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39	A	B	C	D	E

PRACTICE QUESTIONS

Saudi Commission For Health Specialties (SCFHS)

NEURO

Neurosurgery

EDITION

Demo

QUESTIONS

9

FORMAT

Limited Edition PDF

Before you begin

What this is

9 practice questions for Saudi Commission For Health Specialties (SCFHS) **NEURO**, each with its answer key and an explanation. Answer a question before you read its key — the explanation is worth more once you have committed.

If something looks wrong

Send us three things and we will check it:

- the exam code, **NEURO**
- the question number
- the email address on your order

Write to **support@mometrix.net**. We reply within one business day.

QUESTION 1

SINGLE CHOICE

A 34-year-old man is brought to the emergency department after a motor vehicle collision. His Glasgow Coma Scale (GCS) score is 7 (E1, V2, M4), and a non-contrast CT scan of the head shows a thin crescent-shaped hyperdense collection that crosses suture lines but not the midline, without significant mass effect. Which of the following is the most appropriate initial management?

- ☐ A Immediate surgical evacuation via craniotomy
- ☐ B Burr hole aspiration under local anesthesia
- ☐ C Observation with repeat imaging, given the absence of significant mass effect
- ☒ D Placement of an intracranial pressure (ICP) monitor and intensive care unit admission

ANSWER D

WHY The CT findings describe an acute subdural hematoma (crescent-shaped, crosses sutures). Although it is small with no significant mass effect, a GCS of 8 or less is a class I indication for ICP monitoring according to the Brain Trauma Foundation guidelines. Burr hole aspiration is inadequate for an acute SDH, craniotomy is reserved for larger lesions with mass effect or neurological deterioration, and observation alone is inappropriate with a GCS $\leq$ 8.

QUESTION 2

SINGLE CHOICE

A 58-year-old man presents with progressive gait disturbance, hand clumsiness, and upper extremity paresthesias. Examination reveals hyperreflexia in the lower limbs, a positive Hoffmann sign bilaterally, and a wide-based gait. MRI shows multilevel degenerative changes with cord compression at C4–C5 and C5–C6, and T2 hyperintensity within the cord. What is the most appropriate surgical approach?

- ☐ A Anterior cervical discectomy and fusion (ACDF) at C4–C5 and C5–C6
- ☐ B Posterior cervical laminoplasty
- ☒ C Posterior cervical laminectomy and fusion
- ☐ D Halo immobilization for 12 weeks

ANSWER C

WHY Multilevel cervical spondylotic myelopathy with cord signal change (myelomalacia) and kyphotic alignment is best treated by posterior cervical laminectomy and fusion. ACDF is reasonable for 1- or 2-level disease with preserved lordosis; laminoplasty alone is reserved for patients with lordotic alignment and no significant neck pain; halo immobilization is not indicated for degenerative disease.

QUESTION 3

SINGLE CHOICE

An otherwise healthy 62-year-old woman has an incidentally discovered 2 cm dural-based enhancing lesion at the right frontal convexity with a small dural tail and no surrounding edema on MRI. The most appropriate management is:

- ☐ A Urgent craniotomy with Simpson grade I resection
- ☐ B Stereotactic radiosurgery (SRS) as primary treatment
- ☒ C Observation with serial imaging
- ☐ D Preoperative endovascular embolization followed by resection

ANSWER C

WHY Small, asymptomatic, incidentally discovered convexity meningiomas without edema or mass effect are best managed initially with observation and serial MRI (typically at 3, 6, and 12 months, then annually). The natural history is often indolent, and the risks of surgery or radiation outweigh benefits in this scenario. Embolization is not indicated for small convexity meningiomas.

QUESTION 4

SINGLE CHOICE

A 49-year-old woman presents with sudden severe headache and neck stiffness. Non-contrast CT shows diffuse subarachnoid blood (modified Fisher grade 3), and CT angiography demonstrates a 7 mm anterior communicating artery aneurysm. She is Hunt and Hess grade 3. Which intervention has been shown to reduce the risk of rebleeding and improve outcome?

- ☐ A Prophylactic hypervolemic therapy alone
- ☐ B Antifibrinolytic therapy with tranexamic acid for 7 days
- ☒ C Early aneurysm securing by surgical clipping or endovascular coiling
- ☐ D External ventricular drainage without aneurysm treatment

ANSWER C

WHY Early definitive treatment of the ruptured aneurysm by surgical clipping or endovascular coiling (within 72 hours of ictus) reduces the risk of rebleeding and improves overall outcome. Prolonged antifibrinolytic therapy increases ischemic complications; hypervolemic therapy alone does not prevent rebleeding; and external ventricular drainage without securing the aneurysm exposes the patient to rebleeding risk during catheter insertion/manipulation.

QUESTION 5

SINGLE CHOICE

A 22-year-old man sustains a clean laceration to the volar aspect of the distal forearm from glass. On examination, he has loss of sensation over the palmar aspect of the index finger and thumb and cannot flex the index finger at the distal interphalangeal joint. The most appropriate management is:

- ☒ **A** Primary end-to-end surgical repair of the median nerve within 72 hours
- ☐ **B** Exploration and repair 3 weeks after injury
- ☐ **C** Tendon transfer to restore index finger flexion
- ☐ **D** Observation for spontaneous recovery

ANSWER A

WHY The findings (loss of palmar index/thumb sensation and inability to flex the index DIP via the flexor digitorum profundus to the index, which is median-innervated) localize the injury to the median nerve and likely the FDP tendon. A clean, sharp laceration in a young patient is best managed by primary end-to-end epineurial repair of the nerve within 72 hours, with concurrent tendon repair. Delayed repair, tendon transfer, and observation are not appropriate.

QUESTION 6

SINGLE CHOICE

A 70-year-old man presents with a 1-year history of gait disturbance, urinary incontinence, and progressive cognitive decline. MRI shows ventriculomegaly out of proportion to cortical atrophy, with an Evans index of 0.36 and a disproportionately enlarged subarachnoid space hydrocephalus (DESH) pattern. A large-volume lumbar tap results in improvement of his gait. What is the most appropriate definitive treatment?

- ☐ A Repeated therapeutic lumbar punctures
- ☐ B Acetazolamide therapy
- ☒ C Ventriculoperitoneal (VP) shunt placement
- ☐ D Endoscopic third ventriculostomy (ETV)

ANSWER C

WHY The clinical presentation, imaging findings, and positive response to a large-volume lumbar tap are classic for idiopathic normal pressure hydrocephalus (iNPH). The standard definitive treatment is ventriculoperitoneal (VP) shunting, typically with a programmable valve. ETV has a poor success rate in iNPH (especially in older adults), acetazolamide is not effective long-term, and repeated LPs are only a temporizing measure.

QUESTION 7

SINGLE CHOICE

A 28-year-old man falls from a height and presents with back pain and bilateral lower extremity weakness. Examination reveals 3/5 strength distally and decreased perianal sensation. CT demonstrates an L1 burst fracture with 60% canal compromise and loss of vertebral body height. According to the Thoracolumbar Injury Classification and Severity Score (TLICS), which factor most strongly supports surgical intervention?

- ☐ A Morphology: burst fracture
- ☐ B Morphology: compression fracture
- ☐ C Posterior ligamentous complex (PLC) integrity
- ☒ D Neurological status: incomplete spinal cord injury

ANSWER D

WHY In the TLICS system, morphology, PLC integrity, and neurological status each contribute points. An incomplete spinal cord or cauda equina injury is the single most important determinant favoring surgery, as it carries the highest point value (3 points) and indicates ongoing compression of neural elements that is best addressed by urgent decompression and stabilization. Combined with a burst morphology (2 points), the total exceeds 4, supporting surgery.

QUESTION 8

SINGLE CHOICE

A 65-year-old man with a 12-year history of Parkinson's disease has disabling motor fluctuations and dyskinesias despite optimized medical therapy. He has no significant cognitive impairment. Which of the following is the most appropriate surgical target?

- ☐ A Ventroposterolateral (VPL) thalamic nucleus
- ☐ B Globus pallidus internus (GPi)
- ☒ C Subthalamic nucleus (STN)
- ☐ D Caudal zona incerta

ANSWER C

WHY Deep brain stimulation of the subthalamic nucleus (STN-DBS) is the most commonly performed and effective target for Parkinson's disease with motor fluctuations and dyskinesias, allowing for reduction in dopaminergic medication. GPi DBS is an alternative, particularly useful in patients with significant cognitive or mood issues, but STN is generally preferred when medication reduction is a goal. VPL thalamic DBS is used primarily for tremor, and caudal zona incerta targets are not standard.

QUESTION 9

MULTIPLE CHOICE

A 60-year-old man undergoes gross total resection of a left frontal glioblastoma (IDH wild-type, MGMT promoter methylated). Standard adjuvant therapy includes temozolomide and radiotherapy. Which of the following are established components of his adjuvant management? (Choose two.)

- ☒ **A** Concurrent radiotherapy (60 Gy in 30 fractions) with daily temozolomide
- ☒ **B** Adjuvant temozolomide for 6 months following the Stupp protocol
- ☐ **C** Bevacizumab as part of first-line adjuvant therapy
- ☐ **D** Tumor-treating fields (TTFields) as an established first-line adjuvant option

ANSWER A - B

WHY The Stupp protocol consists of maximal safe resection followed by radiotherapy (60 Gy in 30 fractions over 6 weeks) with concurrent daily temozolomide, followed by adjuvant temozolomide for 6 cycles. Bevacizumab is not part of standard first-line therapy and did not improve overall survival in randomized trials. Tumor-treating fields have evidence in newly diagnosed GBM but are not universally accepted as standard first-line therapy in all practice settings.