

1. The “snap” felt just before entering the epidural space represents passage through which ligament?
(A) Posterior longitudinal ligament.
(B) Ligamentum flavum.
(C) Supraspinous ligament.
(D) Interspinous ligament.
2. A 42-year-old woman presents to the clinic for evaluation. She has a six months history of chronic pain in her arms, legs, and back. Repeated evaluations, including x-rays, chemistry, and autoimmune workup, have been unremarkable. Physical examination does not show any joint deformities. She does appear to have tender points in symmetrical areas over the legs, arms, and shoulders. She has a history of bipolar disorder, for which she takes lithium. What is the most likely diagnosis?
(A) Seronegative rheumatoid arthritis.
(B) Diabetic neuropathy.
(C) Syringomyelia.
(D) Fibromyalgia.
3. The pain management physician assesses a 67-year-old patient for reports of episodic, sudden-onset, right-sided facial pain. The patient describes the pain as fleeting, electric-like and triggered by light touch and brushing of the teeth. What is the most likely diagnosis?
(A) Facet syndrome.
(B) Myofascial pain syndrome.
(C) Temporomandibular disorder.
(D) Trigeminal neuralgia.
4. Complex Regional Pain Syndrome:
(A) Characterized by disabling pain, swelling, vasomotor instability, pseudomotor abnormality and impairment of motor function.
(B) Type II CRPS was formally known as reflex sympathetic dystrophy.
(C) To be managed with sympathetic blocks only.
(D) Physiotherapy has no role.
5. Radiation dose to the patients and medical personnel can be reduced by:
(A) Decreasing the distance between the image intensifier and the patient.
(B) Increasing the distance between the image intensifier and the patient.
(C) Using continuous fluoroscopy.
(D) Oblique views.
6. The greater splanchnic nerve is formed by which of the following sympathetic nerves:
(A) T4– T8.
(B) T5 - T9.
(C) T10 - T11.
(D) T12.
7. What is the “therapeutic index” of a drug?
(A) A measure of the likelihood to induce a therapeutic effect in 50% of treated animals.
(B) A measure of the likelihood that a drug will cure an animal.
(C) The dose of drug required to produce a specific effect in 50% of treated animals.
(D) A measure of the margin of safety of a drug.

8. Which two regions of the brain participate in integration of descending inhibition?
 - (A) Periaqueductal grey area and rostral ventromedial medulla.
 - (B) Corpus callosum and thalamus.
 - (C) Hippocampus and amygdala
 - (D) Lateral ventricle and hippocampus.

9. What happens to USG image if probe frequency increases?
 - (A) Penetration increases and resolution increases
 - (B) Penetration decreases and resolution increases
 - (C) Penetration decreases and resolution decreases
 - (D) Penetration increases and resolution decreases.

10. Outcome of hospice care are all except:
 - (A) Decrease patient's symptom burden.
 - (B) Prolongs survival.
 - (C) Cost-effective care.
 - (D) Increased care giver's satisfaction.

11. Statement A – Morphine contributes to cancer cell survival & growth by revascularization mediated by upregulation of VEGF, increased expression of NET1
Statement B- Morphine activated CD8+ Cell function and promoted anticancer activity in vitro. Which of the above are true?
 - (A) Both A & B.
 - (B) B.
 - (C) A.
 - (D) None of these.

12. Which of the following should be avoided for pain control in malignant conditions?
 - (A) Remifentanil.
 - (B) Fentanyl.
 - (C) Pethidine.
 - (D) Methadone.

13. Neuraxial block is not contraindicated for patients on which of the following drugs:
 - (A) Warfarin.
 - (B) Low-molecular-weight heparin.
 - (C) Aspirin.
 - (D) Clopidogrel.

14. Abrupt withdrawal of steroids can lead to:
 - (A) Malignant hypertension.
 - (B) Sickle cell crisis.
 - (C) Addisonian crisis.
 - (D) Psychosis.

15. The femoral nerve lies:
- (A) Medial to the femoral artery.
 - (B) Anterior to the femoral artery.
 - (C) Posterior to the femoral artery.
 - (D) Lateral to the femoral artery.
16. Which of the following medications is associated with extrapyramidal effects?
- (A) Midazolam.
 - (B) Glycopyrrolate.
 - (C) Metoclopramide.
 - (D) Famotidine.
17. The MOST likely analgesic mechanism of action of Pregabalin for neuropathic pain is:
- (A) Antagonism at the GABA receptor.
 - (B) NMDA receptor inhibition.
 - (C) Sodium channel blockade.
 - (D) Calcium channel modulation.
18. Blood supply to the human spinal cord includes all of the following, except:
- (A) Blood supply to the spinal cord is from a single anterior spinal artery and two posterior spinal arteries.
 - (B) The anterior spinal artery supplies the anterior two-thirds of the spinal cord, and the posterior spinal arteries supply the posterior one-third.
 - (C) Anterior spinal artery originates from the vertebral artery.
 - (D) Posterior spinal artery originates from the posterior cerebral artery.
19. When performing a transversus abdominis plane (TAP) block, the goal is to deposit/inject local anaesthetic between which of the following two muscle layers?
- (A) External oblique and internal oblique muscles.
 - (B) Internal oblique and transversus abdominis muscles.
 - (C) Transversus abdominis and external oblique muscles.
 - (D) Rectus abdominis and external oblique muscles.
20. What is “transduction”?
- (A) Converting the signal into an awareness of a pain.
 - (B) Relaying a nociceptive signal to the brain.
 - (C) Converting a noxious stimulus into an electrical signal.
 - (D) Relaying a noxious stimulus to the spinal cord.
21. Activation of which of the following mechanisms and/or pathways best describes “central sensitization” at the level of the spinal cord:
- (A) Second-order wide dynamic range neurons.
 - (B) Dorsal horn neuron.
 - (C) Spinal cord reflexes.
 - (D) All of the above.

22. A 26-year-old female undergoes a left stellate ganglion block for treatment of complex regional pain syndrome of the left hand. Twenty minutes after the block is placed, skin temperature in the left arm rises from 33 to 36.5°C. Venous engorgement of the left arm and hand, left eye papillary constriction, and drooping of the eyelid are observed. The pain is not relieved. Which of the following can best explain the block failure?
- (A) Pain-carrying fibres originated from right stellate ganglion.
 - (B) Pain-carrying fibres originated from middle cervical ganglion.
 - (C) Pain-carrying fibres originated from inferior cervical ganglion.
 - (D) Pain-carrying fibres originated from second thoracic ganglion.
23. Possible complications to disclose when obtaining an anaesthesia consent from a patient prior to performance of a celiac plexus block include all of the following, except:
- (A) Postural hypotension and light-headedness.
 - (B) Constipation and urinary retention.
 - (C) Vena cava and aortic vascular injury.
 - (D) Retroperitoneal haemorrhage.
24. Regarding the treatment of neuropathic pain, the correct statement is:
- (A) Narcotics is the most effective and “first-line” treatment option.
 - (B) It is most optimally treated with multimodal therapies.
 - (C) Sympathetic blockade will eliminate all neuropathic pain.
 - (D) Spinal cord stimulator is not an effective therapy.
25. Facet syndrome is characterized by all the following, except:
- (A) Pain relieved by local anesthetic injection of the medial branches of the posterior rami of spinal nerves.
 - (B) Pain relieved by an intra-articular injection of the zygapophyseal joints.
 - (C) Pain can be exacerbated by overextension and lateral rotation of back.
 - (D) Pain is sympathetically mediated.
26. . Incorrect statement regarding myofascial pain is:
- (A) Myofascial pain is associated with muscle discomfort (pain, stiffness, weakness, spasm).
 - (B) Patient may have several trigger points producing pain upon stimulation.
 - (C) Systemic diseases such as connective tissue disease may cause myofascial pain.
 - (D) Myofascial pain is never associated with autonomic dysfunctions.
27. A 56-year-old man presented to his primary care physician with a complaint of right buttock and right leg pain along with numbness and tingling sensations. He was subsequently diagnosed with a piriformis syndrome (trapped nerve). The nerve(s) responsible for this diagnosis is/are:
- (A) Femoral and saphenous nerves.
 - (B) Ilioinguinal nerve.
 - (C) Sciatic nerve.
 - (D) Obturator and femoral nerves.

28. Types of pain disorders that are commonly treated using “sympathetic blockade” include all of the following, except:
- (A) Complex regional pain syndrome.
 - (B) Phantom limb pain.
 - (C) Post-herpetic neuralgia.
 - (D) Acute pain due to pelvic exenteration.
29. All the following are inhibitory neurotransmitters in the pain pathway, except?
- (A) Norepinephrine
 - (B) Adenosine
 - (C) Serotonin
 - (D) Calcitonin gene-related peptide.
30. Which of the following clinical diagnoses best describes deafferentation pain?
- (A) Herniated disk
 - (B) Amputation
 - (C) Neuropathic pain
 - (D) Diabetic neuropathy.
31. A distinguishing feature of a cluster headache is that it occurs:
- (A) Bilaterally.
 - (B) Globally.
 - (C) Occipitally.
 - (D) Unilaterally.
32. A 74-year-old patient undergoes a lumbar sympathetic blockade to improve blood flow after sustaining a frostbite injury to the left lower extremity. Clinical findings that would suggest a successful block include?
- (A) Inability to dorsiflex the foot.
 - (B) Piloerection on the legs.
 - (C) Numbness from the knee to the toes.
 - (D) Temperature increase in the legs.
33. Regarding Gabapentin, which of the following statements is FALSE?
- (A) It is thought to inhibit calcium channels that are upregulated during central sensitization
 - (B) Side effects include drowsiness and weight gain
 - (C) It has low bioavailability because of the ‘first pass’ effect of hepatic metabolism
 - (D) It can be given prophylactically to inhibit hyperalgesia related to incisions.
34. A 12-year-old oncology patient who is receiving in-home care without IV access needs medication for breakthrough pain. The most effective route of administration to recommend is:
- (A) Intranasal.
 - (B) Nebulized.
 - (C) Oral transmucosal.
 - (D) Transdermal.

35. Personnel radiation protection can be achieved by:
- (A) Lead aprons.
 - (B) Lead glasses.
 - (C) Increased distance from the x-ray.
 - (D) All of the above.
36. Standard deviation is a measure of:
- (A) Chance.
 - (B) Dispersion.
 - (C) Central tendency.
 - (D) Location.
37. The femoral nerve originates from which of the following roots:
- (A) T12, L1, L2.
 - (B) L1, L2, L3.
 - (C) L2, L3, L4.
 - (D) L3, L4, L5.
38. Blood supply to spinal cord:
- (A) 2 post spinal and 2 ant spinal art.
 - (B) 1 post spinal and 1 ant spinal.
 - (C) 2 post spinal and one ant spinal.
 - (D) Branches of lumbar arteries.
39. Which of the following is natural opioid?
- (A) Morphine.
 - (B) Pethidine.
 - (C) Tramadol.
 - (D) Methadone.
40. All of the following are indications for a stellate ganglion block EXCEPT:
- (A) Upper extremity embolism.
 - (B) Reflex sympathetic dystrophy.
 - (C) Acute herpes zoster (ophthalmic division).
 - (D) Hyperhidrosis.
41. Empathy identifies with:
- (A) Psychiatric.
 - (B) Active listening.
 - (C) Sympathy.
 - (D) Apathy.
42. Following routes of administration avoid “first-pass” hepatic effects EXCEPT:
- (A) Intravenous.
 - (B) Sublingual.
 - (C) Oral.
 - (D) Transdermal.

43. According to the gate model of pain, activation of which fibres close the gate:
- (A) A Delta.
 - (B) A beta fibres.
 - (C) B fibres.
 - (D) C fibres.
44. Tramadol is thought to have several mechanisms of action. Which of the following is NOT attributed to tramadol:
- (A) Inhibits reuptake of norepinephrine.
 - (B) Weak mu receptor agonist.
 - (C) Inhibits cyclooxygenase activity.
 - (D) Inhibits reuptake of serotonin.
45. What is the primary mechanism by which lidocaine and bupivacaine provide local analgesia?
- (A) Desensitize the transient receptor potential (TRP) ion channels in peripheral nociceptors.
 - (B) Block sodium channels, thus inhibiting action potentials along A-delta and C fibres.
 - (C) Inhibit calcium influx, thus reducing the release of excitatory transmitter substances.
 - (D) Enhance potassium efflux, causing hyperpolarization to inhibit conduction in C fibres
46. Potential side effects of an opioid epidural include all the following, EXCEPT?
- (A) Hypertension
 - (B) Nausea
 - (C) Pruritus
 - (D) Urine retention
47. What is neuropraxia?
- (A) Pain due to peripheral nerve injury.
 - (B) Abnormal signals are sent by a nerve.
 - (C) Loss of conduction of a nerve.
 - (D) Anatomical disruption of a nerve.
48. Which of the following is a characteristic of A-delta fibers?
- (A) Activated before other nociceptors with acute trauma.
 - (B) Primarily low-threshold mechanoreceptors.
 - (C) Associated with sharp, pricking sensation
 - (D) Unmyelinated.
49. What is “hyperalgesia”?
- (A) An increased response to a stimulus that is not normally painful.
 - (B) An exaggerated pain response that is much beyond protective usefulness.
 - (C) An increased response to a stimulus that is normally painful.
 - (D) Any response to a stimulus at a higher-than-normal threshold.

50. Which of the following agents is LEAST effective in inducing preemptive analgesia?
- (A) Local anaesthetics.
 - (B) Inhalational anaesthetic agents.
 - (C) Mu opioid agonists.
 - (D) Alpha adrenergic agonists.
51. The term “vanilloid” refers to a group of substances related structurally and pharmacologically to:
- (A) Capsaicin.
 - (B) Vanilla.
 - (C) VSMS.
 - (D) TENS.
52. Mydriasis, tachypnea, tachycardia, delirium and a modest decrease in pain can be produced by agonists of which receptor type:
- (A) Mu.
 - (B) Sigma.
 - (C) Kappa.
 - (D) Delta.
53. Which of the following is a recommended treatment for trigger points?
- (A) Effleurage.
 - (B) Ischemic compression using one or two fingers.
 - (C) Gently tapping on the trigger point.
 - (D) Application of a static magnet directly over the point.
54. Which of the following is NOT a barrier to the optimum use of palliative care at the end of life?
- (A) Easily determined prognoses.
 - (B) Reimbursement policies.
 - (C) Lack of well-trained healthcare professionals.
 - (D) Attitudes of patients, families, and clinicians.
55. The Visual Analogue Scale (VAS) consists of a 10-cm line that is labeled “No pain at all” on the left and “The worst pain imaginable” on the right. Patients are asked to mark on the line how strong their pain is at the moment. How is the line divided, if at all?
- (A) No division.
 - (B) 1 mm division.
 - (C) 1 cm division.
 - (D) 2 cm division.
56. A hyperbaric local anaesthetic solution would have a specific gravity of:
- (A) 0.9980.
 - (B) 0.9950.
 - (C) 1.0000.
 - (D) 1.0010.

57. Which local anaesthetic can cause methemoglobinemia.
- (A) Lignocaine
 - (B) Bupivacaine.
 - (C) Prilocaine.
 - (D) Cocaine.
58. Location of subclavian artery in relation to stellate ganglion:
- (A) Location of subclavian art. In relation to stellate ganglion.
 - (B) Laterally.
 - (C) Anteriorly.
 - (D) Posteriorly.
59. Mandibular nerve supplies motor nerve to all except:
- (A) Muscles of mastication.
 - (B) Myelohyoid and ant. Belly of digastric.
 - (C) Buccinator.
 - (D) Tensor tympani.
60. One of the effects created by activation or increased release of substance P is:
- (A) Analgesia.
 - (B) Vasoconstriction.
 - (C) Vasodilation.
 - (D) Membrane stabilization.
61. Pregnancy related pelvic girdle pain:
- (A) Mostly involves sacroiliac joint.
 - (B) There is strong correlation between pelvic pain and blood relaxin level.
 - (C) Epidural labour analgesia is contraindicated.
 - (D) Starts in the first trimester.
62. The highest dose of ionising radiation to the patient occurs during:
- (A) Chest X-ray.
 - (B) Isotope bone scan.
 - (C) CT spine.
 - (D) CT head.
63. Pain from skin derives from:
- (A) Epidermis.
 - (B) Hypodermis.
 - (C) Sub dermis.
 - (D) Dermis.
64. Which statement is correct?
- (A) $A\beta$ fibres are thickly myelinated and normally transmit nociceptive stimuli.
 - (B) $A\delta$ fibres can alter the rate of firing depending on the intensity of stimuli and terminate in laminae I, IV and V.
 - (C) $A\delta$ fibres are unmyelinated and slower conducting than $A\beta$ transmission.
 - (D) C fibres are non-myelinated and rapid conducting.

65. The brain and spinal cord are enclosed by three layers of membranes from outer to inner is:
- (A) The dura mater, the arachnoid, the pia mater.
 - (B) The dura mater, the pia mater, the arachnoid.
 - (C) The pia mater, the arachnoid, the dura mater.
 - (D) None.
66. Maxillary nerve exits through:
- (A) Foramen magnum.
 - (B) Foramen Spinosum.
 - (C) Foramen Ovale.
 - (D) Foramen rotundum.
67. Lumbar Plexus lies within:
- (A) Quadratus Lumborum Muscle.
 - (B) Psoas Muscle.
 - (C) Piriformis Muscle.
 - (D) Rectus abdominis Muscle.
68. Largest sensory branch of femoral nerve:
- (A) Lateral femoral cutaneous nerve.
 - (B) Saphenous nerve.
 - (C) Anterior Cutaneous nerve.
 - (D) None.
69. Insertion of Supraspinatus muscle at:
- (A) Greater Tuberosity of Humerus.
 - (B) Lesser Tuberosity of Humerus.
 - (C) Coracoid Process.
 - (D) All of the above.
70. Popliteus muscle helps the following knee action:
- (A) Unlocking.
 - (B) Locking.
 - (C) Both.
 - (D) None.
71. Blood supply of nucleolus pulposus is by:
- (A) Metaphyseal artery.
 - (B) Spinal arteries.
 - (C) Sinovertebral artery.
 - (D) Avascular.
72. Loss of plantar reflex occurs in:
- (A) L5 radiculopathy.
 - (B) S1 radiculopathy.
 - (C) L4 radiculopathy.
 - (D) None.
73. Ruffini end organ is associated with sensation of:

- (A) Sustained pressure.
 - (B) Heat.
 - (C) Touch.
 - (D) Cold.
74. Small intestine peristalsis is controlled by:
- (A) Myenteric plexus.
 - (B) Vagus nerve.
 - (C) Meissner plexus.
 - (D) Parasympathetic system.
75. Electric potential of resting membrane for a given electrolyte is given by which:
- (A) Nernst.
 - (B) Goldman.
 - (C) Donnan-gibbs.
 - (D) None.
76. Zero order kinetics is independent of:
- (A) Plasma concentration.
 - (B) Clearance.
 - (C) Volume of distribution.
 - (D) Half life.
77. Which drug doesn't include DMARD:
- (A) Chloroquine.
 - (B) Vincristine.
 - (C) Azathioprine.
 - (D) Leflunomide.
78. Contraindications to vasoconstrictors in local anaesthesia:
- (A) Tumescence anaesthesia.
 - (B) Epidural anaesthesia.
 - (C) Digital nerve block.
 - (D) Infiltration anaesthesia.
79. 30 yrs old male patient presented with Low back Pain and right sided leg pain up to great toe. Pain started suddenly 2 days back at the time of a heavy weight lifting. Pain increases during forward flexion of spine. Right sided SLR test is positive at 60 degree. Crossed SLR test is also positive. Provisional diagnosis is:
- (A) Central canal stenosis.
 - (B) PIVD with L5 Radiculopathy.
 - (C) Facet Joint arthropathy.
 - (D) Degenerative Disc Disease.

80. A 32 year old housewife suffers with episodic moderate to severe left sided pulsating headache lasting for 4-72 hours for last 10 years. She complains of nausea and vomiting during the attack and she have to take rest in a dark and calm room during the attack. MRI of brain and other blood parameters are normal. What is the most probable diagnosis?
- (A) Cluster headache.
 - (B) Tension type headache.
 - (C) Migraine.
 - (D) Secondary headache.
81. Interventional epidemiological studies include:
- (A) Drug trial.
 - (B) Vaccine trial.
 - (C) Both a and b.
 - (D) None of these.
82. A variety of approaches and modalities can be used to treat the physical and emotional aspects of pain. Which of the following is not an alternative method of pain management:
- (A) Meditation.
 - (B) Biofeedback.
 - (C) Transcutaneous electrical nerve stimulation.
 - (D) Electroconvulsive shock.
83. The pain management nurse observes a patient with complex regional pain syndrome who is not wearing the right-side jacket sleeve. The patient reports intense, right arm pain upon light touch. The nurse recognizes this pain as:
- (A) Allodynia..
 - (B) Hypoalgesia.
 - (C) Neuritis.
 - (D) Paresthesia.
84. A patient is utilizing a heating pad at home for the treatment of a muscle spasm. The pain management nurse notes the patient is on a transdermal fentanyl patch. What will the nurse include in the patient's education:
- (A) Avoid using the heating pad directly over the patch.
 - (B) Cover the patch with a cloth while using the heating pad.
 - (C) Remove the patch while using the heating pad.
 - (D) Stop the use of the heating pad until the patch is discontinued.
85. The gold standard for the diagnosis of osteoporosis is:
- (A) Dual energy X-Ray absorptiometry.
 - (B) Single energy X-Ray absorptiometry.
 - (C) Ultrasonography.
 - (D) Quantitative computed Tomography.

86. Medial meniscus is more vulnerable to injury because of:
- (A) Its fixity to tibial collateral ligament.
 - (B) Its semicircular shape.
 - (C) Action of adductor magnus.
 - (D) Its attachment to fibrous capsule.
87. A lady presents with a history of fracture radius, which was put on plaster of paris casts for 4 weeks. After that she developed swelling of hands with shiny skin. What is the most likely diagnosis:
- (A) Rupture of extensor pollicis longus tendon.
 - (B) Myositis ossificans.
 - (C) Reflex sympathetic dystrophy.
 - (D) Malunion.
88. Most common cause of peripheral limb ischaemia in India is:
- (A) Trauma.
 - (B) Antherosclerotic.
 - (C) Burger's disease.
 - (D) Takayasu's disease.
89. All of the following are true about neurogenic shock except:
- (A) There is a decrease in systemic vascular resistance and an increase in venous capacitance.
 - (B) Tachycardia or bradycardia may be observed, along with hypotension.
 - (C) He use of an alpha agonist such as phenylephrine is the mainstay of treatment.
 - (D) Severe head injury, spinal cord injury, and high spinal anesthesia may all cause neurogenic shock.
90. Empty can sign is positive in:
- (A) Subscapular tear.
 - (B) Supraspinatus tear.
 - (C) Infrapinatus tea.
 - (D) Tear in short head of biceps.
91. Black tongue, black teeth, visual and tactile hallucinations seen in poisoning due to:
- (A) Opium.
 - (B) Heroin.
 - (C) Cocaine.
 - (D) Cannabis.
92. Ketamine causes all except:
- (A) Potent analgesic effect.
 - (B) Muscle relaxation.
 - (C) Completely excreted by liver.
 - (D) Causes hypertension.

93. Epidural space lies between:
- (A) Pia and arachnoid.
 - (B) Dura and arachnoid.
 - (C) Dura and vertebral column.
 - (D) Pia mater and grey mater.
94. The pathway to be blocked earliest in spinal anesthesia is:
- (A) Autonomic.
 - (B) Motor fibers.
 - (C) Fine sensory fibers.
 - (D) Coarse sensory fibers.
95. Which of the following is not a part of Samter's triad?
- (A) Asthma.
 - (B) Tinnitus.
 - (C) Nasal polyp.
 - (D) Aspirin allergy.
96. Which of the following scale is not used for pain assessment in paediatric patient?
- (A) CHEOPS Scale.
 - (B) TPPS Scale.
 - (C) FLACC Scale.
 - (D) VAS scale.
97. The pain management physician follows the recommended protocol for preventing constipation when starting a patient on opioids by:
- (A) Adding bulk fibre to the diet..
 - (B) Giving the patient enemas as needed.
 - (C) Increasing fluids and exercise.
 - (D) Using a bowel stimulant and stool softener.
98. Which of the following drugs can be used as an antiemetic in palliative care?
- (A) Paracetamol.
 - (B) Haloperidol.
 - (C) Methotrexate.
 - (D) None.
99. Which of the following is not a part of FLACC scale for pain assessment?
- (A) Crying.
 - (B) Consolability.
 - (C) Appearance.
 - (D) Activity.
100. Subarachnoid space usually ends at:
- (A) S2.
 - (B) S3.
 - (C) L5.
 - (D) L4.