1. **Synaptic transmission between pain fibers from the skin and spinal cord neurons is mediated by:**

a) Acetylcholine

b) Substance P

c) Endorphins

d) Somatostatin

Correct Answer - B
Substance P is found in neurons within the hypothalamus and spinal cord. It is released from small A delta and C fibers that relay information from nociceptors to neurons within the substantia gelatinosa of the spinal cord. Endorphins and other opioid neurotransmitters may partially inhibit the perception of pain by presynaptically inhibiting the release of substance P from nociceptor afferent fibers.

2. Muscle relaxant not to be used in liver failure:

a) d- Tubocurare

b) Pancuronium

c) Suxamethonium

d) Decamethonium

Correct Answer - B
Among muscle relaxants metabolism in liver occurs with pancuronium (10-20%), vecuronium (20%)
and biliary excretion occurs with rocuronium (40%). vecuronium (30-40%) and pancuronium (10%). So these agents should be avoided in hepatic diseases. Suxamethonium effect is prolonged in only in severe liver failure due to decreased pseudocholinesterase, so is usually acceptable in mild to moderate cases.

3. Which of the following are theories of regional anesthesia

a) Specificity Theory & Gate Control Theory

b) Speci fic Receptor Theory & Gate Control Theory

c) Specific Receptor Theory & Membrane Expansion Theory

d) Specificity Theory & Membrane Expansion Theory

Correct Answer - C

(Ref: Malamed, Ed. 5th Pg-12)

• The nerve membrane is the site at which local anesthetics exert their pharmacological actions.

The following theories have been given over the years to explain the mechanism of action of local anesthetics-

- The Acetylcholine theory.
- The Calcium Displacement theory.
- The Surface Charge (Repulsion) theory.
- The membrane Expansion theory.
- The Specific Receptor theory.

• The Specific Receptor theory is the most accepted one. It proposes that the local anesthetics act by binding to specific receptors on the sodium channel.

4. Which of the following statements about prolactin is correct?

a) Prolactin initiates ovulation

b) Prolactin causes milk ejection during suckling

c) Prolactin inhibits the growth of breast tissue

d) Prolactin secretion is tonically inhibited by the hypothalamus

Correct Answer - D
Unique among the pituitary hormones, prolactin secretion is tonically inhibited by the hypothalamus. Prolactin is a single-chain protein secreted by the anterior pituitary whose principal physiologic effects involve breast development and milk production. Consistent with its role in lactogenesis, prolactin secretion increases during pregnancy Dopamine has many characteristics of the hypothalamic inhibitory factor, although it is not found in the hypothalamus.

5. Which of the following is true about autonomic nervous system?

a) The sympathetic outflow from the CNS is throughboth the cranial nerves and sympathetic chain

b) The parasympathetic outflow from the CNS is through the cranial nerves only

c) The superior hypo gastric Plexus is located at the anterior aspect of the aortic bifurcation and the fifth lumbar vertebrae

d) The superior hypo gastric Plexus contains sympathetic chain

Correct Answer - C
The sympathetic preganglionic fibers leave the spinal cord with ventral roots of spinal cord between first thoracic and second lumbar segment called thoracolumbar divison. The nerve fibers leaving the CNS from the brain and sacral portion of spinal cord is via III, VII, IX and X cranial nerves and second and fourth spinal nerves. Hollow viscera like stomach have dual innervation from both sympathetic and parasympathetic division: hypogastric plexu. This enables a very fine degree of control over the effect or organ .

6. The “Knot” in judicial hanging is placed at:

a) The back of the neck

b) The side of the neck

c) Below the chin

d) Only left side of neck

Correct Answer - C
Below the chin.
A common and effective method of Judicial hanging is by putting the knot beneath the chin onto the neck. Though the knot can be placed on the side of the neck also.

7. Prevention of human brucellosis depends primarily on

a) Pasteurization of dairy products derived from goats, sheep, or cows

b) Treatment of human cases

c) Control of the insect vector

d) Immunization of farmers and slaughterhouse workers.

Correct Answer - A
Prevention of human brucellosis depends on pasteurization of dairy products from cows, goats, and sheep; education of farmers and workers in the livestock industry as to the dangers of infected animals; and care in handling products from aborted animals. There is no insect vector. No vaccine for human use is available. Since person-to-person transmission does not occur, treatment of individual cases will not control spread of brucellosis. Destruction of infected animals will prevent transmission to other animals and is a method to control an outbreak in animals. Vaccine is available for livestock, for prevention but not control of outbreak. Immunity from the vaccine lasts only two years.

8. A 70 yr old man presents with a h/o prosopagnosia, loss of memory, 3rd person hallucinations since 1 month. On examination deep tendon reflexes are increased, mini mental state examination score is 20/30. What is the most likely diagnosis?

a) Dissociated dementia

b) Schizophrenia

c) Depression

d) Cortical dementia

Correct Answer - D
Loss of memory is found in dementia in old age .Though there is 3rd person hallucination which can also be present in dementia depression mania but history of increase in deep tendon reflexes and MMSE score 20 or less, points towards dementia

9. Parboiling of paddy helps in retaining:

a) Vitamin C

b) Vitamin A

c) Niacin

d) Thiamine

Correct Answer - D
(Thiamine)
♦Parboiling (partial cooking in steam) is ancient Indian technique of preserving the nutritive quality of rice.
♦Technique of parboiling recommended by Central food technological research institute, Mysore is known as the **'hot soaking process'**.
♦The process starts with soaking the paddy (unhusked rice) in hot water at 65-70oC for 3-4 hours, which swells the grain, which is followed by draining of water and steaming the soaked paddy in the same container for 5-10 minutes. The paddy is then dried, and later home-pounded or milled.

10. Reissner membrane seperates:

a) Scala Vestibuli from Scala media

b) Scala tympani from scale Vestibuli

c) Scala tympani from Scala media

d) None of the above

Correct Answer - A
Reissner membrane separates scala vestibule from scala media.

11. Indications for instituting single-agent chemotherapy following evacuation of a hydatidiform mole usually include

a) A rise in hCG titers

b) A plateau of hCG titers for 1 week

c) Return of hCG titer to normal at 6 weeks after evacuation

d) Appearance of liver metastasis

Correct Answer - A

(Mishell, 3/e, pp 455–456.) Single-agent chemotherapy is usually instituted if levels of hCG remain elevated 8 weeks after evacuation of a hydatidiform mole. Approximately 50% of the patients who have persistently high hCG titers will develop malignant sequelae. If hCG titers rise or reach a plateau for 2 to 3 successive weeks following molar evacuation, a single-agent chemotherapy should be instituted, provided that the trophoblastic disease has not metastasized to the liver or brain. The presence of such metastases usually requires initiation of combination chemotherapy.

12. Human papillomavirus is most commonly associated with

a) Rectal polyps

b) Prostate cancer

c) Condyloma acuminatum

d) Hepatic carcinoma

Correct Answer - C
Papillomavirus infects the skin or mucosa and causes benign tumors. The lesion is termed condyloma acuminatum. These tumors may undergo malignant conversion and become squamous cell carcinomas. Classification of the human papillomavirus is done by DNA hybridization, and to date 46 types have been recognized. Some types, such as 16 and 18 are more frequently associated with carcinoma, while others, such as 6 and 11, are associated with benign tumors or warts.

13. In dislocation of the jaw, displacement of the artucular disk beyond the articular tubercle of the temporomandibular joint result from spasm or excessive contraction of which of the following muscles?

a) Buccinators

b) Lateral pterygoid

c) Medial pterygoid

d) Masseter

Correct Answer - B
The temporalis masseter and medial and lateral pterygoid muscles are the muscles of mastication that attach to the mandible. The buccinator muscle, which controls the contents of the mouth during mastication, is innervated by the seventh cranial nerve and constitutes the *chief muscle of facial expression*. The lateral pterygoid muscles, acting bilaterally protract the jaw and, acting unilaterally rotate the jaw during chewing. Because the fibers of the superior head of the lateral pterygoid muscle insert onto the anterior aspect of the articular disk of the temporomandibular joint as well as onto the head of the mandible, spasm of this muscle, such as in a yawn, can result in dislocation of the mandible by pulling the disk anterior to the articular tubercle Reduction is accomplished by pushing the mandible downward and back, so that the head of the mandible reenters the mandibular fossa. The temporalis, medial pterygoid and masseter muscles primarily elevate the jaw in molar

occlusion

14. A 35-year-old construction worker presents with complaints of nocturnal parasthesias of the thumb and the index and middle fingers. There is some atrophy of the thenar eminence. Tinel sign is positive. The most likely diagnosis is

a) Carpal tunnel syndrome

b) De Quervain's tenosynovitis

c) Amyotrophic lateral sclerosis

d) Rheumatoid arthritis of the wrist joint

Correct Answer - A
(Braunwald, 15/e, pp 1984–1986.) Carpal tunnel syndrome results from median nerve entrapment and is usually due to excessive use of the wrist. The process has been associated with thickening of connective tissue as in acromegaly, or with deposition of amyloid. It also occurs in hypothyroidism, rheumatoid arthritis, and diabetes mellitus. As in this patient, numbness occurs in the distribution of the median nerve. Later in the process, atrophy of the abductor pollicis brevis becomes apparent. The Tinel sign (parasthesia induced in the median nerve distribution by a reflex hammer hitting on the volar aspect of the wrist) is very characteristic. De Quervain's tenosynovitis causes focal wrist pain on the radial aspect of the hand and is due to inflammation of the tendon sheath of the abductor pollicis longus. It should not produce a postive Tinel sign. Amylotrophic lateral sclerosis may present with distal muscle weakness that is diffuse and not focal. Diffuse atrophy and

muscle fasiculations would be prominent. Rheumatoid arthritis would not produce these symptoms unless inflammation of the wrist was causing median nerve entrapment in the carpal tunnel.

15. A patient develops pulmonary thromboembolism due to?

a) DIC

b) Coagulation disorder

c) DVT

d) Venous hypertension

Correct Answer - C
DVT REF: Harrison 17th ed chapter 265
When venous thrombi dislodge from their site of formation, they embolize to the pulmonary arterial circulation or, paradoxically, to the arterial circulation through a patent foramen ovale or atrial septal defect. About half of patients with pelvic vein thrombosis or proximal leg DVT develop PE, which is usually asymptomatic. Isolated calf vein thrombi pose a much lower risk of PE, but they are the most common source of paradoxical embolism.

16. Definitive treatment of hypermagnesemia is?

a) Calcium gluconate

b) IV fluids

c) Hemodialysis

d) Exchange resins

Correct Answer - C
Hemodialysis REF: Harrison's 17th ed chapter 346
HYPERMAGNESEMIA: TREATMENT
Successful treatment of hypermagnesemia generally involves identifying and interrupting the source of magnesium and employing measures to increase magnesium clearance from the BCF. Use of magnesium-free cathartics or enemas may be helpful in clearing ingested magnesium from the gastrointestinal tract. Vigorous IV hydration should be attempted, if appropriate. Hemodialysis is effective and may be required in patients with significant renal insufficiency. Calcium, administered IV in doses of 100-200 mg over 1-2 h, has been reported to provide temporary improvement in signs and symptoms of hypermagnesemia.

17. Drug of choice for trigeminal neuralgia is?

a) Chlorpromazine

b) Carbamezapine

c) Gabapentine

d) Fluoxetine

Correct Answer - B

Carbamezapine REF: Harrison's 17th ed chapter 371

- Drug of choice for trigeminal neuralgia - Carbamezapine
- If drug treatment fails, surgical therapy should be offered. The most widely applied procedure creates a heat lesion of the trigeminal (gasserian) ganglion or nerve, a method termed radiofrequency thermal rhizotomy.
- Gamma knife radiosurgery is also utilized for treatment
- A third surgical treatment, microvascular decompression to relieve pressure on the trigeminal nerve as it exits the pons, requires a suboccipital craniotom

18. Both APTT and PT are prolonged in which conditions?

a) Factor II deficiency

b) Factor XIII deficiency

c) Heparin administration

d) Thrombocytopenia

Correct Answer - A
Factor II deficiency
REF: Mastery of Surgery by Josef E. Fischer, K. I. Bland, 5th edition Part I page 90, Saint-Frances guide: clinical clerkship in outpatient medicine. Page 434 & 235, Harrison 17th ed table 59-4
See APPENDIX-50 for "BLEEDING/COAGULATION DISORDERS" and APPROACH TO A PATIENT WITH BLEEDING DISORDER

19. Hyperkalemia without ECG changes may be treated with all except â€‘

a) Calcium gluconate

b) Salbutamol

c) Na bicarbonate

d) Insulin with dextrose

Correct Answer - A

Calcium gluconate [Ref Harrison 17/c p. 284]

- Calcium gluconate is the fastest acting agent used in t/t of hyperkalemia.
- *In acts within minutes but an important point to note is that it does not cause transcellular movement of potassium, instead it acts on cell membrane.*

  - it stabilizes the cardiac: cell membrane and reduces chances of cardiac anyhthmia...

  - Thus it has no use when there are no E.C.G.. features.

<u>NaHCO3</u>

- NaHCO3 has been routinely used in the treatment of hyperkalemia.
- It was believed that NaHCO3 caused movement of potassium inside the cells by causing alkalosis.
- But studies do not support this

  - They claim that NaHCO3 do not cause movement of potassium inside the cells in acute cases of hyperkalemia. - It only decreases potassium when there is coexisting acidosis.

  - $NaHCO_3$ can decrease potassium level in chronic hyperkalemia. It increases potassium delivery to the kidney.
- But the use of $NaHCO_3$ still continues in most hospitals and

institutes across the world.
- It is now hypothesized that $NaHCO_3$ does not cause r entry inside the cell by mechanism earlier believed to he, but by another mechanism.

- The question does not say anything about acidosis.
- Don't think that acidosis occurs only in severe hyperkalemia.
- Most patients with C.R.F. present with acidosis and mild moderate hyperkalemia.
  In hyperkalemia with no E.C.G. feature, calcium prophylaxis is not indicated
  - Calcium gluconate is administered to stabilize the cardiac membrane
  - Instability of the cardiac membrane is indicated by E.C.G. changes
  - Absence of E.C.G. changes suggest that the cardiac membrane is stable. In these cases there is no use of calcium administration.
- *Prophylactic calcium gluconate is of no use.*

20. Commonest site of bone involvement in hematogenous osteomyelitis:

a) Metaphysis

b) Diaphysis

c) Epiphysis

d) Point of entry of the nutrient artery

Correct Answer - A

Metaphysis *[Ref Maheshwari 3/e p157; Apley's 9/e p30 (8/e p27)]Repeat from May 09*

- Acute osteomyelitis is almost invariably a disease of *children.* When adults are affected it may be because their resistance is lowered by debility, disease or drugs.
- Acute osteomyelitis may result from hematogenous spread of the infecting organism, or may be infected secondarily from the spread of a contiguous area of infection, or direct inoculation of bacteria in the bone (open fractures, nail punctures of the foot).
- Hematogenous spread is the commonest means of production of osteomyelitis.
- Commonest site is metaphysic. This is because of the peculiar arrangement of the blood vessels in that area, which leads *to* relative vascular stasis, favouring bacterial colonization.

[The nutrient artery of the long bone divides within the medullary canal of the bone, ending in small arterioles that ascend toward the growth plate. Just beneath the growth plate (physis), these arterioles twist back away from the physis and empty into venous lakes that drain into the medullary cavity. This peculiar hair-pin loop arrangement leads to relative vascular stasis and predisposes the nzetaphysis for osteomyelitis.]

- Commonest site: Lower femoral metaphyses > Upper tibial, upper femoral, upper humeral metaphyses.
- Acute hematogenous osteomyelitis behaves differently in neonates from the way it does in children. Because blood vessels cross the growth plate in neonates and infants younger than age 18 months, the bone infection that develops in that age group will likely cross the physis; however, in older children, acute infections rarely cross the growth plate.
- In adults, hematogenous infection is more common in the vertebrae than in the long bones.

21. **Which among the following is TRUE regarding mallet finger?**

a) Avulsion of tendon at the base of the middle phalanx

b) Avulsion of extensor tendon at the base of the distal phalanx

c) Fracture of distal phalanx

d) Fracture of the proximal phalanx

Correct Answer - B
The mallet finger deformity is characterized by a loss of full active distal interphalangeal joint extension with full passive ROM evident. The mallet finger reflects the loss of normal extensor force transmission via the terminal tendon insertion onto the distal phalanx.
The unopposed flexor digitorum profundus pulls the distal joint into flexion.
The usual mechanism of injury involves sudden passive flexion of the actively extended distal interphalangeal joint.
Disruption of the terminal tendon may be entirely confined to the tendon or may involve an avulsed fracture fragment from the dorsal lip of the distal phalanx proximal articular surface.

Ref: Bednar M.S., Light T.R. (2006). Chapter 10. Hand Surgery. In H.B. Skinner (Ed), CURRENT Diagnosis & Treatment in Orthopedics, 4e.

22. **Most common nerve involved in supracondylar fracture of humerus is:**

a) Radial nerve

b) Ulnar nerve

c) Median nerve

d) Anterior Interosseous nerve

Correct Answer - D

Nerve injuries occur in about 40% of type III (Gartland's classification) supracondylar fractures. Studies indicate that the anterior interosseous branch of median nerve is mostly affected.

Nerve involvement differ with the type of fracture.

- Anterior interosseous nerve is mostly affected during posterolateral displacement of the distal fragment
- Radial nerve is mostly affected with posteromedial displacement
- Ulnar nerve is involved in flexion type of supracondylar fracture

Ref: Nerve and vascular injuries in Sports medicine, by Venu Akathota, Stanley A.Herring, Page 76, 77; The elbow and its disorders By Bernard F. Morrey, Joaquin Sanchez-Sotelo, Page 226.

23. **Bilateral congenital dislocation of hip is associated with all, EXCEPT:**

a) Lordotic spine

b) Excess genu valgum

c) Waddling gait

d) Shelton's line deformity

Correct Answer - B

Widening of perineum and marked lumbar lordosis is the striking feature of B/L dislocation of hip.
In a child with b/l dislocation of hip, there is alternate lurching on both sides **(Waddling gait).** A **child with u/l dislocation exhibits a typical gait** in which the body lurches to the affected side **(Trendelenburg's gait).**

Girls are affected six times more than boys and usually have short stature
X-ray shows breaks in shenton's line (It is an imaginary semicircular line joining medial cortex or femoral neck to lower border of the superior pubic ramus)

Etiology includes: genetic factors, hormonal factors in last weeks of pregnancy, breech malposition, postnatal factors (there is experimental evidence that simultaneous hip and knee extension leads to the dislocation during early development)
Barlow's test, ortolani's test, Telescopy test, Trendelenburg test and Galeazzi's sign may be positive.

Also know

Maintenance of reduction is done by cast: Frog leg/Lorenz cast or Bachelor cast and by splint: Von Rosen splint
Acetabular reconstruction procedure are: salter's osteotomy, Chiari's displacement osteotomy and pemberton's pericapsular osteotomy.

Ref: Apley's 8/e, Page 409-17; Maheshwari 3/e, Page 200-05.

24. **The ideal treatment of bilateral idiopathic clubfoot in a newborn is:**

a) Manipulation by mother

b) Manipulation and Dennis Brown splint

c) Manipulation and casts

d) Surgical release

Correct Answer - A

Manipulation by mother is the only recommended treatment in a new born neonate till the child is about four weeks (1 month) of age when the infant can tolerate strapping or corrective plaster application.

Ref: Essential Orthopedics, 3rd Edition By J Maheswari, 3rd Edition, Pages 196, 199.

25. Avascular necrosis of bone is most common in

a) Scapula

b) Scaphoid

c) Calcaneus

d) Cervical spine

Correct Answer - B
B i.e. Scaphoid
They are:
l. The head of the femur (after fracture of the femoral neck or dislocation of the hip).
2. The proximal part of the scaphoid (afterfracturethroughitswaist).
3' The lunate (following dislocation)
4. The body of the talus (after fracture of its neck)

26. Dashboard injury results in

a) Anterior dislocation of hip

b) Posterior dislocation of hip

c) Central dislocation of hip

d) Fracture neck femur

Correct Answer - B
B i.e. Posterior dislocation of hip

27. Fracture shaft of femur in children of less than 2 years old is treated by:

a) Open reduction

b) External fixation

c) Gallow's traction

d) Closed reduction

Correct Answer - C
C i.e. Gallow's traction

28. MC comp. of # talus is

a) Avascular necrosis

b) Non union

c) Osteoarthritis of ankle joint.

d) Osteoarthritis of subtalar joint.

Correct Answer - A
A i.e Avascular necrosis

29. Torsion of knee results in injury most commonly to :

a) Torsion of knee results in injury most commonly to :

b) Medial meniscus

c) Fibular collateral ligament

d) Tibial collateral ligament

Correct Answer - D
D i.e. Tibial collateral ligament

- Most knee ligament injuries occur while the *knee is bent* i.e. when the capsule and ligaments are relaxed and the *femur is allowed to rotate on tibia.*
- *Injury to the medial (tibial) collateral ligament is the most common knee ligament injuryQ*
- The medial structures are most often affected but if the injury has a twist in addition to a valgus force the ACL may also be damaged. The twisting force in a weight bearing knee often ters the medial meniscus, causing a well recognized *trid of* MCL, *ACL, and medial meniscus injuryQ.* ("unhappy traid of 0' Donoghue")

30.

Which part of the spine is most commonly affected in Rheumatoid arthritis:

a) Cervical

b) Lumbar

c) Thoracic

d) Sacral

Correct Answer - A
Answer *is* **A (Cervical):**
Rheumatoid arthritis commonly involves the joints of hands, wrist, elbow, knees, ankle, and feet in a symmetrical manner.
Axial skeleton involvement is usually limited to Upper Cervical Spine.

31. Earliest sign in X-ray in TB spine is:
March 2011

a) Paravertebral shadow

b) Narrowing of disc space

c) Gibbus

d) Straightening of spinal curves

Correct Answer - B
Ans. B: Narrowing of disc space
Reduction of the disc space is the earliest sign in the commoner, paradiscal type of tuberculosis
Skeletal TB:

- Earliest symptom of spinal TB: Back pain
- Earliest sign in Pott's disease: Narrowing of disc space
- MC vertebrae to be involved in TB spine: T9-T12
- TB spine starts in: Vertebral body (paradiscal)
- Spina ventosa: TB dactylitis

32. Cubital tunnel syndrome involves:
March 2013 (c, f)

a) Radial nerve

b) Ulnar nerve

c) Median nerve

d) Axillary nerve

Correct Answer - B
Ans. B i.e. Ulnar nerve
When the ulnar nerve compression occurs at the elbow, it is called "cubital tunnel syndrome."

33. Carpal tunnel syndrome is due to involvement of which nerve: *March 2009*

a) Radial nerve

b) Median nerve

c) Ulnar nerve

d) Axillary nerve

Correct Answer - B
Ans. B: Median Nerve

34. Cozen's test is used for the diagnosis of ?

a) Tennis elbow

b) Golfer's elbow

c) Base baller's pitcher elbow

d) Carpal tunnel syndrome

Correct Answer - A

Ans. is 'a' i.e., Tennis elbow

Signs and Tests

- Adson's test : for thoracic outlet syndrome
- Allen's test : for testing patency of radial and ulnar arteries
- Alli's test : for CDH
- Anvil test : for testing tenderness of the spine
- Ape thumb : for median nerve injury
- Apley's grinding test :for meniscus injury
- Apprehension test : for recurrent dislocation of the shoulder
- Barlow's test : for CDH
- Blue sclera : Osteogenesis imperfecta
- Bryant's test : for anterior dislocation of the shoulder
- Callways' test : for anterior dislocation of the shoulder
- Chovstek's sign : for tetany
- Claw hand : for ulnar nerve injury
- Coin test : for dorso lumbar tuberculosis of spine
- Cozen's test : for tennis elbow
- Drawer test : for ACL and PCL injutries
- Anterior : for ACL injury
- Posterior : for ACL injury
- Finkelstein's test : for de Quervain's tenovaginitis
- Foot drop : for common peroneal nerve injury

- Froment's sign : for ulnar nerve injury
- Gaenslen's test: for SI joint involvement
- Galleazzi sign : for CDH
- Gower's sign : for musular dystrophy
- Hamilton ruler test : for anterior dislocation of the shoulder
- Kanavel's sign : for infection in ulnar bursa
- Lasegue's test: for disc prolapse
- Lachmann test : for ACL injury
- Ludloffs sign: for avulsion of lesser trochanter
- McMurray's test : for meniscus injury
- Nagffziger test : for disc prolapse
- Ober's test : for tight ilio- tibial band (e.g., in polio)
- O' Donoghue triad: traid of MCL, ACL & medial meniscus injuries occurring together
- Ortolani's test : for CDH
- Pivot shift test : for ACL injury
- Policeman tip : for Erb's palsy
- Runner's knee : Patellar tendinitis
- Sulcus sign: for inferior dislocation of the shoulder
- Thomas' test : for hip flexion deformity
- Trendelenburg's test: for unstable hip due to any reaseon (e.g., CDH)
- Tinel's sign: for detecting improving nerve injury
- Volkmann's sign : for ischaemic contracture of forearm muscles
- Wrist drop : for radial nerve injury

35. High stepping gait is seen in ?

a) CTEV

b) Common peroneal nerve palsy

c) Polio

d) Cerebral palsy

Correct Answer - B
Ans. is 'b' i.e., Common peroneal nerve palsy

36. Trendelenberg test is positive in palsy of

a) Gluteus maximus

b) Gluteus medius

c) Rectus femoris

d) Vastus medialis

Correct Answer - B

Ans. is 'b' i.e., Gluteus medius

<u>Trendelenberg test</u> :

- It tests the stability of the hip and particularly of the abductor mechanism of the limb on which the patient is standing.
- Principle of the test :

1. *Normally when one leg is raised from the ground the pelvis tilts upwaras on that side, through the action of the hip abductors of the standing limb.*
2. *If the abductors are inefficient they are unable to sustain the pelvis against the body weight and it tilts downwards instead of rising up on the side of the lifted leg.*
3. Note that the test is performed with the patients standing on the affected leg.

- Abductor mechanism :
- It can be compared with the lever, with the body weight being trying to tilt the pelvis down; the hip joint being the fulcrum and the abductor muscles being the power acting throught the lever arm (from the head of the femur to attachment of the abductor muscles on the greater trochanter - the neck of the femur).

Causes of positive trendelenberg test :

- *Any failure of abductor mechanism causes dipping of the pelvic (ASIS) on the normal side.*

- There are three fundamental causes :
  1) *Paralysis of the abductor muscles (Supplies gluteus medius & minimus)*
- *eg. Polio.*
- *Paralysis of superior gluteral nerve*
  2) *Marked approximation of the insertion of the abductor muscles to their origin by upward displacement of the greater trochanter ; so that the muscles are slack.*
- *eg. Severe coxa vara,*
- *dislocation of hip*
  3) *Absence of stable fulcrum & lever arm about which the abductor muscles can act*
- *Neck femur fracture*
- *Dislocation of hip,*
- *Destructruction of head as in Perthe's diseases.*

37. Motorcyclist's fracture is ?

a) Stellate fracture across base of skull

b) Transverse fracture across base of skull

c) Lamina fracture of CI vertebra

d) Spinous process fracture of C7 vertebra

Correct Answer - B

Ans. is `b' i.e., Transverse fracture across base of skull

Motorcyclist's fracture

- Because of the inherent instability of two wheeled vehicles, the rider and passanger inevitably fall to the ground in a crash. Injuries can occur to any part of the body, but the limbs and head are particularly susceptible to serious injury.
- Impact with the road surface or another vehicle at speed often causes skull fracture, even in the presence of a helmet.
- A *transverse fracture* across the *floor of the skull,* usually called a *"hinge fracture",* is sometimes referred to as *motorcyclist fracture.* At autopsy, the *base of the skull* may be appriciated to have divided into two halves, each moving independently of each other like a hinge, the so-called motorcyclist fracture.

38. Paget's disease commonly develops in which age group ?

a) 1st decade

b) 3rd decade

c) 5th decade

d) 7th decade

Correct Answer - C

Ans. is 'c' i.e., 5th decade

Paget's disease (Osteitis deformans)

Paget's disease is characterized by increased bone turnover and enlargement and thickening of the bone, but the internal architecture is abnormal and the bone is usually brittle.

Primary defect is in osteoclasts with increased osteoclastic activity. This results secondarily increase in osteoblastic activity (normal osteoclasts and osteoblasts act in a co-ordinated manner).

So, *characteristic cellular change is a marked increase in osteoclastic and osteoblastic activity.*

Bone turnover is acclerated, plasma alkaline phosphatase is raised (a sign of osteoblastic activity) and there is increased excretion of hydroxyproline in urine (due to osteoclastic activity).

The pelvis and tibia being the commonest sites, and femur, skull, spine (vertebrae) and clavicle the next commonest.

Paget's disease occurs after 40 years of age and is more common in males.

39. Clubfoot features are all except?

a) Forefoot adduction

b) Eversion at sub-talar joint

c) Forefoot adduction at mid-tarsal joint

d) Plantar flexion of ankle

Correct Answer - B

Ans. is 'b' i.e., Eversion at sub-talar joint

CTEV is the commonest and most important congenital deformity of the foot.

The deformity consists of following elements :-

i. *Equinus,* i.e. Plantar flexion at ankle joint (tibiotalar joint)
i. *Inversion of foot* at subtalar joint (talocalcaneal joint)
i. *Forefoot adduction,* at mid-tarsal joints, especially at talo-navicular joint.
v. Sometimes *forefoot cavus,* i.e. excessive arching of the foot at mid-tarsal joints.

40. Which of the following is true about skeletal tuberculosis in children?

a) Most common sites are hip (40%), Spine (20%), Knee (10%)

b) Most common site is upper limb

c) Dorsolumbar spine is most commonly affected

d) Progression to kyphosis deformity is least with lumbar lesions

Correct Answer - D

Ans. is 'd' i.e., Progression to kyphosis deformity is least with lumbar lesions

Tuberculosis in children

Extra-pulmonary tuberculosis accounts for 5 - 10% of total cases of tuberculosis in children o About 1/3 of children with tuberculosis have extrapulmonary tuberculosis

The most common mode of presentation in a child less than 2 years is development of a gibbusof the dorsal area. o Under the age of four, backache in children should be regarded as pathological unless and until proved otherwise. o MRI cannot differentiate between pyogenic or tuberculous infection.

Vertebral tuberculosis is the most common form of skeletal tuberculosis in children, accounting for 50% of all cases in reported series. Approximate distribution in the skeleton are spine (50%), hip (20%), knee (10%), ankle and foot (5%), hand and wrist (3%), elbow (2%), shoulder (1 %), bursal sheaths and other bones (8%)

The thoracic spine is most commonly affected; the radiological features include bone marrow oedema and enhancement, posterior element involvement, canal stenosis, and spinal cord or nerve root compression. Inter-vertebral disc enhancement, vertebral collapse and kyphosis deformity are particularly suggestive of tuberculosis.

Those with dorsal lesions have maximal deformity at the time of presentation, partly due to the additive effect of the normal thoracic kyphosis. However, the rib cage offers protection against additional collapse. Patients with dorsolumbar lesions have the worst prognosis as they tend to collapse more during the active phase of the disease and even more during the growth period. Those with lumbar lesions have the best prognosis with the least deformity at presentation, a lesser increase during the active phase, and also a tendency for substantial decrease during the growth period.

41. Pulp space infection painful due to?

a) Dense fibrous septae

b) Small phalynx

c) Rich blood supply

d) Rich nerve supply

Correct Answer - A

Ans. is 'a' i.e., Dense fibrous septae

Pulp space infection (felon)

- Pulp space infection with pus trapped between the specialised fingertip septae causes intense fingertip pain.
- It may lead to terminal phalangeal bone infection, erosion and sequestrumformation.The last of these will need to be drained and debrided.
- A common differential diagnosis with small vesicles and crusts is the self-resolving herpetic whitlow, especially in dental workers, caused by the herpes simplex virus.

42. Tinel sign is seen in ?

a) Nerve degeneration

b) Nerve regeneration

c) Muscle degeneration

d) Muscle regeneration

Correct Answer - B

Ans. is 'b' i.e., Nerve regeneration

<u>Pathological changes after nerve injury</u>

- After nerve injury, nerve first degenerates and then tries to regenerate.

Nerve degeneration

- The part of the neurone distal to the point of injury undergoes *secondary or Wallerian degeneration;* the proximal part undergoes primary or retrograde degeneration upto a single node.

Nerve regeneration

- As regeneration begins, the axonal stump from the proximal segment begins to grow distally. If the endoneural tube with its contained Schwann cells is intact, the axonal sprout may readily pass along its primary course and reinnervate the end-organ. *The rate of recovery of axon is 1 mm per day.* The muscles nearest to the site of injury recovers first, followed by others as the nerve reinnervates muscles from proximal to distal, the so-called *motor march.*
- When the skin over the nerve is percussed gently from distal to proximal, the patient gets a tingling sensation if the nerve is recovering. This is called Tinel's sign and is a sign of recovery.

43. Cause of Dupuytren's contracture is

a) DM

b) Alcohol

c) Smoking

d) All of the above

Correct Answer - D
Ans. is `d' i.e., All of the above
Dupuytren's contracture is characterized in the established phase by flexion contracture of one or more fingers from thickening and *shortening of palinar aponeurosis.*
The exact etiology is unknow; However, the condition is more commonly associated with following conditions :-

i. *Epileptics taking phenytoin*
i. *Alcoholic cirrhosis*
i. *Diabetes*
v. AIDS
v. Smoking
i. *Pulmonary TB*

- *Often both hands are affected (Bilateral disease),* one more than the other.
- The earliest sign is a small thickened nodule in the mid-palm opposite the base of ring finger.
- *Gradually this extends distally to involve the ring or little finger.*
- There is a rare, curious association with fibrosis of the corpus Cavernosum.

44. CPPD crystals are seen in which disease ?

a) Hypothyroidism

b) Primary hyperparathyroidism

c) Hemochromatosis

d) All of the above

Correct Answer - D
Ans. is 'd' i.e., All of the above
Pseudogout (with CPPD crystals) may be associated with-
. Primary hyperparathyroidism
. Hemochromatosis
. Hypomagnesemia
. Hypophosphatasia

45. Commonest shoulder dislocation

a) Preglenoid

b) Subcoracoid

c) Posterior

d) Subclavicular

Correct Answer - A
Ans. is 'a' i.e., Preglenoid
Anterior dislocation of the shoulder is the *most common type of shoulder dislocation.* Head of the humerus comes out of the glenoid cavity and lies anteriorly. Anterior dislocation of shoulder could be : -

i. Preglenoid It is the *most common type* of anterior dislocation and head lies in front of glenoid.
i. Subcoracoid :- The head lies below the coracoid process.
i. Subclavicular (infraclavicular) :- The head lies below the clavicle.
v. Intrathoracic :- It is *very rare.*

46. Treatment of shaft femur fracture in a 3 years old boy?

a) Gallow's traction

b) Russel traction

c) Intramedullary nailing

d) Plating

Correct Answer - B
Ans. is 'b' i.e., Russel traction
In children, conservative treatment is given by:-
i) 0-2 yeas:- Plaster spica or modified Bryant or Gallov/s traction or pavllic harness (< 6 month of age).
ii) 2-10 years:- Split Russel traction.
iii) 10-15 years:- 90-90' femoral skeletal traction

47. Most common bone involved in haemangioma?

a) Femur

b) Tibia

c) Pelvis

d) Vertebrae

Correct Answer - D

Ans. is 'd' i.e., Vertebrae

Haemangioma

- This *benign lesion,* probably a *hemartoma,* is composed of vascular spaces lined by endothelial cells.
- They constitute *1-1.5% of all primary bone neoplasms.*
- It has a peak incidence in the *fifth decade* (according to Maheshwari, young adults).
- *About 50% of hemangiomas of bone occur in vertebrae and are most commonly situated in lower thoracic and upper lumbar regions.*
- *Other common site of involvement (20%) is skull.*
- Small bones of hands and feets may also be affected.
- Haemangioma of the vertebra has a typical radiographic picture in the form of *loss of horizontal striations and prominence of vertebral striations.* There is Polka dot appearance on CT.
- In the skull, hemangioma generally affects the calverium and is seen as an expansile lytic lesion which has a *sunburst appearance* with striation radiating from the centre.
- A hemangioma may be identified due to associated phlebolith and it *may cause local gigantism of the invovled area.*
- Hemangiomas are *largely asymptomatic,* and thus most are never discovered, leading some to describe these lesions as rare.

- Treatment is radiotherapy.

48. Golden hour of fracture femur is?

a) 1 hr after injury

b) 1 hr prior to injury

c) 1 hr after reaching the hospital

d) 1 hr after surgical procedure

Correct Answer - A
Ans. is 'a' i.e., 1 hr after injury
<u>Golden Hour</u>

- It is the first hour from the time of trauma.
- It is the most critical for life and for the limb viability following fracture femur.
- Best prognosis is for the patients with fracture femur are for those who reach the OR in the golden hour.
- The emergency medical team should not take more than 10 minutes from the time of trauma in patients with fracture femur to decide and start shifting the patient. This is described as "Platinum Ten".
- Thus,
- Golden hour -1 hour from the time of injury. Platinum hour - ten minutes from the time of injury.

49. Perthes disease etiology is?

a) Pyogenic

b) Tubercular

c) Traumatic

d) Unknown

Correct Answer - D

Ans. is 'd' i.e., Unknown

PERTHE'S DISEASE (LEGG-CALVE PERTHE'S DISEASE)

- Perthe's disease is also known as *osteochondritis deformans juvenilis or Coxa piano or Pseudocoxalgia.*
- Perthe's disease is an *osteochondritis of the epiphysis of the femoral head (capital femoral epiphysis).* In the disease, the femoral head becomes partly or wholly avascular and deformed. The disease occurs commonly in *males* in the *age group of 5-10 years.*

Etiology of Perthe's disease

- Perthe's disease is the *most common form of osteochondroses* (osteochondroses are characterized by avascular necrosis (AVN) and defective endochondral ossification of primary or secondary ossification centers).
- The etiology remains unknown, but is currently accepted that the disorder is caused by an *interruption of the blood supply to the capital femoral epiphysis, causing avascular necrosis.*

Clinical features of Perthes disease

- Perthes disease is common in *male of age group 5-10 years.*
- *Pain* in the hip, often radiating to knee.
- *Limp* (antalgic limp).
- Limitation of movement :- *Abduction, internal rotation and extension are limited,* therefore there is adduction, external rotation, and

flexion deformity.
- Shortening of limb.
- Positive trendelenburg test.
- During the disease process, bone age is 1-3 years lower than the normal. After healing, bone age returns to normal.

<u>Radiological investigations for Perthe's disease</u>

- Following radiological investigations are used :

1) X-ray hip

- Findings are :-

i. *Increased medial joint space*
i. *Widening of femoral neck*
i. *Lateral extrusion (lateral subluxation)*
*. *Metaphyseal cysts and rarefaction of metaphysis*
*. *Horizontal physis with speckled calcification lateral to it*
i. *Fragmentation of femoral head with increased density (irregular densities in the epiphysis)*

2) Bone scan

- May show a decrease uptake by femoral head.

3) MRI

- It is the *investigation of choice* as it can diagnose Perthes disease in early stages when X-ray is normal.
- MRI tells about :-

i. Extent of area involved
i. Sphericity of the head
i. Subluxation of the head

- Thus MRI helps better in planning for management.

50. Congenital dislocation of hip in older child most common sign appreciated is?

a) Barlow test

b) Ortolani test

c) Painful ROM

d) Limited abduction of Lower Limb

Correct Answer - D

Ans. is 'd' i.e., Limited abduction of Lower Limb

Clinical features of congenital dislocation of hip

lDevelopmental dysplasia of hip

- Girls are affected six times as often as boys. In one third of cases, bilateral affection occurs. Unless it is specially looked for in infancy - as it always should be - abnormality may not be noticed until the child begins to walk.
- The clinical findings in older child are :-

i. *Limitation of abductionand external rotation.*

i. Limb is in *adduction, internal rotation & flexion.*

i. Asymmetrical thigh fold

. Higher buttock fold on the affected side.

. *Galeazzi's sign :* The level of the knees are compared in a child lying with hip flexed to 70° and knees flexed. There is a lowering of the knee on the affected side

i. *Ortolani's test* may be positive.

i. *Trendelenbug's test is positive :* This test is performed in an older child. The child is asked to stand on the affected side. The opposite ASIS (that of the normal side) dips down .

i. The limb is short and slightly externally rotated. There is lordosis of the lumbar spine.

c. *Telescopypositive :* In a case of a dislocated hip, it will be possible to produce an up and down piston- like movement at the hip. This can be appreciated by feeling the movement of the greater trochanter under the fingers.
c. A child with unilateral dislocation exhibits a typical gait in which the body lurches to the affected side as the child bears weight on it *(Trendelenburg's gait).* In a child with bilateral dislocation, there is alternate lurching on both side *(waddling gait).*
i. There is compensatory genu valgum as patient tries to keep the foot out (to compensate adduction at hip).

51. Dinner fork deformity is seen in?

a) Colle's fracture

b) March fracture

c) Lateral condyle fracture

d) Supracondylar fracture

Correct Answer - A
Ans. is 'a' i.e., Colle's fracture
<u>Complications of colle's fracture</u>

- Complications in colle's fracture are high (50-60%). Following complications may occur
  1) *Stiffness of fingers and joints*
- *Stiffness of finger, wrist and shoulder is the most common avoidable complication of colle's fracture.*
- This occurs due to lack of exercise. Therefore, patient should be encouraged for active exercise of finger and shoulder.
  2) *Malunion*
- It is the *second most common complication*
- It results in *dinner fork deformity*
  3) Sudek's osteodystrophy (reflex sympathetic dystrophy)
  4) Carpal tunnel syndrome:
- Median nerve may get compressed in carpal tunnel
  5) Carpal instability
  6) Rupture of the extensor pollicis longus tendon
  7) Frozen shoulder syndrome
- This is a troublesome complication which develops due to unnecessory voluntary shoulder immobilization by the patient on the affected side for fear of fracture displacement.
  8)TFCC injury

9) Non-union is very rare

52. 34 years old male with femur shaft fracturedevelops petechiae over chest 4 days after the injury. What is the most probable diagnosis?

a) Fat embolism

b) Air embolism

c) Thrombocytopenia

d) Hypocomplimentemia

Correct Answer - A

Ans. is 'a' i.e., Fat embolism

Fat embolism means circulation of fat globule away from its site

- When fat embolism causes symptoms it is called fat embolism syn
- Fracture's of bone is the most common cause of fat embolism.
- Amongst the long bones, *femur fracture is associated with fat embolism most commonly.*
- *Multiple fractures increase the risk of fat embolism.*

Clinical manifestations of fat embolism

- Clinical features are evident *within 1-3 days.* About 25 percent of patients develop symptoms within 12 hours and 75 percent within 36 hours. Occasionally the onset may be delayed for several days and some patients may go unnoticed initially. *Early warning signs are a slight rise in temperature (pyrexia) and tachycardia.*
- The classical triad of fat embolism syndrome is :-

i. *Respiratory symptoms :* Dyspnea, tachypnea, cyanosis, ARDS, low PO_2.

i. *Neurological symptoms :* Confusion, disorientation, restlessness, irritation, delirium, convulsion, coma.

i. *Petechial rash :* In axilla, neck, periumblical area, conjunctiva of lower lid, retina, front & beck of chest, shoulder.

53. Reflex sympathetic dystrophy true is?

a) Osteoporosis

b) Increased skin temp

c) Common in athletes

d) Vasoconstriction

Correct Answer - A

Ans. is 'a' i.e., Osteoporosis

RSD is a condition that features a group of typical symptoms, including *pain (often burning type), tenderness, and swelling of an exterimity associated with varying degrees of sweating, warmth and/or shiny skin.* It is an abnormal sympathetic response *following trauma. This is commonly encountered in colle's fracture.* However, RSD may be seen in other injuries also.

<u>Clinical manifestations of RSD</u>

- The onset of the RSD symptoms may be rapid or gradual. There are several stages :-

i. *Stage 1 (Acute) :- Burning pain,* flushing, *sweating,* swelling, *erythema,* increased heat, hyperesthesia, spotty osteoporosis.

i. *Stage 2 (dystrophic) :- Cyanotic extremity, thickened & shiny skin,* Increased sweating (hyperhidrosis), contracture; but diminished swelling & flushing. There is diffuse osteoporosis.

i. *Stage 3 (Atrophic) :- Stiffness of joints,* contracture of the involved hand or foot, Pale & cool extremity, skin is dry, tight skin, homogenous osteoporosis with thinned cortices at the joint.

Prognosis

- The prognosis varies from person to person. Spontaneous remission from symptoms occur in certain people. Others can have unremitting and crippling, irreversible changes inspite of treatment.

Treatment of RSD

- *Physical therapy :-* gradually increasing exercise program
- *Psychotherapy*
- *Sympatholytic drugs :-* Phentolamine (a. - blocker), Propranolol (13-blocker)
- *Sympathetic nerve block :- Stellate ganglion block* for upper extremity RSD and L_2- L_3 block for lower extremity.
- *Medications :* Topical analgesics, antidepressants, corticosteroids, opioids.
- *Surgical sympathectomy.*

54. Trabeaculae are aligned in which stage of fracture neck femure -

a) Stage 1

b) Stage 2

c) Stage 3

d) Stage 4

Correct Answer - B
Ans. is 'b' i.e., Stage - 2
The degree of displacement, in Garden's classification, is judged from change in the direction of medial trabecular stream of the neck, in relation to the bony trabeculae in the weight bearing part of the head and in the corresponding part of the acetabulum.

i. *Stage 1 :* There is an obtuse angle laterally at the trabecular stream.
i. *Stage 2 :* Trebeculae between head and neck are broken but they are in alignment with each other and with trabeculae in the acetabulum.
i. *Stage 3 :* All three trabeulae are out of alignment.
Stage 4 : Acetabular and head trabeculae are in alignment but head and neck trabeculae are not aligned.

55. Charlie chaplin gait is seen in?

a) Congenial coxa vara

b) Tibial torsion

c) DDH

d) Genu valgus

Correct Answer - A
Ans. is 'a' i.e., Congenial coxa vara
Charlie Chaplin *Gait*

- Gait that occurs in bilateral external torsion of the tibia caused by faulty sitting or sleeping habits as in maintenance of the spread eagle or frog leg posture.
- It is seen in alkaptonuria, bilateral external tibial torsion, and flat feet with valgus at ankle.

56. Patients with bilateral CDH walk with the following gait?

a) Waddling

b) Stumbling

c) Knock knee

d) Antalgic

Correct Answer - A
Ans. is 'a' i.e., Waddling
Waddling gait

- It is also called as duck walk gait.
- It is a wide base gait with increased lumbar lordosis, the patient sways to the same side after putting weight on the limb.
- It is seen commonly in pregnancy, bilateral CDH, osteomalacia and myopathies.

57. Treatment of partially corrected CTEV with cavus deformity is ?

a) Posteromedial release

b) Lateral release

c) Plantar release

d) Medial release

Correct Answer - C
Ans. is 'c' i.e., Plantar release
Limited soft tissue release is the treatment of choice in cases of partially corrected CTEV with residual deformities.
The following methods are described :

i. Residual equinus: posterior release.
i. Adduction alone: medial release.
i. Cavus alone: plantar release.

58. Most common nerve injured in face lift surgery is

a) Zygomatic branch of the facial nerve

b) Greater auricular nerve

c) Mandibular branch of facial nerve

d) Frontal branch of facial nerve

Correct Answer - D

Ans. is 'd' i.e., Frontal branch of facial nerve

<u>Nerve injury during facelift surgery</u>

- Some sensory reduction after facelift surgery is considered a consequence and not a complication of facelift surgery.
- Care must be taken to avoid injury to the greater auricular nerve.
- The most commonly injured nerve is the frontal branch of the facial nerve.

59. Clergyman's knee involves ?

a) Olecranon bursa

b) Suprapatellar bursa

c) Infrapatellar bursa

d) Prepatellar bursa

Correct Answer - C
Ans. is 'c' i.e., lnfrapatellar bursa
Infrapatellar bursitis- Clergymans knee

60. `Ulnar paradox' is seen in ?

a) High ulnar lesion

b) Low ulnar lesion

c) Triple nerve disease

d) All

Correct Answer - A
Ans. is 'a' i.e., High ulnar lesion
Ulnar paradox is due to --> Paralysis of medial half of FDP and ulnar claw hand does not occur in high ulnar nerve palsy.
o Among the all nerves, maximum disability of hand occurs in ulnar nerve injury as ulnar nerve supplies most of the intrinsic muscles of hand.

61. Deforming force on proximal fragment in Benett's fracture ?

a) APL

b) APB

c) EPL

d) EPB

Correct Answer - A
Ans. is 'a' i.e., APL
Benett's fracture
Benett's fracture is an intra-articular fracture dislocation of the *palmar base of first metacarpal bone* of the thumb with either *subluxation or dislocation of first carpometacarpal joint, i.e. trapezometacarpal joint.* The common mechanism of injury is an axial blow directed against the partially flexed metacarpal, in most cases during *"Fist fights".* Patient complains of pain, swelling and tenderness over the base of the thumb. Movements of thumb are restricted.
Displacing force in Bennett's fractures
Following are the deforming forces in Bennett's fracture :-
i) At the distal fragment, it is the *adductor pollicis.*
ii) At the proximal fragment, it is the *abductor pollicis longus.*
Base of the thumb metacarpal is pulled dorsally and medially by the abductor pollicis longus, while the distal attachment of adductor pollicis further levers the base into abduction.

62. Age group affected by osteoclastoma?

a) 5-10 years

b) 10-20 years

c) 20-40 years

d) >50 years

Correct Answer - C

Ans. is 'c' i.e., 20-40 years

Giant cell tumor (Osteoclastomal

- GCT is an *osteolytic* tumor arising from the *epiphysis* and is common *between the age of 20-40 years.*
- Though GCT is a benign tumor, it is locally very aggressive.
- Females are affected more than males.

Pathological features

- *The commonest sites are lower end of femur and upper end of tibia. Other common sites are lower end radius and upper end of humerus.* It may also occur in the spine and sacrum.
- The tumor is encompassed by a fibrous capsule at periphery.
- The presence of *tumor giant cells* is the hallmark of this tumor.

Clinical features

- Pain at the site of the tumour.
- Gradually increasing local swelling
- Pathological fractures may occur.
- *"Eggshell-crackling" sensation on palpation.*

Radiological features

- GCT is one of the common cause of a solitary lytic lesion of the bone. o The radiological features are : -

i. A solitary may be loculated, lytic lesion.

i. Eccentric location, often subchondral.

i. Expansion of the overlying cortx (expansile lesion).
ı. *'Soap-bubble' appearance* - The tumor is homogenously lytic with trabeculae of the remnants of bone traversing it, giving rise to a loculated appearance.
ı. *No calcification* within the tumor.
i. None or minimal reactive sclerosis around the tumor.
i. Cortex may be thinned out, or perforated at places.
i. Tumour usually does not enter the adjacent joint.

63. Chronic discharging sinus with bone particle is seen in?

a) Chronic osteomyelitis

b) Acute osteomyelitis

c) Subacute osteomyelitis

d) Garre's osteomyelitis

Correct Answer - A

Ans. is 'a' i.e., Chronic osteomyelitis

<u>Clinical features of chronic osteomyelitis</u>

- The commonest presenting symptom *is a chronic discharging sinus. a history of bone piece discharge from the chronic sinus is considered diagnostic of chronic osteomyelitis.*
- Pain is minimal or absent.
- Generalized symptoms of acute osteomyelitis are not present except in acute excacerbations.
- On examination there is *irregular thickening of bone.Mi* ld tenderness may be seen in deep palpation. Adjacent joint may be stiff.

<u>Radiological features</u>

Following are radiological features : -

i. Thickening and irregularity of the cortices.
i. Patchy sclerosis
i. Bone cavity : This is seen as an area of rarefaction surrounded by sclerosis.
v. Sequestrum(Manipal 97) : This appears denser than the surrounding normal bone because the decalcification which occurs in normal bone, does not occur in dead bone. Granulation tissue surrounding the sequestrum gives rise to a radiolucent zone around it. A

sequestrum may be visible in soft tissue.

/. Involucrum and cloacae may be visible.

64. A patient presents with pain in the thigh, relieved by aspirin. X-ray shows a radiolucent mass surrounded by sclerosis. Diagnosis is ?

a) Osteoma

b) Osteoid osteoma

c) Osteoblastoma

d) Osteoclastoma

Correct Answer - B
Ans. is 'b' i.e., Osteoid osteoma
Radiolucent lesion with surrounded sclerosis and pain relief by a salicylate (aspirin) are characteristics of osteoid osteoma.

65. Nerve involved in Arcade of Frohse ?

a) Median

b) Ulnar

c) PIN

d) Radial

Correct Answer - C
Ans. is 'c' i.e., PIN
Arcade of Frohse (supinator arch) is fibrous between two heads of supinator. Posterior interosseous nerve passes beneath it.

66. Transverse carpal ligament is ?

a) Flexor retinaculum of hand

b) Extensor retinaculum of hand

c) Radial collateral ligament

d) Intercarpal ligament

Correct Answer - A

Ans. is 'a' i.e., Flexor retinaculum of hand

Transverse Carpal Ligament:

- It is also called flexor retinaculum or anterior annular ligament.
- It is a fibrous band on the palmar side of the hand near the wrist.
- It arches over the carpal bones of the hands, covering them and forming the carpal tunnel.

67. Physiological interruption of transmission is ?

a) Neuropraxia

b) Neurotmesis

c) Axonotmesis

d) None of the above

Correct Answer - A

Ans. is 'a' i.e., Neuropraxia

<u>Seddon's classification of nerve injuries</u>

- Seddon identified three types of injuries

1) Neuropraxia

- There is contusion of the peripheral nerve which causes *reversible physiological nerve conduction block.* The axis cylinder (i.e., axon with its endoneurium) is preserved. Thus, *there is physiological conduction block without anatomic disruption.* The injury is temporary and recovery is complete. It is seen in *crutchpalsy, tourniquet palsy, and saturday night palsy.*

2) Axonotemesis

- There is *injury to axon* but *endoneurium is preserved.* Spontaneous recovery is expected in some cases. This is seen in closed fractures and dislocations.

3) Neurotemesis

- There is *complete anatomical section of nerve.* No recovery possible. It is seen in open wound.

68. Breech presentation is a risk factor for the following condition ?

a) CTEV

b) SCFE

c) DDH

d) Perthes disease

Correct Answer - C
Ans. is 'c' i.e., DDH
Risk factors for DDH/CDH (Remember 4Fs 1H0)

- Females
- First borns
- Familial :- DDH is found in families
- Faulty intrauterine position (Breech presentation)
- Hormone induced laxity
- Oligohydramnion

69. Most Commmon cause of chronic osteomyelitis ?

a) Staphylococcus aureus

b) Streptococcus pyogenes

c) Mycobacterium tuberculosis

d) Staphylococcus epidermidis

Correct Answer - A
Ans. is 'a' i.e., Staphylococcus aureus
Chronic osteomyelitis is nearly always a sequel to acute osteomyelitis.
Occasionally infection is subacute or chronic from the begining.
As with acute osteomyelitis, the most common causative organism is staphylococcus areus.

70. Tennis elbow is characterized by ?

a) Tenderness over the medial epicondyle

b) Tendinits of common extensor origin

c) Tendinitis of common flexor origin

d) Painful flexion and extension

Correct Answer - B
Ans. is 'b' i.e., Tendinits of common extensor origin
Tennis elbow is extraarticular affection characterized by *pain and acute tenderness at the origin of the extensor muscles of the forearm from the lateral epicondyle.*
It is believed to be caused by strain of the forearm extensor muscles, particularly the *extensor carpi radialisbrevis, at* the point of their origin from lateral epicondyle.

71. Distal interphalangeal joints are involved in all except ?

a) Psoriatic arthritis

b) Rheumatoid arthritis

c) Reactive arthritis

d) Osteoarthritis

Correct Answer - B
Ans. is 'b' i.e., Rheumatoid arthritis
Distal interphalangeal joint- Osteoarthritis, Psoriatic arthritis, Reactive arthritis
Proximal interphalangeal joint- Osteoarthritis, RA, SLE, Psoriatic arthritis

72. Bartons fracture ?

a) Volar fracture of distal end radius

b) Dorsal fracture of distal end radius

c) Radial styloid fracture

d) Ulnar styloid fracture

Correct Answer - A

Ans. is 'a' i.e., Volar fracture of distal end radius

<u>Barton's fracture</u>

- The true Barton's injury is a volar fracture of the distal radius associated with volar subluxation of the carpus. o It is sometimes mistaken for a Smith's fracture, but it differs from the latter in that the fracture line runs obliquely across the volar lip of the radius into the wrist joint; the distal fragment is displaced anteriorly, carrying the carpus with it.
- Because the fragment is small and unsupported, the fracture is inherently unstable.
- *Treatment:* The fracture can be easily reduced, but it is just as easily re-displaced. Internal fixation, using a small anterior buttress plate, is recommended.

73. Which of the following is the marker of bone formation ?

a) Procollagen type I

b) Unrine N Telopeptide

c) Urine hydroxyproline

d) Osteonectin

Correct Answer - A

Ans. is 'a' i.e., Procollagen type I

<u>Markers of bone formation</u>

- Bone specific alkaline phosphatase
- Osteocalcin
- *Serum peptide of type I procollagen / Type I collagen extension peptide.*

<u>Markers of bone resorption</u>

- Urine & serum cross linked N telopeptide
- Urine & serum cross linked C telopeptide
- *Urine total free deoxvpyridinoline*
- Urine hydroxyproline
- *Urine hydroxylysine glycosides*
- Serum tartarate resistant acid phosphatase
- Serum bone sialoprotein

74. Holstein Lewis sign is related which nerve ?

a) Median

b) Radial

c) Ulnar

d) Axillary

Correct Answer - B

Ans. is 'b' i.e., Radial

Complications of humerus shaft fracture

1. *Nerve injury : - Radial nerve is the most commonly injured nerve* in fracture shaft humerus. It is particularly common in oblique fractures at the junction of middle and distal third of the bone (Holstein- Lewis sign).
2. *Vascular injury :* - Brachial artery damage.
3. *Delayed union or non-union :* - Delayed union or non-union may occur, especially in transverse fracture of the midshaft. *The cause of non-union is distraction at fracture site due to gravity and weight of plaster.*
4. *Joint stiffness :* - Shoulder & elbow stiffness.

75. 24 yr old woman walking up experiences pain in heel which decreases on walking down. X-ray shows bone spur. Diagnosis ?

a) Plantar fasciitis

b) Calcaneal exostosis

c) Osteomyelitis of calcaneum

d) Achillis tendinitis

Correct Answer - D
Ans. is 'd' i.e., Achillis tendinitis
Heel pain when walking up hill or up stairs is typical of Achillis tendinitis.
Other three options can also cause heel pain, but pain in these conditions has no relation to going up or down. It is consitent throughout.

76. Genu valgum deformity is seen in all except ?

a) Rickets

b) Bone Dysplasia

c) Rheumatoid arthritis

d) Medial compartment osteoarthritis

Correct Answer - D

Ans. is 'd' i.e., Medial compartment osteoarthritis

<u>Genu valgum (knock knee)</u>

Genu valgum is a condition in which the lower legs are positioned at an outward angle with abnormal approximation of knees and abnormally divergent ankles. Genu valgum is a condition in which the knees touch, but the ankles do not touch. Normally, a child is born with genu varum. Therefore, neonates and infants normally have genu varum. When the infant begins to stand and walk, the lower limb straighten and this physiological genu varus disappear at around years of age. The leg become straight. Then, between the age of 2-3 years genu valgum starts developing gradually with maximum genu - valgum of 12° at the age of 31/4 years. Finally genu-valgum spontaneously get corrected by the age of 7 years to that of normal adult genu valgum of 7 - 8°. *So upto 7 years, exagerated genu valgum is physiological. If this exaggerated genu valgum persists after 8 years, then it is pathological genu valgum.*

77. Crystal of pseudogout is made up of ?

a) CPPD

b) Urate

c) Calcium carbonate

d) Xanthine

Correct Answer - A
Ans. is 'a' i.e., CPPD
Crystal of Pseudogout :-
. Made up of calcium pyrOphosphate
. WeaKLY positive birefringent, rhomboid

78. Green extra articular arthrodesis done for -

a) Genu Valgum

b) Coxa vara

c) Congenital vertical talus

d) Cubitus varus

Correct Answer - C
Ans. is 'c' i.e., Congenital Vertical Talus
Grice and Green procedure is an extra articular fusion (arthrodesis) of the subtalar joint.
It is used in the treatment of patients of congenital vertical talus between age of 4 to 8 years old along with open reduction of the deformity.

79. Galeazzi fracture is ?

a) Fracture distal 1/3 radius with DRUJ subluxation

b) Fracture proximal 1/3 radius with DRUJ subluxation

c) Fracture distal 1/3 radius without DRUJ subluxation

d) Fracture proximal 1/3 radius without DRUJ subluxation

Correct Answer - A

Ans. is 'a' i.e., Fracture distal 1/3 radius with DRUJ subluxation

Galeazzi fracture dislocation is *fracture of distal third of radius with dislocation or subluxation of inferior (distal) radio-ulnar joint.* It is also called as Reverse monteggia.

It occurs due to :-

.. Fall on an outstretched hand with marked pronation of the forearm.

2. Direct blow on the dorsolateral side of the forearm.

<u>Treatment</u>

- Closed reduction is usually not successful due to the deforming forces of the muscles. o Hence, open reduction and internal fixation is the preferred method of treatment.

80. What is the treatment for a newborn child with CTEV?

a) Jess fixation

b) Manipulation and strapping or serial cast

c) Posteromedial soft tissue release

d) Triple arthrodesis

Correct Answer - B

Ans. is 'b' i.e., Manipulation and strapping or serial cast

<u>Treatment of CTEV in new born:</u>

- Treatment should begin early, preferably within a day or two of birth (as early as possible or when the newborn presents to the surgeon).
- This consists of repeated manipula- tion and adhesive strapping that maintains the correction; the manipulations are taught to the child's mother, who is then able to carry out gentle stretches on a regular basis with the strapping still in place.
- Treatment is supervised by a physiotherapist, who alters the strapping as correction is gradually obtained.
- If this level of care is not available, it may be better to hold position by applying a light plaster cast (over a protective layer of strapping), which is soaked off and changed every week.

81. Finkelstein test used for ?

a) Carpal tunnel syndrome

b) Cubital tunnel syndrome

c) De quervains tenovaginitis

d) Median nerve injury

Correct Answer - C
Ans. is 'c' i.e., De quervainstenovaginitis

82. False about osteoarthritis is ?

a) Involves synovial joints

b) Progressive softening of the articular cartilage

c) It is an inflammatory arthritis

d) Marginal osteophytes are produced

Correct Answer - C
Ans. is 'c' i.e., It is an inflammatory arthritis
Osteoarthritis (OA) is a chronic disorder of synovial joints in which there is progressive softening and disintegration of articular cartilage accompanied by new growth of cartilage and bone at the joint margins (osteophytes), cyst formation and sclerosis in the subchondral bone, mild synovitis and capsular fibrosis.
The term osteoarthritis is a misnomer as it is a *non-inflammatory condition.*
The right term is osteoarthrosis or degenerative joint disorder because it is a degenerative wear - and - tear process occuring in joints.

83. French osteotomy is used in treatment of ?

a) Cubitus varus

b) Cubitus valgus

c) Coxa vara

d) Coxa valga

Correct Answer - A

Ans. is 'a' i.e., Cubitus varus

Cubitus yarns

- Cubitus varus, also known as a *"gunstock deformity",* is the most common complication of supracondylar fracture humerus, due to malunion. It is called gunstock because the deformity resembles a rifle gunstock.
- The three static deformities of cubitus varus are (all with respect to distal fragment):-i) Extension, ii) Medial rotation, iii) Varus (corona! tilt). All these three components should be corrected during the initial reduction of the fracture otherwise cubitus varus deformity results.

Treatment of cubitus varus

- Cubitus varus is only a cosmatic deformity with no functional impairment of the elbow. Treatment of choice is *corrective supracondylar osteotomy.* Surgery is deferred until skeletal maturity for the fear of recurrence of deformity, if surgery is done before skeletal maturity. Osteotomy methods are :-

1. *Lateral close wedge osteotomy (French or modified French)*
2. *Medial open wedge osteotomy (King's osteotomy)*
3. *Derotation osteotomy*

84. Ewings sarcoma clinically mimics ?

a) Osteomyelitis

b) Osteochondroses

c) Osteosclerosis

d) Heterotopic ossification

Correct Answer - A
Ans. is 'a' i.e., Osteomyelitis
Ewing sarcoma is one of the differential diagnosis for subacute osteomyelitis. (see following table)

85. Milwalkee brace is used in treatment of ?

a) Scoliosis

b) Kyphosis

c) Cubitus varus

d) Genu varum

Correct Answer - A
Ans. is 'a' i.e., Scoliosis
The Milwaukee brace is principally a thoracic support consisting of a pelvic corset connected by adjustable steel supports to a cervical ring carrying occipital and chin pads.
Its purpose is to reduce the lumbar lordosis and encourage active stretching and straightening of the thoracic spine.
It is used in the conservative management of idiopathic scoliosis.

86. Tardy ulnar nerve palsy is seen in

a) Medial condyle # humerus

b) Lateral condyle # humerus

c) Humerus shaft fracture

d) Fracture shaft radius

Correct Answer - B

Ans. is 'b' i.e., Lateral condyle # humerus

Causes of tardy ulnar nerve palsy are : -

1. *Malunited lateral condyle humerus fracture (cubitus valgus)*
2. Displaced medial epicondyle humerus fracture
3. Cubitus varus deformity *(due to supracondylar fracture humerus)*
4. Elbow dislocation
5. Contusions of ulnar nerve
6. Shallow ulnar groove
7. Hypoplasia of humeral trochlea
8. *Joint deformity after prolonged arthritis of elbow*

87. Gustilo Anderson classification is used for ?

a) Compound fractures

b) Closed fractures

c) Distal end radius fractures

d) Femur head fractures

Correct Answer - A
Ans. is 'a' i.e., Compound fractures
<u>Compound fracture</u>

- Compound fracture, also called open fracture, in which *fracture communicates with external environment, i.e., overlying soft tissue coverage (skin and muscles) is breached.*
- Open fractures are typically caused by high energy injuries such as car crashes, falls, or sports injuries.
- *Gustila and Andersion* classified open fracture into following types.

88. Wormian bones are seen in all except ?

a) Fibrous dysplasia

b) Osteogenesis inperfecta

c) Cretinism

d) Rickets

Correct Answer - A

Ans. is 'a' i.e., Fibrous dysplasia

Wormian bones

- Wormian bones are extra bone pieces that occur within a suture in the cranium.
- These are irregular isolated bones which appear in addition to the usual centers of ossification of the cranium.
- They occur most frequently in the course of the lambdoid suture.
- Causes of wormian bones (Mnemonic - PORKCHOPS)

1. Pyknodysostosis
2. *Osteogenesis imperfecta*
3. *Rickets*
4. Kinky hair syndrome
5. Cleidocranial dysostosis
6. *Hypothyroidism (cretinism) /* Hypophosphatasia

- Otopalatodigital syndrome
- Progeria

1. Syndrome of Downs

- Wormian bone appears radiographically as islands of ossification in the skull in nonossified membranous bone.
- *To be diagnostic value, the wormian bones should be 4 mm by 6 mm in size, 10 in number and arranged in a mosaic pattern.*
- Wormian bones are not present in normal skull.

89. Which of the following fracture needs a violent force?

a) Fracture Neck of femur

b) Intertrochanteric fracture

c) Clavicle fracture

d) Colles fracture

Correct Answer - C
Ans. is 'c' i.e., Clavicle fracture
"Fractures of first two or three ribs and of the clavicle indicate a violent trauma since they are thicker and well protected by the thoracic muscle"

- Essentials of orthopaedics Fracture neck femur, IT fracture and colle's fracture are more common in old age and with trivial injury. o Important fractures caused by violent trauma are :- Clavicle, fracture shaft femur, subtrochanteric femur fracture, fracture shaft tibia, cervical and lumbar spine fractures.

90. A person comes with fracture tibia with swelling of lower leg pulse feeble but palpable. Intacompatmental pressure is raised. What is the next step in management?

a) Fasciotomy

b) External fixation

c) Lower limb venography

d) Interlock nail

Correct Answer - A

Ans. is 'a' i.e., Fasciotomy

A person with fracture tibia with swelling of lower leg and pulse feeble but palpable and Intacompatmental pressure raised is in compartment syndrome of the involved leg. Always in such patients immediate fasciotomy is the next step in management.

***Management* of compartment syndrome (Volkmann's ischemia)**

- It is a surgical emergency and the *treatment should begin immediately.*
- *All encircling tight bandages, and cast are removed, if present.*
- *Limb should be elevated.*
- If definitive clinical signs of compartment syndrome are present urgent fasciotomy should be done.
- If there is no improvement and there is doubt about clinical signs, record the pressure within the compartment and if it is more than 30 mm Hg, fasciotomy *should be done which is the definitive treatment of compartment syndrome.*

91. A football player came with twisting injury to left leg with pain, X ray was normal, but on clinical examination anterior drawer test, lachman test positive diagnosis ?

a) Medial meniscus tear

b) ACL tear

c) PCL tear

d) Proximal tibia fracture

Correct Answer - B
Ans. is 'b' i.e., ACL tear
Patient with positive Lachmann test and anterior drawer test suggests diagnosis of ACL tear.

92. Osgood schlatter disease is osteochondritis of ?

a) Tibial tuberosisty

b) Lunate

c) Calcaneum

d) Navicular

Correct Answer - A
Ans. is 'a' i.e., Tibial tuberosity
Osgood Shlatter's disease- Tibial tubercle

93. Pen test is done for which nerve injury ?

a) Median

b) Ulnar

c) Radial

d) Axillary

Correct Answer - A

Ans. is 'a' i.e., Median

Tests/Features of Median Nerve Injury

1. *Pointing index or oschner's clasp test :-* When patient is asked to clasp his hand, index finger fails to flex.
2. *Benediction test :* - Patient is unable to flex the index and middle finger on lifting the hand due to paralysis of long flexors of these two fingers.
3. *Pen test :* - Patient is unable to touch the pen, held above the thumb (due to APB paralysis).
4. *Ape thumb (Simian thumb) deformity :-* The thumb is adducted and laterally rotated so that the thumb lies in the same plane as the other fingers. It is due to over action of adductor pollicis (supplied by ulnar nerve).
5. *Loss of opposition* due to paralysis of opponens pollicis.
6. Atrophy of thenar eminence.

94. Antalgic hip gait is related to which of the following?

a) Waddling gait

b) Painful hip gait

c) Trendelenberg gait

d) Short leg gait

Correct Answer - B
Ans. is 'b' i.e., Painful hip gait
Antalgic gait is a limp adopted so as to *avoid pain* on weight bearing structures, characterized by very short stance phase.
Stance phase of the gait is shortened on the injured side to alleviate pain experienced when bearing weight on that side.

95. Injury to popliteal artery in fracture lower end of femur can be caused by ?

a) Proximal fragment

b) Muscle haematoma

c) Distal fragment

d) Tissue swelling

Correct Answer - C
Ans. is 'c' i.e., Distal fragment
In distal third shaft fracture or supracondylar femur fracture, the distal fragment is tilted backward due to strong gastrocnemius pull. This posteriorly tilted distal fragment can cause popliteal artery injury.

96. Osteoarthritis involves all except ?

a) Hip

b) Knee

c) PIP

d) Wrist

Correct Answer - D
Ans. is 'd' i.e., Wrist
<u>Joints involved in OA</u>

- OA affects certain joints, yet spares others.
- *Commonly affected joint include Hip, knee, cervical & lumbosacral spine, and first metatarsophalangeal joint.*
- *In Hands, the distal interphalangeal joints (DIP), proximal interphalangeal joints (PIP) and first carpometacarpal joint (base of thumb) are involved while sparing metacarpophalangeal (MCP) joints.*
- Shoulder joint may be affected but uncommonly.
- Usually spared joints are the wrist, elbow, metacarpophlangeal and ankle.
- This may simply reflect the fact that some joints are more prone to predisposing abnormalities than others.

97. Which nerve mostly damaged in post dislocation of hip ?

a) Sciatic nerve

b) Femoral nerve

c) Obturator nerve

d) Superior gluteal nerve

Correct Answer - A
Ans. is 'a' i.e., Sciatic nerve

98. Bouchard's nodes are seen in ?

a) Proximal IP joints

b) Distal IP joints

c) Sterno-clavicular joints

d) Knee joint

Correct Answer - A
Ans. is 'a' i.e., Proximal IP joints
Proximal interphalangeal joint---> Bouchard' s node

99. Golfers elbow ?

a) Medial epicondylitis

b) Lateral epicondylitis

c) Posterior elbow dislocation

d) Lateral collateral ligament injury

Correct Answer - A

Ans. is 'a' i.e., Medial epicondylitis

<u>Golfer's elbow (Medial epicondylitis)</u>

- It is about three times less common than tennis elbow.
- Patient has pain and tenderness on the medial epicondyle of the elbow.
- The bony attachment of flexor pronator origin is affected.
- Often there is an associated ulnar nerve neuropathy. A medial collateral ligament injury should be excluded.

100. Ramesh singh, a 40 yrs old man, was admitted with fracture shaft femur following a road traffic accident. Three days after tauma he was tachypnoeic, and had conjunctival petechiae. Most likely diagnosis is ?

a) Pulomary embolism

b) Sepsis syndrome

c) Fat embolism

d) Hemothorax

Correct Answer - C

Ans. is 'c' i.e., Fat embolism

This patient in question has femur fracture has developed classical triad of fat embolism :-

i. Respiratory symptom :- Tachypnea
i. Neurological symptom :- Disorientation
i. Petechial rash :- Conjunctivalpetechiae

- So, the most probable diagnosis is fat embolism syndrome.

101. Triple deformity of knee includes following except?

a) Flexion of knee

b) External rotation of tibia

c) Posterior subluxation of tibia

d) Extension of knee

Correct Answer - D

Ans. is 'd' i.e., Extension of knee

Triple deformity of knee refers to : -

1. *Flexion of knee*
2. *External rotation of tibia*
3. *Posterior subluxation of tibia*

Triple deformity is seen in RA, TB of knee and Polio.

102. All are the features of rheumatoid arthrtitis except?

a) Osteosclerosis of joint

b) Soft tissue swelling

c) Narrowing of joint space

d) Periarticular osteoporosis

Correct Answer - A

Ans. is 'a' i.e., Osteosclerosis of joint

<u>Radiological features of RA</u>

Following features are seen on X-ray :-

1. Reduced joint space
2. Erosion of articular margins
3. Subchondral cysts
4. Juxta-articular rarefaction
5. Soft tissue shadow at the level of the joint because of joint effusion or synovial hypertrophy
6. Deformities of the hand and fingers
7. Periarticular osteopenia (osteoporosis)

103. Common sites of fracture non union are the following except -

a) Waist of scaphoid

b) Neck of femur

c) Distal 1/3 tibia fibula

d) Distal end radius

Correct Answer - D

Ans. is `d' i.e., Distal end radius

<u>Non-union</u>

- When a fracture fails to unit completely even after the stipulated time, it is termed as non-union.
- Both, In non-union and delayed union, fracture does not unite in the usual stipulated time. The difference between two is that
- In delayed union, union occurs but at a slower rate, i.e. there is presence of clinical and radiological progressive signs of union though at a slower rate. Healing may occur without surgical intervention by just prolonging the duration of immobilization.
- In non-union, union does not occur at all, i.e. there is complete cessation of healing process in which fibrous tissue is never replaced by bony matrix. So, there is absence of clinical and radiological progressive signs of union. Fracture healing will not occur without surgical intervention, e.g. bone grafting, illizarov's technique.
- *Common sites of non-union are neck of femur, scaphoid, lower third of tibia, lateral condyle of humerus and lower third of ulna.*

104. Column concept of spine stability was given by?

a) Denis

b) Frenkel

c) Wilson

d) Todd

Correct Answer - A
Ans. is 'a' i.e., Denis
The three column concept of spinal stability

- Denis (1983) proposed the 3-column concept of spinal stability. He divided the above-enumerated bony and soft-tissue structures into three columns - anterior, middle and posterior as follows :-

1. Anterior column consisting of the anterior longitudinal ligament, the anterior portion of the annulus fibrosus and the anterior half of the vertebral body.
2. Middle column consisting of the posterior portion of the vertebral body, the posterior portion of the annulus and the posterior longitudinal ligament.
3. Posterior column consisting of the pedicles, facets, laminae and the posterior ligament complex (ligamentum flavum, interspinous ligament, supraspinous ligament and the facet joint capsule).

105. All of the following are diaphyseal tumors except?

a) Ewings sarcoma

b) Histiocytosis

c) Fibrosarcoma

d) Aneurysmal bone cyst

Correct Answer - D
Ans. is d i.e., Aneurysmal bone cyst
Fibrosarcoma
Fibrous cortical defect
Non ossifying sarcoma
Lymphomas
Ewing sarcoma
Fibrous dysplasia
Osteoid osteoma

106. Diaphyseal aclasis is ?

a) Multiple exostosis

b) Multiple enchondromatosis

c) Multiple hemagioma

d) Multiple osteoid osteoma

Correct Answer - A

Ans. is 'a' i.e., Multiple exostosis

<u>Hereditary multiple exostoses</u>

- The ordinary osteochondroma is single; but in the condition known as Diaphysial aclasis (multiple exostosis) the tumor affect several or many bones. Hereditary multiple exostoses is an autosomal dominant hereditary disorder.
- The risk of malignant changes to a chondrosarcoma is higher in these multiple lesions than in the solitary lesion.
- Metaphysis of long bones is affected, however, skull and pelvis may also be affected.
- Multiple exostoses can lead to shortening and bowing of bones; affected individuals often have a short stature.

107. Which nerve is damaged in fracture surgical neck humerus ?

a) Axillary

b) Radial

c) Ulnar

d) Median

Correct Answer - A
Ans. is 'a' i.e., Axillary
Complications of fracture surgical neck humerus

- Shoulder stiffness.
- *Axillary nerve is particularly vulnerable, both from the injury and from surgery* o Axillary artery injury
- Malunion
- Nonunion
- Myositis ossificans

108. Anterolateral avulsion fracture of the distal tibial physis is known as ?

a) Potts fracture

b) Tillaux fracture

c) Chopartracture

d) Jones fracture

Correct Answer - B

Ans. is 'b' i.e., Tillaux fracture

<u>Tillaux fractures</u>

- Fracture occurring in older adolescents.
- Mechanism of injury is an external rotational force with stress placed on the anterior tibio - fibular ligament, causing avulsion of the distal tibial physisanterolaterally.
- It occurs after the medial part of the physis has closed but before the lateral part closes.
- It is either Salter-Harris type III or IV fracture.

109. Involvement of the joints of hand is relatively uncommon in which of the following arthritis?

a) Ankylosing spondylitis

b) Reactive arthritis

c) Psoriatic arthritis

d) Rheumatoid arthritis

Correct Answer - A

Ans. is 'a' i.e., Ankylosing spondylitis

Joints involved in ankylosing spondylitis

- Ankylosing spondylitis primarily affects axial skeleton.
- The disease usually begins in the sacro-iliac joints and usually extends upwards to involve the lumbar, thoracic, and often cervical spine.
- In the worst cases the hips or shouldersare also affected. Hip joint is the most commonly affected peripheral joint.
- Rarely knee and ankle are also involved.

110. Most common site for vertebral cancer is ?

a) Cervical

b) Lumbosacral

c) Thoracic

d) Cervicodorsal

Correct Answer - C
Ans. is 'c' i.e., Thoracic
All the vertebral cancer pathologies tend to involve mainly the thoracic and the lumbar areas commonly (thoracic >>> lumbar) and hence the most common site for vertebral cancers in thoracolumbar.

111. Bohler's angle is used in fracture of ?

a) Scaphoid

b) Talus

c) Calcaneum

d) Navicular

Correct Answer - C
Ans. is 'c' i.e., Calcaneum
The Angle of Gissane, or "Critical Angle", is the angle formed by the downward and upward slopes of the calcaneal superior surface. On a lateral radiograph, an angle of Gissane of > 130° suggests fracture of the posterior subtalar joint surface.
Bohler's angle, or "Tuber Angle", is another normal anatomic landmark seen in lateral radiographs. It is formed by the intersection of (1) a line from the highest point of the posterior articular facet to the highest point of the posterior tuberosity, and (2) a line from the former to the highest point on the anterior articular facet. An angle < 20° suggests a depression posterior facet and possible calcaneal fracture.

112. Posada's fracture is ?

a) Trascondylar fracture of humerus

b) Fracture lateral condyle of humerus

c) Fracture medial condyle of humerus

d) Fracture anatomical neck of humerus

Correct Answer - A
Ans. is 'a' i.e., Transcondylar fracture of humerus
<u>Posada's fracture</u>

- Transcondylar humeral fracture with displacement of the distal fragment anteriorly and dislocation of the radius and ulna from the bicondylar fragment.

113. Limbs elevated against gravity but not against force is which power

a) Grade I

b) Grade II

c) Grade III

d) Grade IV

Correct Answer - C

Ans. is 'c' i.e., Grade III

Evaluation of Strength of Muscles

- The strength of a muscle is graded from 0 to 5 as follows:

i. 0, zero-no contraction
i. 1, trace-palpable contraction only
i. 2, poor-moves joint but not against gravity
v. 3, fair-moves joint against gravity
v. 4, good-moves joint against gravity and resistance
i. 5, normal-normal strength

114. Feature of osteoarthritis is -

a) Heberden node

b) Increased ESR

c) Onycholysis

d) Z deformity

Correct Answer - A

Ans. is 'a' i.e., Heberden node

<u>Joint involvement in OA</u>

- *Common joints :* Knee, Hip, Spine (cervical, lumbosacral), Hand (PIP, DIP, first carpometacarpal), first tarsometatarsal.
- *Uncommon joint :* Shoulder
- *Spared :* Wrist, elbow, ankle, *metacarpophalangeal.*
- In osteoarthritis of hand :

1. *Distal interphalangeal joint :- Heberden's node.*
2. *Proximal interphalangeal joint :- Bouchard's node*

115. Meralgia paraesthetica is ?

a) Medial cutaneous nerve of thigh

b) Lateral cutaneous nerve of thigh

c) Lateral cutaneous nerve of hand

d) Medial cutaneous nerve of hand

Correct Answer - B

Ans. is 'b' i.e., Lateral cutaneous nerve of thigh

The neuropathy affecting the lateral cutaneous nerve of thigh is called meralgia paraesthetica.

- Cheralgia paraesthetica is a neuropathy of the hand - superficial branch of the radial nerve.

The area affected includes:

1) Base of thumb, near the anatomical snuffbox
2) Back of thumb and index finger
3) Back of hand

Thus,

- Meralgia paraesthetica - Lateral cutaneous nerve of thigh
- Cheralgia paraesthetica - Lateral cutaneous nerve of hand

116. Osteoclasts remove bone a which of the following sites?

a) Howships lacunae

b) Resorption bays

c) Both the above

d) None of the above

Correct Answer - C
Ans. is 'c' i.e., Both the above
Osteoclasts

- These are bone removing cells.
- They are found in relation to surfaces where bone removal is taking place. (Bone removal is essential for maintaining the proper shape of growing bone). At such locations the cells occupy pits called *resorption bays* or *lacunae of Howship.*
- Osteoclasts are very large cells (20 to 100 m or even more in diameter). They have numerous nuclei: up to 20 or more. The cytoplasm shows numerous mitochondria and lysosomes containing acid phosphatase.
- At sites of bone resorption the surface of an osteoclast shows many folds that are described as a *ruffled membrane.* o Removal of bone by osteoclasts involves demineralisation and removal of matrix.
- Bone removal can be stimulated by factors secreted by osteoblasts, by macrophages, or by lymphocytes. It is also stimulated by the parathyroid hormone.
- Recent studies have shown that osteoclasts are derived from monocytes of blood.
- It is not certain whether osteoclasts are formed by fusion of several monocytes, or by repeated division of the nucleus, without division of

cytoplasm.

117. Dripping Candle Wax lesion on spine ?

a) Metastasis

b) TB spine

c) Osteopterosis

d) Melorheostosis

Correct Answer - D
Ans. is 'd' i.e., Melorheostosis
Melorheostosis

- Melorheostosis is a medical developmental disorder and mesenchymal dysplasia in which the bony cortex widens and becomes hyperdense in a sclerotomal distribution.
- Caused by a mutation of the LEMD3gene.
- Can be detected by radiograph due to thickening of bony cortex resembling "dripping candle wax".
- Disorder tends to be unilateral and monoostotic, with only one limb typically involved. Cases with involvement of multiple limbs, ribs, and bones in the spine have also been reported.
- There are no reported cases of involvement of skull or facial bones.
- Melorheostosis can be associated with pain, physical deformity, skin and circulation problems, contractures, and functional limitation. It is also associated with a benign inner ear dysplasia known as osteosclerosis.

118. Most common cause of CTEV ?

a) Arthrogryposis multiplex congenita

b) Spina bifida

c) Idiopathic

d) Neural tube defect

Correct Answer - C
Ans. is 'c' i.e., Idiopathic
<u>Causes of CTEV</u>

- CTEV may be either primary or secondary

1. Primary or Idiopathic

- It is the most common type of CTEV
- Foot deformity (CTEV) is the only manifestation, otherwise musculoskeletal system is normal.

2. Secondary

- CTEV is a local manifestation of a systemic syndrome.
- Causes are :-

1. Neurological disorders & neural tube defects eg myelomeningocele, & spinal dysraphism
2. Paralytic disorder (due to muscular imbalance) as polio, spina bifida, myelodysplasia, & Fredreich's ataxia
3. Arthrogiyposis multiplexa
4. Larsen syndrome
5. Freeman- Sheldon syndrome
6. Diastrophic dwarfism
7. Sacral agenesis, tibial deficiency, constriction rings & amniotic bands

119. Essex lopresti lesion in upper limb-

a) Injury to interosseous membrane

b) Radial head and DER fracture

c) Radial shaft

d) Radial shaft and radio-ulnar joint fracture

Correct Answer - A
Ans. is 'a' i.e., Injury to interosseous membrane
The Esscx-lopresti fracture is a fracture of the radial head with concomitant dislocation of the distal radio-ulnar joint with disruption of the interosseous membrane

120. First sign of compartment syndrome is ?

a) Pain

b) Tingling

c) Loss of pulse

d) Loss of movement

Correct Answer - A
Ans. is 'a' i.e., Pain
Clinical features of compartment syndrome

- Four signs are reliable in diagnosing a compartment syndrome :-

1. Paresthesia or hypesthesia in nerves traversing the compartment
2. Pain with passive stretching of the involved muscles (stretch pain)
3. Pain with active flexion of the muscles
4. Tenderness over the compartment

- Amongst these, stretch pain is the earliest sign of impending compartment syndrome. The ischemic muscles, when stretched, give rise to pain.
- Passive extension of fingers (streching the fingers) produce pain in flexor compartment of forearm.
- Other features are Pulselessness, paralysis, Pallor and pain out of proportion to physical findings.
- Peripheral pulses, are present initially and disappear later. Therefore, pulse is not a reliable indicator for compartment syndrome.

121. Boxer's fracture is ?

a) Radial styloid fracture

b) Reverse colle's fracture

c) 5^{th} metacarpal fracture

d) $_1$st metacarpal fracture

Correct Answer - C

Ans. is 'c' i.e., $_5$th metacarpal fracture

Eponym	**Fractures of Upper limb**
Montegia fracture dislocation	Fracture of the proximal third of ulna with radial head dislocation.
Galeazzi fracture dislocation	Fracture of the distal third of the radius with dislocation of the distal radio-ulnar joint
Colle's fracture	Fracture at cortico-cancellous junction of the distal-end of radius with dorsal tilt.
Bennet's fracture	Oblique intra-articular fracture of the base of the 1st metacarpal
Night stick fracture	Isolated fracture of the shaft of the ulna
Smith's fracture	A fracture of distal end of radius at cortico-cancellous junction with ventral tilt and displacements (reverse Colle's fracture).
Barton's fracture	A vertical, marginal intra-articular fracture of the distal end of radius occurring with volar or dorsal displacement.
Chauffeur	An intra-articular oblique fracture of the styloid process

fracture	of the radius.
Boxer's fracture	A fracture through the neck of the 5th metacarpal.

122. Saturday night palsy is which type of nerve injury?

a) Neuropraxia

b) Axonotemesis

c) Neurotemesis

d) Complete section

Correct Answer - A
Ans. is 'a' i.e., Neuropraxia
<u>Seddon's classification of nerve injuries</u>

- Seddon identified three types of injuries

1. Neuropraxia

- There is contusion of the peripheral nerve which causes reversible physiological nerve conduction block. The axis cylinder (i.e., axon with its endoneurium) is preserved. Thus, there is physiological conduction block without anatomic disruption. The injury is temporary and recovery is complete. It is seen in crutchpalsy, tourniquet palsy, and saturday night palsy.

2. Axonotemesis

- There is injury to axon but endoneurium is preserved. Spontaneous recovery is expected in some cases. This is seen in closed fractures and dislocations.

3. Neurotemesis

- There is *complete anatomical section of nerve.* No recovery possible. It is seen in open wound.

123. Pott’s puffy tumor:

a) Subperiosteal abscess of frontal bone

b) Subperiosteal abscess of ethmoid bone

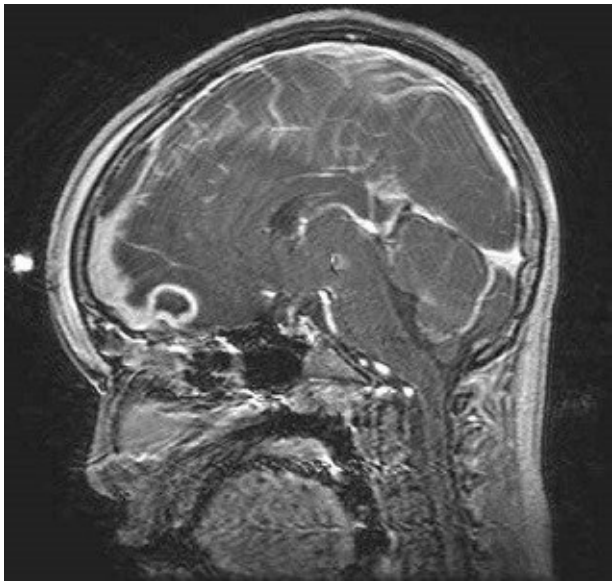
c) Mucocele of frontal bone

d) Mucocele of ethmoid bone

Correct Answer - A

Answer. A. Subperiosteal abscess of frontal bone

- Pott’s puffy tumor, first described by Sir Percivall Pott in 1760, is a rare clinical entity characterized by **subperiosteal abscess** associated with osteomyelitis.
- It is characterized by an **osteomyelitis of the frontal bone,** either direct or through haematogenous spread.
- This results in a swelling on the forehead, hence the name.
- The infection can also spread inwards, leading to an intracranial abscess.
- Pott’s puffy tumor can be associated with cortical vein thrombosis, epidural abscess, subdural empyema, and brain abscess.



124. Tom-Smith arthritis causes destruction of

a) Upper end tibia

b) Lower end femur

c) Head of femur

d) Greater trochanter

Correct Answer - C
Answer-C. Head of femur
Tom smith arthritis is the septic arthritis of hip joint, occurs in infancy. At this stage head of the femur is cartilaginous and is rapidly and completely destroyed by the pyogenic process.
On examination : -

- Limb is short
- Hip morements are increased in all directions.
- There is instability with positive telescoping.

125. True about osteoid osteoma is

a) Onset before the age of 10 years

b) Bone scan shows decreased uptake

c) Radiolucent zone surrounded by sclerosis

d) Night pain not relieved by salicylates

Correct Answer - C
Answer- C. Radiolucent zone surrounded by sclerosis

- Osteoid osteoma is the most common true benign tumor of the bone.
- The characteristic feature is the formation of a small nidus of osteoid tksue, surrounded by a reactive zone of dense sclerosis (Sclerotic new bone formation).
- The tumor occurs between 10-30 years of age and is more common in males.
- On X-ray, there is a small radiolucent area (nidus) surrounded by dens sclerosis.
- Bone scan shows increased uptake in the nidus.
- The only treatment is wide en block excision along with internal fixation with or without bone grafting.

126. A 26 years male person has got injury to mid-arm. Patient developed wrist drop, finger drop and loss of sensation on dorsum of hand. Patient is able to do elbow extension. The diagnosis is

a) Very high radial nerve injury

b) High radial nerve injury

c) Low radial nerve injury

d) Posterior interosseus nerve injury

Correct Answer - B
Answer- B. High radial nerve injury
Radial nerve iniury
Radial nerve injury may be -
A) veryHigh

- Injury is before the spiral groove
- All muscles supplied by radial nerve are paralyzed
- Inability to extend elbow, wrist (wrist drop), finger MP joint (finger drops)
- Sensory loss of posterior surface of arm, forearm, lower lateral half of forearm, lateral 2/3d of Dorsum of hand and dorsum of lateral 3/z fingers upto DIP joint

B) High

- Injury is between spiral groove and elbow
- Triceps is spared - Elbow extension is preserved
- Inability to extend wrist (wrist drop), finger drop
- Sensory loss over lateral 2/3rd of Dorsum of hand an ddorsum of

lateral 3 and half fingers upto DIP joint (Including dorsum of first web space)

C) Low

- Injury is at or below the elbow
- Along with elbow extensors (triceps), wrist extensor (ECRL) are spared --> No wrist drop
- There is fingers drop
- Sensory loss over lateral 2/3rd of Dorsum of hand and dorsum of lateral 3 and half fingers upto DIP joint (Including dorsum of firstweb space

127. Negative pressure dressing [vaccum dressing] is used for

a) Removal of eschar

b) Chronic non-healing diabetic ulcer

c) Unexplored fistulas

d) Untreated osteomyelitis

Correct Answer - B
Answer- B. Chronic non-healing diabetic ulcer

- Negative-pressure wound therapy (NPWT) is a therapeutic technique using a vacuum dressing to promote healing in acute or chronic wounds and enhance healing ofsecond and third degree burns.
- Use in the treatment of diabetes-associated chronic leg wounds.

128. True about glass holding position of cost

a) Wrist in Plantar flexion

b) Wrist in ulnar devation

c) Extends upto IP joint of thumb

d) Extends upto IP joints of fingers

Correct Answer - C

Answer- C. Extends upto IP joint of thumb

Gloss holding position- Cast is given in scaphoid fracture (scaphoid cast)

- It has following features of the cast

1. Extent From proximal 3rd of forearm upto IP joint of thumb and MCP joint of fingers
2. Position of wrist: Slight (5-15 degree) dorsi flexion and radial deviation.

129. High crural index is seen in

a) Jumping athletes

b) Gymnasts

c) Weight lifters

d) Long - distance runners

Correct Answer - A

Answer- A. Jumping athletes

- Crural index the ratio of lower leg length to thigh length. A high crural index allows application of force against the ground for a greater period of time than a lower crural index. fumping athletes (such as in basketball) and sprint swimmers tend to have above-average crural indices.

130. Paprika sign during debridement is crucial in management which of the following condition?

a) Chronic osteomyelitis

b) Osteosarcoma

c) Osteoid osteoma

d) Brodies abscess

Correct Answer - A

Answer- A. Chronic osteomyelitis

- Sequestrectomy and curettage require more time toperform and result in considerably more blood loss than an inexperienced surgeon would anticipate.
- Exposed infected area of bone, incision given and drill is used to remove all sequestra, purulent material, and scarred and necrotic tissue. If sclerotic bone seals off a cavity within the medullary canal, open it into the canal in both directions to allow blood vessels to grow into the cavity. Use a high-speed burr to debride necrotic or ischemic bone until the "paprika sign" (active punctate bleeding bone) is achieved, indicating healthy tissue.

131. A patient presents with normal babinsky reflex with anlde areflexia with presence of saddle anesthesia and difficulty in micturition. What is the most probable diagnosis?

a) Cauda equine syndrome

b) Brown Sequard syndrome

c) Lehriche syndrome

d) Williams syndrome

Correct Answer - A

Answer- A. Cauda equine syndrome

- Caudaequina syndrome (CES) signffies an injury of multiple lumbosacral nerve roots within the spinal canal distal to the termination of the spinal cord at Ll-2.
- Low back pain, weakness and areflexia ofankle, saddle anesthesia, or loss of bladder function may occur.
- It is a lower motor neuron ty?e of lesion, so sign of signs of upper motor neuron involvement like positive babinsky spasticity etc. are absent.

132. Unna boot is used for treatment of

a) Diabetic foot ulcer

b) Varicose ulcers

c) Ankle instability

d) Calcaneum fracture

Correct Answer - B

Answer- B. Varicose ulcers

- It is named for the dermatologist Paul Gerson Unna.
- This boot can be used to treat uninfected nonnecrotic leg and foot ulcers that result from such conditions as venous insuftciency (varicose ulcers) and stasis dermatitis.

133. Most specific antibody seen in RA

a) Anti CCP

b) Rheumatoid factor

c) ANA

d) Anti dsDNA

Correct Answer - A

Answer- A. Anti CCP

- The presence of serum anti-CCP antibodies has about the same sensitivity as serum RF for the diagnosis of RA.
- However, its diagnostic specificity approaches 95% (most specific for RA), so a positive test for anti-CCP antibodies in the setting of an early inflammatory arthritis is usefrrlfor distinguishing RA from other forms of arthritis.

134. Compartment syndrome is commonly seen in

a) Fracture of proximal tibia

b) Fracture shaft humerus

c) Fracture of femur shaft

d) Fracture distal end radius

Correct Answer - A

Answer-A. Fracture of proximal tibia

- High-risk injuries for development of compartment syndrome are fractures of the elbow, forearm bones, proximal third of the tibia, and also multiple fractures of the hand or foot, crush iniuries and circumferentialburns.

135. Autonomous zone of sensory supply by radial nerve is

a) P dorsal web space

b) Tip of index finger

c) Tip of thumb

d) Tip of little finger

Correct Answer - A

Answer- A. P dorsal web space

- Autonomous Zone of peripheral nerves:
- Radial nerve:lst dorsal web space of hand (Anatomical snuff box)
- Median nerve:Distal phalanx (tip) of index finger (2nd finger)
- Unar nerve: Distal phalanx (tip) of little finger (5th finger).

136. Crutch palsy is injury to which nerve?

a) Radial nerve

b) Ulnar nerve

c) Median nerve

d) Musculocutaneous nerve

Correct Answer - A

Answer-A. Radial nerve

- Very high lesions of radial nerve may be caused by trauma or operations around the shoulder.
- This is seen in drink and drug addicts who fall into a stupor with the arm dangling over the back of a chair ('saturday night pals/) or in thin elderly patients using crutches ('crutch palsy').

137. What suggests segmental demyelination on NCV

a) Decreased CAMP amplitudes

b) Uniform slowing of nerve conduction

c) Decreased area under CAMP curve

d) No evidence of distal conduction

Correct Answer - A

Answer- A. Decreased CAMP amplitudes

- Segmental Demyelination : Because there is variable slowing or different nerve fibers withing the nerve, conduction velocity will be slowed and distal latencies will be prolonged in segmentally demyelinatiing injuries.
- CMAP amplitudes may be decreased because of temporal dispersion, not because of axonal damage. Therefore, the CMAP may be longer in duration. However, the area under the CAMP will be normal.

138. Deformity with decreased carrying angle is-

a) Cubitus varus

b) Mannus varus

c) Cubitus valgus

d) Mannus valgus

Correct Answer - A

Answer- A. Cubitus varus

Carrying angle:

- Angle between long axis of arm and forearm is called carrying angle.
- It is measured with the elbow in frill extention.
- Cubitus Varus develops with is reduced carrying angle and cubitus valgus is increased carrying angle.
- Varus - distal part towards midline and valgus is distal part away from midline.

139. Fasciotomy- all of the following are cut except

a) Skin

b) Superficial fascia

c) Deep fascia

d) Muscles

Correct Answer - D

Answer- D. Muscles

- Fasciotomy or fasciectomy is a surgical procedure where the fascia is cut to relieve tension or pressure commonly to treat the resulting loss of circulation to an area of tissue or muscle.
- Fasciotomy is a limb-saving procedure when used to treat acute compartment syndrome

140. Which of the following is not true about osteoid osteoma

a) Most common true benign tumor of bone

b) Occurs between 10 - 30 years of age

c) Lesion appears ill defined on x-ray with permeative margins

d) Bone scan shows increased uptake in the lesion

Correct Answer - C

Answer-C. Lesion appears ill defined on x-ray with permeative margins

- Osteoid osteoma is the most common true benign tumor of the bone
- The tumor occurs between 10-30 years of age and is more common in males.
- The diaphysis of long bones is involved, most common bone involved is the tibia followed by femur
- On X-ray, there is a small radiolucent area (nidus) surrounded by dense sclerosis.
- X-ray, in some cases, show local sclerotic thickening of the shaft that may obscure the small central nidus within the area of rarefaction.

141. Tenderness in anatomical snuff box is characteristic of which carpal bone fracture?

a) Scaphoid

b) Capitate

c) Lunate

d) Triquetrum

Correct Answer - A

Answer- A. Scaphoid

Clinical features of scaphoid fracture

- History of fall on outstretched hand
- Pain andfullness in the wrist, especially on radial side in the region of anatomical snuffbox.
- Movements at wrist are painful.
- Tenderness in the anatomical snuffbox
- A force transmitted along the axis of second metacarpal or pressure along the thumb produces pain in the region of scaphoid.

142. Bakers cyst is a type of

a) Pulsion diverticulum of knee joint

b) Retention cyst

c) Bursistis

d) Benign tumor

Correct Answer - A

Answer- A. Pulsion diverticulum of knee joint

- It is the pulsion diverticulum of the knee joint, caused by chronic disease in the joint.
- Bulging of the posterior capsule and synovial herniation may produce a swelling in the popliteal fossa.

143. Which of the following is/are X ray feature/s of perthes disease?

a) Increased medial joint space

b) Metaphyseal cysts and rarefaction

c) Lateral extrusion of femur head

d) All the above

Correct Answer - D
Answer- D. All the above
Radiological findings in perthe's disease are :-
1. Increased meilial joint space
2. Widening offemoral neck
3. Lateral extrusion (lateral subluxation)
4. Metaphyseal cysts and rarefaction of metaphysis
5. Horizontal physis with speckled calcification lateral to it
6. Fragmentation of femoral head with increased density (irregular densities in the epiphysis)

144. Ponsetti technique failure in children should be managed with

a) Posteromedial soft tissue release

b) Anterolateral soft tissue release

c) Triple arthrodesis

d) Lateral closing wedge osteotomy of calcaneum

Correct Answer - A

Answer- A. Posteromedial soft tissue release

- If treatment by manipulation and retention fails, operation should usually be undertaken before 9 months of age, mostly at 4- 6 months.
- The idea behind early operation is to set the tarsal bones in normal relationship to one another and to remove deforming forces, thus allowing the bones to develop in their normal shape from an early age.
- The procedure used is soft tissue release, i.e. postero-medial release (PMR).

145. Ideal age for PMSTR is

a) < 1 year

b) 1 - 3 years

c) 3 - 6 years

d) 6 - 9 years

Correct Answer - B

Answer- B. 1 - 3 years

PMSTR: Posteromedial Soft tissue release:

- It is the soft tissue surgical treatment for congenitaltalipesEquinovarus.
- The results of early operation for treatment of congentialtalipesequino varus, in particular neonatal surgery have not been shown to be better than those of late surgery
- Delaying surgery until the child is near walking age has the advantage of operating of larger foot (making surgery easier)
- Posteromedial soft tissue release (PMSTR), (Turcos) is best done at young age (l-3 years)

146. Which of the following is seen in popliteal entrapment syndrome

a) Evidence of atheroscelrosis

b) Exercise induced calf claudications

c) Abnormal relation between popliteal artery and lateral head of gastrocnemius

d) Decreased ankle pulses with ankle extention

Correct Answer - B

Answer- B. Exercise induced calf claudications

PoPliteal Artery Entrapment Syndrome

- It is caused by the congenital abnormality in the relation ship between popliteal artery anil meilial head of gastrocnemius and associated muscle.

Clinical Presentation:

- Young male or female without atherosclerosis
- Exercise induced calf claudication

147. What is the age of tendon transfer in post polio residual paralysis

a) <6 months

b) 1 year

c) 2 years

d) >5 years

Correct Answer - D

Answer- D. >5 years

The available musclepower is redistributed either to equalize an unbalanced paralysis, or to use the motorpower for a more useful function.

1. Transfer of extensor hallucis longus (EHL) from the distal phalanx of great toe to the neck of the first metatarsal (modified Jone's operation). This is done to correct first metatarsal drop in case of tibialis anterior muscle weakness
2. Transfer of peronius tertious and brevis muscles (evertors oi the foot) to the dorsum of the foot. The transfer is required in a foot with dorsiflexor weakness. Evertors can be spared for more useful function of dorsiflexion of the foot
3. Hamstring (knee flexors) transfer to the quadriceps muscle to support a weak knee extensor

148. Maffucci syndrome is associated with which bone tumor?

a) Enchondroma

b) Osteochondroma

c) Multiple myeloma

d) Chondrosarcoma

Correct Answer - A

Answer- A. Enchondroma

- Enchondroma is a benign tumor characterized by the formation of mature hyaline cartilage.
- The most common site is short tubular bones of hand, i.e., Phalanges (most common) and metatarsals. When tumor is located centrally in the bone, it is called enchondroma. When it islocated on the surface (juxtacortical) it is called chondroma.

Mostly enchondtomas are solitary,however following syndromes may have multiple enchondroma:-

1. Ollier's ilisease
2. Maffuccis syldrome

149. What is a floating knee -

a) Damage to both anterior and posterior cruciate ligaments

b) Condition of knee due to tear in medial and lateral collateral ligaments

c) Femoral shaft fracture with proximal tibia metaphyseal fracture

d) Advanced tuberculosis of knee joint

Correct Answer - C

Answer- C. Femoral shaft fracture with proximal tibia metaphyseal fracture

- Floating knee is a flail knee joint resulting from fractures of the shafts or adjacent metaphyses of the femur and ipsilateral tibia.
- Floating knee injuries may include a combination of diaphyseal, metaphyseal, and intra-articular fractures.

150. The tensile strength of a bone is due to -

a) Strands of collagen

b) Hydroxyapatite crystals

c) Periosteum

d) Metaphysis

Correct Answer - A

Answer- A. Strands of collagen

- The strands of collagen give bone its tensile strength, and the interspersed crystals of hydroryapatite give bone its compressional strength. These effects are synergistic.

151. What is the normal orientation of humeral head -

a) Retroversion of 80 degrees

b) Retroversion of 30 degrees

c) Anteversion of 15 degrees

d) Anteversion of 50 degrees

Correct Answer - B

Answer- B. Retroversion of 30 degrees

- Normal humeral retroversion is 25-35 degrees.
- Normal femoral anteversion is 8-15 degrees

152. A 70 year old male , known case of chronic renal failure suffers from a pathological fracture of Rt femur, the diagnosis is

a) Primary Hrperparathyroidism

b) Secondary Hyperparathyroidism

c) Scurvy

d) Vitamin D Resistant rickets

Correct Answer - B

Answer- B. Secondary Hyperparathyroidism

- In CRF there is secondary hyperparathyroidism which causes pathological fracture.

153. All of the following are features of pyle disease except

a) It is an autosomal recessive disease

b) It is an epiphyseal dysplasia

c) Mental retardation is uncommon

d) Dental caries and mandibular prognathism

Correct Answer - B

Answer- B. It is an epiphyseal dysplasia

- Metaphyseal dysplasia, also known as Pyle's disease, Pyle's syndrome, Pyle-Cohn syndrome, and Bakwin-Krida syndrome is a rare disease in which the outer part ofthe shafts oflong bones is thinner than normal and there is an increased ihance of fractures.

154. Preferred treatment of cubitus varus is -

a) Medial closing wedge osteotomy

b) Lateral closing wedge osteotomy

c) Medial opening wedge osteotomy

d) Lateral opening wedge osteotomy

Correct Answer - B

Answer- B. Lateral closing wedge osteotomy

- Cubitus varus- lateral closing wedge osteotomy, medial opening wedge osteotomy.

155. Which of the following is true about anterior shoulder dislocation -

a) It is most common type of shoulder dislocation

b) It is most commonly subclavicular

c) Patient keeps his arm in saluting position

d) Injury to brachial plexus may occur

Correct Answer - A

Answer- A. It is most common type of shoulder dislocation

- Most common type of shoulder dislocation is anterior dislocation (subcoracoid being most common).
- Patient keeps his arm by the side ofthebodyin apositionofabduction anilerternalrotation

156. All of the following are associated with frozen shoulder except

a) Diabetes

b) Hyperthyroidism

c) Psoriasis

d) Hemiplegis

Correct Answer - C

Answer- C. Psoriasis

Frozen shoulder, also known as adhesive capsulitis ot periarthritis is of shoulder, is characterized,by progressive pain and stiffness of the shoulder which usually resolves spontaneously after about l8 months.

The condition is particularly associated with-

- Diabetes
- Dupuytren's disease
- Hyperlipidemia
- Cardiac disease
- Hyperthyroidism
- Hemiplegia

157.

In a patient with history of trauma and X-ray showing fracture of proximal part of medial bone of forearm with dislocation. The muscles which may get paralysed-

a) Flexor carpi ulnaris

b) Adductor pollicis

c) Extensor pollicis longus

d) Opponens pollicis

Correct Answer - C

Answer- C. Extensor pollicis longus

- Fracture of proximal part of medial bone of forearm (ulna) with dislocation is Monteggia fracture-dislocation.
- Most common nerve which may be injured in Monteggia fracture-dislocation is posterior interosseus nerve (PIN).

158. A 23 year old profession footballer sufferd a twisting injury to his right ankle. On examination there is a lot of swelling around the medial malleolus but xray doesn't show any fracture. The structure injured could be -

a) Deltoid Ligament

b) Anterior talofibular ligament

c) Spring ligament

d) Tendo Achilles

Correct Answer - A

Answer- A. Deltoid Ligament

- Deltoid ligament injuries involve the deltoid ligament that forms the medial part of the anHe joint.
- It attaches the medial malleolus to multiple tarsal bones.
- It occurs due to eversion and/orpronation injury, or can be associated with lateral ankle fractures.

159. In Complete ACL rupture the tibia moves over the femur in which direction -

a) Forward

b) Backward

c) lateral

d) Medial

Correct Answer - A

Answer- A. Forward

- There is excessive anterior translation of the tibia with femur in ACL Injury.

160. Which of the following is bone forming malignant tumour?

a) Osteoid osteoma

b) Osteosarcoma

c) Chondrosarcoma

d) Giant cell tumour

Correct Answer - B
Answer- B. Osteosarcoma

- Bone forming malignant tumor → osteosarcoma

161. Shenton's line is -

a) Line joining ASIS and ischeal tuberosity

b) Line joining ASIS and tip of GT

c) Line joining two ASIS [left & right]

d) Curve formed by neck of femur and obturator foramen

Correct Answer - D

Answer- D. Curve formed by neck of femur and obturator foramen

- It is a smooth curve formed by inferior border of neck of femur with superior margin of obturator foramen.

162. Secondary osteosarcoma are associated with

a) Paget's disease

b) Osteogenesis imperfecta

c) Melhoreostosis

d) Ankylosing spondilitis

Correct Answer - A
Answer- A. Paget's disease
Causes of secondary osteosarcoma

- Pagets Disease
- Fibrous dysplasia
- Enchondromatosis
- Hereditary multiple exostosis
- Radiation
- Chronicosteomyelitis
- Bone infarction

163. All of the following are red flag signs of back pain except -

a) Previous history of malignancy

b) Previous history of steroid use

c) Saddle anaesthsia

d) Age between 35-50

Correct Answer - D

Answer- D. Age between 35-50

Features

- Previous history malignancy (however long ago)
- Age 16< or >50 with NEW onset pain
- Weight loss (unexplained)
- Previous longstanding steroid use
- Recent serious illness
- Recent significant infection

Signs

- Saddle anaesthesia
- Reduced anal tone
- Hip or knee weakness

164. A 18 year old male presents with a draining sinus on his left leg with pus discharge and discharge of bony pieces since in 3 months. The diagnosis

a) Chronic osteomyelitis

b) Ewing's Sarcoma

c) Osteoid Osteoma

d) Cellulitis

Correct Answer - A

Answer- A. Chronic osteomyelitis

- A history of bone piece discharge from the chronic sinusis considered diagnostic of chronic osteomyelitis.

165. Irregular thigh folds are seen in -

a) Developmental dysplasia of hip

b) Perthe's disease

c) Slipped Capital femoral epiphysis

d) Congenital coxa vara

Correct Answer - A
Answer- A. Developmental dysplasia of hip

166. Pavlic harness is used to treat -

a) Deveopmental dysplasia of hip

b) Perthe's disease

c) Slipped Capital femoral epiphysis

d) Congenital coxa vara

Correct Answer - A
Answer- A. Deveopmental dysplasia of hip
Used in CDH -

- Bachelor's or frog leg / lorenz cast
- Von-Rosen's splint
- Pavlic Harness

167. Tom smith's arthritis is due to

a) Pyogenic infection in infancy

b) TB

c) RA

d) OA

Correct Answer - A

Answer- A. Pyogenic infection in infancy

- Tom smith arthritis is the sepfic arthritis of hip joint, occurs in infancy. At this stage head of the femur is cartilaginous and is rapidly and completely destroyed by the pyogenic process.

168. Pain and arthritis of distal interphalangeal joint is seen in

a) Osteoarthritis

b) Rheumatoid Arthritis

c) Ankylosing spondylitis

d) Dequervain's disease

Correct Answer - A
Answer- A. Osteoarthritis

169. The last deformity to be corrected by Ponseti's method for CTEV is -

a) Heel Varus

b) Equinus

c) Foot Adduction

d) Cavus

Correct Answer - B
Answer- B. Equinus
Ponseti's technique

- This involves first correcting the cavus deformiry then the adductionand heel varus andfinally the equinus deformity.
- This technique is now mostly accepted technique for CTEV correction as it is based on better understanding ofthe pathoanatomy ofthe deformed foot.
- The success ofreduction is 90-98 Percent.

170. Which of the following is difference between Rheumatoid arthritis and osteoarthritis

a) Osteopytes are seen in osteoarthritis

b) Systemic symptoms are seen in osteoarthritis

c) Rheumatoid arthritis is uncommon in hands and feet

d) Osteoarthritis is an autoimmiune disease

Correct Answer - A

Answer- A. Osteopytes are seen in osteoarthritis

- Osteoarthritis
- Degenerative process
- Osteopytes seen
- Affects elderly
- Small joints of hands and feet affected
- ESR , CRP usually normal

171. In which of the following deformities is the distal interphalangeal joint flexed and proximal interphalangeal joint extended ?

a) Boutonierre Deformity

b) Swan neck deformity

c) Z deformity

d) Claw Hand

Correct Answer - B

Answer- B. Swan neck deformity

- Swan neck deformity: Hyperextension of PIP joint and flexion at DIP joint.

172. Most sensitive test for carpal tunnel syndrome

a) Phalen's test

b) Tinel's sign

c) Tourniquet test

d) None

Correct Answer - A

Answer- A. Phalen's test

There are some provocative tests which act as important screening methods-

- Wrist flexion (Phalenb test) : - The patient is asked to actively place the wrist in compiete flexion.
- If tingling and numbness develop in the distribution of median nerve, the test is positive. This is the most sensitiye provocotive test.
- Tourniquet test
- Medial nerve percussion test (Tinel's sign)
- Median nerve compression test

173. Which of the following nerves has the best prognosis for repair after injury

a) Ulnar

b) Radial

c) Median

d) Lateral popliteal

Correct Answer - B
Answer- B. Radial
Excellent :- Radial, Musculocutaneous, femoral, digital aerves

174. Wolff's law states that -

a) If a bone is continuously subjected to a particular stress it will adapt to become stronger to resist that loading

b) Only Diaphysis allows longitudinal growth in childhood

c) Any infection not showing periosteal reaction within 1 week of symptoms can be ruled out to be osteomyelitis

d) Angular deformities will progress till the closure of physis

Correct Answer - A

Answer- A. If a bone is continuously subjected to a particular stress it will adapt to become stronger to resist that loading

- Wolffs law states that bone in a healthy person or animal will adapt to the loads under which it is placed.
- If loading on a particular bone increases, the bone will remodel itself over time to become stronger to resist that sort of loading.

175. Nutrient and oxygen reach the chondrocytes across perichondrium by -

a) Capillaries

b) Diffusion

c) Along neurons

d) Active transport

Correct Answer - B

Answer- B. Diffusion

- chondrocytes within the matrix must receive nutrients and oxygen by diffusion from vessels that lie outside the cartilage.

176. Which of the following is tarsometatarsal amputation ?

a) Sarmiento's Amputation

b) Lisfranc's Amputation

c) Chopart's Amputation

d) Syme's Amputation

Correct Answer - B

Answer- B. Lisfranc's Amputation

- Lisfranc's Amputation- tarsometatarsal amputation
- Sarmiento's Amputation- 1.3 cm proximal to ankle joint
- Syme's amputation- through ankle joint
- Chopart's amputation- through midtarsal joints

177. Patellar clunk is a known complication of which surgery?

a) Corective osteotomy for genu valgum

b) Total knee Replacement

c) Medial patello femoral ligament reconstruction

d) Bicondylar plating of proximal tibia fracture

Correct Answer - B

Answer- B. Total knee Replacement

- It occurs after total knee replacement.
- It occurs due to presence of hypertrophic synovium in the trochlear notch which rubs against the undersurface of patella with flexion-extension movement of knee thereby producing a clunk.

178. Functional bracing is now the gold standard in nonoperative management of which fractures ?

a) Fracture shaft humerus

b) Fractures of both bones of the forearm

c) Fracture shaft tibia

d) Fracture Shaft Femur

Correct Answer - A

Answer- A. Fracture shaft humerus

- Principle- it relies on the hydrostatic splintage of the fracture due to contraction of muscles in a tight compartment
- It has now become the gold standard of conservative management of humerus fractures.

179. Which of the following fractures is associated with high mortality and morbidity ?

a) Femur Shaft fractures

b) Pelviacetabular fractures

c) Subtrochanteric fractures

d) Shaft tibia fractures

Correct Answer - B

Answer- B. Pelviacetabular fractures

Pelviacetabular fractures are associated with high morbidity and mortality because :

- Theyare caused by high velocity injuries
- They can have associated compound fractures along
- There may be damage to associated pelvic and abdominal organs
- There is significant blood loss present usually

180. Ossification centre of scaphoid appears at

a) 1-6 months

b) 1 to 2 years

c) 2 to 4 years

d) 4 to 6 years

Correct Answer - D
Answer- D. 4 to 6 years

181. Loosers zone are seen in which of the following conditions -

a) Osteoporosis

b) Osteoporosis

c) Rickets

d) Scurvy

Correct Answer - B:C
Answer- B>.C. Osteoporosis and (C) Rickets
Causes of Looser's zones (pseudofracture or Milkman's fracture)

- Rickets
- Fibrous dysplasia
- Paget's disease
- Osteomalacia(most characteristic)
- Renal osteodystrophy

182. Overcorrection of CTEV may lead to which of the following deformity

a) Rocker bottom foot

b) Calcaneovalgus

c) Metatarsus Adductus

d) Hammer toe

Correct Answer - A

Answer- A. Rocker bottom foot

Rocker Bottom Foot-it means the foot has a convex plantar surface with apex of convexity at the talar head.

Causes of rocker bottom foot include

- Congenital verticaltalus
- Overcorrection of CTEV
- Improper correction of CTEV i.e. forceful correction of equines by dorsiflexion before correction of adduction, varus and inversion.
- Edward's syndrome, Escobar syndrome, Apert's syndrome.

183. Loosers Zones/ Pseudofractures are commonly seen in the following areas except -

a) Scapula

b) Ribs

c) Pelvis

d) Radius

Correct Answer - D

Answer- D. Radius

- Scapula
- Medial femoral neck & shaft
- Pubic & Ischial rami
- Lesser trochantert
- Ribs & clavicle
- Proximal ulna & radius
- Phalanges, metacarpals & metatarsals

184. All of the following are described surgical procedures for CTEV except

a) Dwyer's osteotomy

b) Posteromedial soft tissue release

c) Triple Arthrodesis

d) Salter's osteotomy

Correct Answer - D

Answer- D. Salter's osteotomy

- Tendon transfer :- Transfer of tibialis - anterior on the outer side of foot. This can be done only after 5 years.
- Dwyer osteotomy :- Medial open wedge osteotomy of calcaneum to correct heel varus.
- Gradual diferential distraction :- In this an external fixator (JESS or Illizarov) is applied and gradual correction of deformity
- > 10 years:- Triple arthrodesis (subtalar, calcaneo-cuboid, and talonaviculardjoints)

185. Jones Fracture is -

a) Fracture neck of 2nd metatarsal

b) Fracture base of 5th Metatarsal

c) Fracture dislocation of metatarsophalangeal joints

d) Fracture Neck of talus

Correct Answer - B

Answer- B. Fracture base of 5th Metatarsal

- Jones fracture- avlusion fracture at the base of 5th metatarsal

186. Lisfranc Fracture is -

a) Fracture dislocation at the tarsometatarsal joint

b) Intertarsal dislocation

c) Avulsion of calcaneal tuberosity

d) Fracture neck of talus

Correct Answer - A
Answer- A. Fracture dislocation at the tarsometatarsal joint

187. A 4 year old child suffered from a fall on outstretched hand. X rays revealed a fracture with the fracture line at the physes with a small metaphyseal fragment.
There was no epiphyseal fracture. What type of injury by Salter Harris Classification is this ?

a) I

b) II

c) III

d) IV

Correct Answer - B
Answer- B. II

- Type II : The fracture involves the physis and a triangle of metaphyseal bone (Thurston Holland sign).This is the commonest type of epiphyseal injury.

188. Which of the following is true about Cones Fracture?

a) Volar angulation with Radial deviation occurs

b) It is an intra articular fracture

c) It may lead to gunstock deformity due to malunion

d) It is associated with dorsal angulation

Correct Answer - D
Answer- D. It is associated with dorsal angulation

189. Total duration of antibiotics in acute osteomyelitis is

a) 4 weeks

b) 2 weeks

c) 6 weeks

d) 8 weeks

Correct Answer - C

Answer- C. 6 weeks

- Total duration of antibiotics for acute osteomyelitis is 6 weeks → 2 weeks intravenous and 4 weeks oral.

190. All of the following are true about ACL Except

a) Prevents anterior motion of femur over tibia

b) Prevents anterior motion of tibia over femur

c) Also provides secondary varus-valgus stability

d) Is taught in extention of knee

Correct Answer - A
Answer- A. Prevents anterior motion of femur over tibia

191. A six year old child presented with a valgus deformity at his right elbow since 3 years that is gradually progressive.He has history of cast applied for 6 weeks after fall on outstretched hand 3 years back. The probable fracture was -

a) Malunited Lateral Condylar fracture of Humerus

b) Malunited Supracondylar Fracture of Humerus

c) Posterior dislocation of elbow

d) Fracture medial condyle of humerus

Correct Answer - A
Answer- A. Malunited Lateral Condylar fracture of Humerus
Fractures commonly showing cubitus valgus deformity due to malunion

- Fracture lateral condyle humerus
- Monteggia Fracture Dislocation

192. Most common cause of AVN of the hip is

a) Idiopathic

b) Alcoholism

c) Caissons Disease

d) Fracture neck of femur [post traumatic]

Correct Answer - A
Answer- A. Idiopathic
Causes ofAVN hip

- Idiopathic (most common)
- Infection- septic arthritis, osteomyelitis
- Hematological malignancies- leukemia, lymphoma
- Alcohol,corticosteroids
- SLE
- Pregnancy
- Cassions disease
- Hyperlipidemia
- Perthes diseas
- Ionising radiation

193. Seddon grading is used for -

a) Classification of nerve injuries

b) Grading of open fractures

c) Classification Potts paraplegia

d) Grading of severity of malignant bone tumours

Correct Answer - A:C
Answer- A & C. Classification of nerve injuries and
(C) Classification Potts paraplegia
Seddons classification is used in :
1. Peripheral nerve injury
2. Potts paraplegia

194. Investigation of choice for spinal TB

a) X-ray

b) CT Scan

c) MRI

d) PET Scan

Correct Answer - C

Answer- C. MRI

- Best view for Cl-C2 vertebrae & junction → open mouth odontoid (pegs) view.
- Investigation of choice for spinal tuberculosis → MRI
- Investigation of choice for traumatic paraplagia → MRI

195. Perthes affects age group

a) < 4 yrs

b) 4 - 8 yrs

c) 10 - 25 yrs

d) > 25 yrs

Correct Answer - B

Ans. B. 4 - 8 yrs

- Perthe's disease is also known as osteochondritis deformans juvenilis or Coxa plana or Pseudocoxalgia.
- Perthe's disease is an osteochondritis of the epiphysis of the femoral head (capital femoral epiphysis).
- The disease occurs commonly in males in the age group of 5-10 years.

196. Fracture of the Anterolateral lower end tibia -

a) Tillaux fracture

b) Bosworth fracture

c) Gosselin fracture

d) Segond fracture

Correct Answer - A
Answer- A. Tillaux fracture

197. Intraarticular steroid is least prefferd in osteoarthritis is -

a) Triamcenolone

b) Hydrocortisone

c) Prednisolone

d) Betamethasone

Correct Answer - C

Answer- C. Prednisolone

Corticosteroids used for intraarticular injections:-

1. Hydrocortisone acetate (Hydrocortone).
2. Methylprednisolone acetate (Depo-medrol).
3. Triamcinalone acetonide (Aristocort).
4. Dexamethasone sodium phosphote (Decadron).
5. Betamethasone sodium phosphate and acetate.

198.

Extra cervical rib usually compresses which part of brachial plexus -

a) Lateral cord

b) Upper trunk

c) Middle trnlk

d) Lower trunk

Correct Answer - D
Answer- D. Lower trunk
Extra cervical rib can cause thoracic outlet syndrome in which following structures are compressed:
1. Lower trunk of brachial plexus (C8 and T1)
2. Subclavian vessels

199. All are features of pagets disease except -

a) Defect in osteoclasts

b) Common in females

c) Can cause deafness

d) Can cause osteosarcoma

Correct Answer - B
Answer- B. Common in females
Paget's disease is stightly more common in males and is seen after 40 years of age,

- The pelvic and tibia being the commonest sites, and femur, skull, spine (vertebtae) anil clavicle the next common.
- Deafness and osteosarcoma (rarely) are complications of Paget's disease.\
- Primary defect is in osteoclasts

200. Holdsworth classification of thoracolumbar spine fracture is based on how many columns of spine?

a) Two

b) Three

c) Five

d) Four

Correct Answer - A
Answer- A. Two
Holdsworth,s proposed two column concept of thoracolumbar spine fracture
1. Antetior column : Consists vertebral body, annulus fibrous, Anterior and posterior longitudinal ligaments
2. posterior column: Consists of vertebral arch (pedicle, facets, laminae) and posterior ligaments (ligamentum flavum,interspinous and supraspinus ligament)

201. Ponseti method is used for?

a) Rickests

b) Blount's disease

c) CTEV

d) Congenital vertical tallus

Correct Answer - C
Answer- C. CTEV

202. Fall on foot causes?

a) Pond fracture

b) Gutter fracture

c) Cerebral hemisphere divided into half

d) Compression fracture

Correct Answer - D
Answer- D. Compression fracture
Fall from heigh on foot causes:

- Calcanealfracture
- Compression fracture of spine / vertebrae
- Fracute around Hip /pelvis

203. High fall on feet after accident causes fracture of

a) Occipital ring fracture

b) Temporal bone fracture

c) Parietal bone fracture

d) Motorcyclist fracture

Correct Answer - A

Answer- A. Occipital ring fracture

Ring fracture

- An annular bone fracfure at the base of the posterior fossa around the foramen magnum
- Accompanied by compression fractures of vertebrae and blunt trauma to soft tissue.
- Mechanism is fall or jump from heights, usually > 5 stories, onto the feet or buttocks.