purpose is to challenge or weaken the opponent’s case (Option C): True - Cross-examination aims to test credibility and expose contradictions. There is no fixed time limit for cross-examination (Option D): True - Although judges may restrict excessive questioning, there is no predefined time limit .

References:

Prepladder Notes

↑ *Back to this question in Part A*

@Neet_pg_bot

Q13: Medical termination of pregnancy can be done upto 24 weeks in case of? (Q820252)

A. Congenital malformation

B. Minors

C. Contraception failure

D. Rape victim

Correct Answer: D. Rape victim

Explanation: Correct Option D -Rape victim: Medical termination of pregnancy can be done upto 24 weeks in case of rape victims Incorrect Options: Option A - Fetus malformation : Medical termination of pregnancy can be done beyond 24 weeks if the fetus is found to have severe malformations or abnormalities that are incompatible with life or would result in significant physical or mental challenges for the child. Option B - Minors : Minors generally require parental or guardian consent for medical procedures, including abortion. The laws regarding abortion for minors can vary by country and jurisdiction, but typically there are provisions for involving parents or guardians in the decision-making process. Option C - Contraception failure: Medical termination of pregnancy is not typically allowed solely due to contraception failure. However, if the failure of contraception leads to unwanted pregnancy and the woman's health or life is at risk, abortion might be considered based on medical assessment.

References:

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↑ *Back to this question in Part A*

@Neet_pg_bot

Q14: A doctor was summoned as a public witness to appear and record his evidence in court. What is correct about this witness? (Q820282)

A. Oral evidence

B. Common witness

C. Expert witness

D. Hostile witness

Correct Answer: C. Expert witness

Explanation: to the court on medical matters, then they would be considered an expert witness Incorrect Options: Option A - Oral evidence: Oral evidence refers to the testimony or statements provided by witnesses verbally in court. This option does not accurately describe the scenario in which a doctor is summoned as a witness. The scenario mentioned doesn't specifically emphasize the mode of evidence (oral or written) but focuses on the role of the witness. Option B - Common witness: There is no standard term called "common witness." Witnesses can be categorized based on various factors, but this terminology isn't commonly used. The scenario doesn't provide enough information to suggest that the doctor in question is a "common witness." Option D - Hostile witness: A hostile witness is a term used to describe a witness who is uncooperative or openly antagonistic towards the party that called them to testify. This option is not applicable to the scenario provided, where a doctor is summoned as a public witness to record evidence in court.

↑ *Back to this question in Part A*

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