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PRACTICE QUESTIONS

SCFHS Remote

ORTHO

Orthopedic Surgery

EDITION

Original Demo

QUESTIONS

15

ISSUED

October 14, 2026

Before you begin

What this is

15 practice questions for SCFHS Remote **ORTHO**, 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, **ORTHO**
- the question number
- the email address on your order

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

Licence

Original Mometrix demo. This free sample contains fewer questions than the full paid edition.

QUESTION 1

SINGLE CHOICE

A 35-year-old man sustained a closed midshaft tibial fracture treated with an intramedullary nail 9 months ago. He continues to have pain at the fracture site with weight-bearing and there is no bridging callus on three of four cortices on CT. Which of the following best defines this situation?

- ☐ A Delayed union
- ☐ B Malunion
- ☐ C Hypertrophic nonunion
- ☒ D Established nonunion
- ☐ E Refracture

ANSWER D

WHY The FDA standard definition of nonunion is a fracture that has failed to progress toward union over a period of at least 9 months since injury, with no radiographic progression of healing over the preceding 3 months. Because 9 months have elapsed and there is no bridging of three of four cortices on CT, this represents an established (atrophic/oligotrophic) nonunion. Delayed union implies healing is slower than expected but still progressing (<9 months). Malunion refers to healing in an unacceptable position. Refracture is a new fracture at the same site after healing.

QUESTION 2

SINGLE CHOICE

A 22-year-old man sustains a closed midshaft tibial fracture treated with intramedullary nailing. On the second postoperative day he reports increasing pain despite immobilization and opioid analgesia, and the foot is noted to be cool with painful passive stretch of the toes. Which of the following is the most appropriate next step in management?

- ☐ A Increase the dose of opioid analgesia and re-evaluate in one hour
- ☐ B Obtain an urgent venous Doppler study to exclude deep vein thrombosis
- ☒ C Measure compartment pressures and proceed to fasciotomy if elevated
- ☐ D Remove the nail and apply a spanning external fixator

ANSWER C

WHY Increasing pain unrelieved by opioids, pain on passive stretch, and coolness of the extremity are classic for acute compartment syndrome following tibial fracture and intramedullary nailing. In a conscious, cooperative patient the diagnosis is largely clinical; compartment pressure measurement is used when the diagnosis is uncertain or the patient is obtunded. Definitive treatment is emergent fasciotomy; delay leads to muscle necrosis and Volkmann contracture.

QUESTION 3

MULTIPLE CHOICE

A 42-year-old man presents with a 3-week history of low back pain radiating down the posterior aspect of the leg into the foot. Examination reveals a positive straight leg raise test, diminished ankle reflex, and weakness of plantarflexion. Which of the following are true regarding his likely diagnosis? (Choose two.)

- ☐ A The most commonly affected nerve root is L5
- ☒ B Plantarflexion weakness suggests S1 nerve root involvement
- ☐ C The pain typically radiates down the lateral aspect of the leg into the great toe
- ☒ D An absent ankle jerk reflex supports S1 nerve root involvement
- ☐ E Femoral stretch test is the most useful clinical sign
- ☐ F The intervertebral disc level most commonly involved is L2-L3

ANSWER B • D

WHY Correct answers: B and D. Posterolateral L5-S1 disc herniation most commonly compresses the S1 nerve root. S1 radiculopathy produces pain radiating down the posterior leg into the lateral foot and small toe, weakness of plantarflexion, and a diminished/absent ankle (Achilles) jerk. The L5 root supplies dorsiflexion and extensor hallucis longus, with pain to the dorsum of the foot and great toe and a normal ankle reflex. The femoral stretch test is used to assess upper lumbar (L2-L4) roots, and the most common disc level involved is L4-L5 or L5-S1, not L2-L3.

QUESTION 4

SINGLE CHOICE

A 6-month-old infant is diagnosed with developmental dysplasia of the hip with a dislocated but reducible hip on clinical examination and ultrasound. The most appropriate initial treatment is:

- ☐ A Pavlik harness
- ☒ B Closed reduction and spica casting
- ☐ C Open reduction with femoral and pelvic osteotomy
- ☐ D Observation until walking age

ANSWER B

WHY After approximately 6 months of age, the Pavlik harness becomes less effective and the treatment of choice for a dislocated but reducible hip is closed reduction under anesthesia followed by a spica cast in a safe position. The Pavlik harness is most effective when initiated in the first months of life. Open reduction is reserved for irreducible hips or when closed methods fail, and observation is not appropriate once a true dislocation has been confirmed.

QUESTION 5

SINGLE CHOICE

A 60-year-old woman falls on an outstretched hand and sustains a dorsally displaced, extra-articular distal radius fracture with radial shortening of 6 mm, dorsal angulation of 25 degrees, and loss of radial inclination. Which of the following is the most appropriate initial management?

- ☐ A Accept the deformity and treat in a removable splint because remodeling is reliable in this age group
- ☐ B Closed reduction and application of a below-elbow plaster cast
- ☐ C Closed reduction under hematoma block and application of a well-molded above-elbow cast in pronation
- ☒ D Open reduction and internal fixation with a volar locking plate
- ☐ E External fixation with or without supplemental K-wires

ANSWER D

WHY Correct answer: D. The fracture meets widely accepted criteria for instability (dorsal angulation $>20^\circ$, radial shortening >5 mm, loss of radial inclination, and an extra-articular fracture in an active older adult). Multiple randomized trials and meta-analyses have shown superior functional outcomes, fewer malunions, and earlier return of function with volar locked plating compared with cast immobilization in unstable dorsally displaced distal radius fractures in adults. Cast treatment alone has a high rate of malunion and functional loss. Above-elbow casting and external fixation are no longer preferred primary options for this pattern.

QUESTION 6

SINGLE CHOICE

A 60-year-old woman has isolated medial compartment osteoarthritis of the knee with a varus deformity of 8 degrees, intact cruciate ligaments, and no patellofemoral or lateral compartment disease. She has failed non-operative treatment. Which surgical option best addresses her pathology?

- ☐ A Total knee arthroplasty
- ☒ B Unicompartmental (medial) knee arthroplasty
- ☐ C High tibial osteotomy (medial opening wedge)
- ☐ D Patellofemoral arthroplasty
- ☐ E Arthroscopic debridement and lavage

ANSWER B

WHY Unicompartmental knee arthroplasty (UKA) is indicated in isolated single-compartment osteoarthritis with intact cruciate ligaments, correctable deformity, and absence of inflammatory arthritis - all of which this patient has. Modern registry data show UKA gives excellent function and high satisfaction in appropriately selected patients. High tibial osteotomy is an alternative in younger, high-demand patients but has a higher complication and failure rate. Total knee arthroplasty is excessive for isolated medial disease. Patellofemoral arthroplasty does not address medial compartment disease. Arthroscopic debridement is no longer recommended for degenerative OA based on the Moseley sham-controlled trial and subsequent guidelines.

QUESTION 7

MULTIPLE CHOICE

Which of the following statements about carpal tunnel syndrome are correct? (Choose two.)

- ☒ **A** Symptoms typically include nocturnal paraesthesia in the thumb, index, middle and radial half of the ring finger
- ☒ **B** Tinel sign and Phalen test are bedside provocative tests commonly used in clinical assessment
- ☐ **C** Thenar weakness and atrophy of the interossei are early and characteristic findings
- ☐ **D** The ulnar nerve is the structure compressed within the carpal tunnel

ANSWER A • B

WHY Carpal tunnel syndrome results from compression of the median nerve at the wrist, producing nocturnal paraesthesia in the thumb, index, middle, and radial half of the ring finger. Tinel sign and Phalen test are useful bedside provocative tests. Thenar (median-innervated) weakness with atrophy of the abductor pollicis brevis is characteristic, but interossei are ulnar-innervated and not affected. The ulnar nerve is compressed at the cubital tunnel or Guyon canal, not the carpal tunnel.

QUESTION 8

SINGLE CHOICE

A 28-year-old man has a closed tibial shaft fracture after a motorcycle crash. Six hours after injury, he reports pain out of proportion, pain with passive stretch of the toes, and paraesthesia of the foot. Compartment pressures measured with a Stryker needle are 35 mmHg in the anterior compartment and 38 mmHg in the deep posterior compartment. What is the next best step?

- ☐ **A** Continue elevation and reassess in one hour
- ☐ **B** Administer intravenous mannitol and observe
- ☒ **C** Perform emergency fasciotomy of all four leg compartments
- ☐ **D** Place the leg in a long cast and admit for monitoring

ANSWER C

WHY Persistent compartment pressures above 30 mmHg, or within 30 mmHg of diastolic pressure, combined with clinical signs of compartment syndrome mandate emergency four-compartment fasciotomy. Mannitol and observation are not appropriate once the diagnosis is established clinically and confirmed manometrically.

QUESTION 9

SINGLE CHOICE

According to the Gustilo-Anderson classification, an open tibial fracture with a 9-cm soft tissue wound, extensive periosteal stripping, and an associated vascular injury requiring repair is classified as which type?

- ☐ A Gustilo type I
- ☐ B Gustilo type II
- ☐ C Gustilo type IIIA
- ☒ D Gustilo type IIIC

ANSWER D

WHY Gustilo type III injuries involve extensive soft tissue damage. IIIA has adequate soft tissue coverage despite high-energy trauma, IIIB has extensive periosteal stripping with bone exposure requiring flap coverage, and IIIC is any open fracture with an associated arterial injury requiring repair. The presence of vascular injury requiring repair makes this a IIIC regardless of wound size.

QUESTION 10

SINGLE CHOICE

An active 68-year-old man with isolated primary osteoarthritis of the hip has exhausted non-operative treatment including activity modification, NSAIDs, and physiotherapy. Radiographs show joint space narrowing, subchondral sclerosis, and osteophyte formation. He has no significant comorbidities. What is the most appropriate definitive surgical treatment?

- ☐ A Hip arthroscopy with labral repair
- ☐ B Core decompression
- ☒ C Total hip arthroplasty
- ☐ D Proximal femoral osteotomy
- ☐ E Periacetabular osteotomy

ANSWER C

WHY For end-stage primary hip osteoarthritis in an older active patient who has failed conservative management, total hip arthroplasty is the gold-standard definitive treatment, providing reliable pain relief and functional improvement. Hip arthroscopy is for early disease with mechanical symptoms in selected patients. Core decompression is for early avascular necrosis. Proximal femoral and periacetabular osteotomies are joint-preserving procedures for younger patients without established osteoarthritis.

QUESTION 11

SINGLE CHOICE

A 24-year-old man sustains a closed tibial shaft fracture after a football injury. Four hours after closed reduction and above-knee casting, he reports deep, unrelenting pain in the calf that is unrelieved by opioids, with pain on passive stretch of the toes. The most appropriate next step in management is:

- ☐ A Elevate the limb, reassess in one hour, and increase analgesia
- ☐ B Split the cast and bivalve the plaster
- ☒ C Perform immediate four-compartment fasciotomy of the leg
- ☐ D Obtain an urgent duplex ultrasound to rule out deep vein thrombosis
- ☐ E Measure serum creatine kinase (CK) before deciding

ANSWER C

WHY Pain out of proportion to injury, pain on passive stretch of the toes, and a tense swollen compartment are the cardinal clinical features of acute compartment syndrome of the leg. Once suspected clinically, the definitive treatment is emergent four-compartment fasciotomy; delay beyond 6 hours risks irreversible muscle and nerve necrosis (Volkmann's ischemic contracture). While splitting the cast may relieve some external compression, it is not adequate treatment for established intracompartmental hypertension. Waiting for CK or ultrasound wastes critical time. Compartment pressure measurement is an adjunct, not a substitute for clinical diagnosis when presentation is typical.

QUESTION 12

SINGLE CHOICE

A 4-month-old infant is diagnosed with developmental dysplasia of the hip with a dislocated but reducible hip on clinical and ultrasound examination. Which is the most appropriate initial management?

- ☐ A Immediate closed reduction and spica casting under general anaesthesia
- ☒ B Pavlik harness with regular ultrasound monitoring
- ☐ C Open reduction through a medial (or anteromedial) approach
- ☐ D Salter innominate osteotomy
- ☐ E Observation with repeat ultrasound in 6 months

ANSWER B

WHY For a dislocated but reducible hip diagnosed between birth and approximately 6 months of age, the Pavlik harness is the first-line treatment with reported success rates of 80-95%. It positions the hip in flexion and abduction to maintain reduction and stimulate acetabular development, with regular ultrasound surveillance (typically weekly for the first 3 weeks, then less frequently) to confirm reduction. Closed reduction under anaesthesia is reserved for failed Pavlik treatment or hips that are not reducible clinically. Open reduction is indicated if closed reduction fails or in older children. Innominate osteotomy is performed after walking age for residual dysplasia. Observation alone risks persistent dysplasia and early osteoarthritis.

QUESTION 13

SINGLE CHOICE

A 72-year-old woman is scheduled for a dynamic hip screw fixation of an intertrochanteric femur fracture. She takes warfarin for atrial fibrillation, with an INR of 3.2 on the morning of surgery. According to standard perioperative guidelines, what is the most appropriate management?

- ☐ A Proceed with surgery as planned because the INR is acceptable
- ☒ B Cancel surgery and reverse warfarin with vitamin K and/or prothrombin complex concentrate until INR is below 1.5 before proceeding
- ☐ C Proceed with surgery and give fresh frozen plasma intraoperatively
- ☐ D Switch warfarin to aspirin and proceed
- ☐ E Delay surgery indefinitely

ANSWER B

WHY For most orthopedic procedures, the INR should be below 1.5 to minimize bleeding risk. An INR of 3.2 is too high for safe surgery. Warfarin should be reversed using vitamin K (with or without prothrombin complex concentrate/FFP depending on urgency) and surgery delayed until the INR is below 1.5. Proceeding with an elevated INR is unsafe. Aspirin is not an adequate substitute for anticoagulation in atrial fibrillation. Bridging with heparin may be considered depending on thrombotic risk, but the key step is achieving a safe INR before surgery.

QUESTION 14

SINGLE CHOICE

A 50-year-old woman presents with a 2-year history of pain over the medial aspect of the first metatarsophalangeal joint. She has a hallux valgus angle of 38 degrees and an intermetatarsal angle of 18 degrees. Which of the following is the most appropriate surgical procedure?

- ☐ A Chevron osteotomy
- ☐ B Scarf osteotomy
- ☒ C Lapidus procedure (first tarsometatarsal arthrodesis)
- ☐ D Keller procedure

ANSWER C

WHY For severe hallux valgus with a hallux valgus angle greater than 35 degrees and intermetatarsal angle greater than 15 degrees, particularly with first tarsometatarsal joint instability, the Lapidus procedure is preferred. Chevron and Scarf osteotomies are reserved for mild to moderate deformity. The Keller procedure is reserved for elderly, low-demand patients.

QUESTION 15

SINGLE CHOICE

A 52-year-old woman has painful hallux valgus with a hallux valgus angle of 38 degrees and an intermetatarsal angle of 16 degrees, with first metatarsophalangeal joint arthritis and moderate deformity. Which surgical procedure is most appropriate?

- ☐ A Distal chevron osteotomy
- ☐ B Proximal crescentic osteotomy with distal soft-tissue procedure
- ☐ C First metatarsophalangeal joint arthrodesis (Lapidus procedure is incorrect for this option)
- ☒ D First metatarsophalangeal joint arthrodesis
- ☐ E Simple bunionectomy (exostectomy) without osteotomy

ANSWER D

WHY For moderate-to-severe hallux valgus with first MTP joint arthritis, the most reliable procedure is first metatarsophalangeal joint arthrodesis (fusion). It corrects deformity, relieves pain from arthritis, and provides durable correction, particularly in older or lower-demand patients. Distal chevron osteotomies are best for mild deformities (HVA $<30^\circ$, IMA $<13^\circ$). Proximal crescentic osteotomy with distal soft-tissue procedure (e.g., McBride) is appropriate for moderate deformities without MTP arthritis. Simple bunionectomy has high recurrence rates and does not correct the IMA. The Lapidus procedure (first tarsometatarsal joint arthrodesis) is for hypermobility or large IMA, but the question asks about MTP arthritis specifically.