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PRACTICE QUESTIONS

Sharjah Health Authority (SHA)

ORTHO

Orthopedics

EDITION

Original Demo

QUESTIONS

15

ISSUED

October 14, 2026

Before you begin

What this is

15 practice questions for Sharjah Health Authority (SHA) 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.

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QUESTION 1

SINGLE CHOICE

A 28-year-old footballer twists his right knee during a match. Examination two days later reveals joint line tenderness medially, a positive McMurray test in external rotation, and a locked knee that cannot fully extend. MRI confirms a bucket-handle tear of the medial meniscus displaced into the intercondylar notch. What is the most appropriate management?

- ☐ A Rest, ice, compression and elevation (RICE) followed by physiotherapy
- ☐ B Intra-articular corticosteroid injection and rehabilitation
- ☒ C Arthroscopic partial meniscectomy or meniscal repair
- ☐ D Total knee replacement

ANSWER C

WHY A displaced bucket-handle meniscal tear causing mechanical locking (inability to fully extend) is an indication for arthroscopy. Wherever possible, repair is preferred (particularly in young patients, peripheral tears in the vascular zone), with partial meniscectomy reserved for irreparable tears. Conservative management is inappropriate in the presence of a locked knee.

QUESTION 2

SINGLE CHOICE

Which of the following is the most common non-traumatic cause of avascular necrosis of the femoral head in adults?

- ☒ A Long-term corticosteroid therapy
- ☐ B Chronic alcohol abuse
- ☐ C Sickle cell disease
- ☐ D Systemic lupus erythematosus independent of corticosteroid use

ANSWER A

WHY Corticosteroid use and chronic alcohol abuse are the two leading non-traumatic causes of femoral head AVN, with corticosteroid therapy generally regarded as the single most common non-traumatic aetiology in most clinical series. SLE itself contributes primarily through its corticosteroid treatment rather than as an independent risk factor.

QUESTION 3

SINGLE CHOICE

A 55-year-old man presents with severe lower back pain, bilateral sciatica, urinary retention, and saddle anesthesia after lifting a heavy object. Lower limb power is reduced bilaterally. What is the most likely diagnosis?

- ☐ A Acute mechanical low back strain
- ☒ B Cauda equina syndrome from a large central lumbar disc herniation
- ☐ C Spinal stenosis with neurogenic claudication
- ☐ D Pyogenic spinal epidural abscess

ANSWER B

WHY The combination of severe lower back pain, bilateral lower limb weakness, saddle anesthesia, and bladder dysfunction (urinary retention) is the classic presentation of cauda equina syndrome, most commonly caused by a large central lumbar disc herniation (typically L4/5 or L5/S1). This is a surgical emergency requiring urgent MRI and decompression. Mechanical strain does not cause saddle anesthesia or retention. Neurogenic claudication is relieved by flexion and does not cause retention. An epidural abscess usually presents with fever and progressive symptoms over days.

QUESTION 4

SINGLE CHOICE

A 30-year-old man falls on an outstretched hand and presents with a painful, swollen wrist. Radiograph reveals a transverse fracture of the distal radius with dorsal angulation and shortening, but without involvement of the articular surface. Which classification system best describes this fracture pattern?

- ☐ A Salter-Harris classification
- ☒ B Frykman classification
- ☐ C Mason classification
- ☐ D Weber classification

ANSWER B

WHY The Frykman classification is specific to distal radius fractures and grades them according to the presence of ulnar styloid involvement and intra-articular extension. A transverse extra-articular distal radius fracture with dorsal angulation (a Colles-type pattern) fits within the Frykman system. Salter-Harris is used for pediatric physeal injuries, Mason for radial head fractures, and Weber for lateral malleolar fractures.

QUESTION 5

SINGLE CHOICE

A 50-year-old man develops acute severe lower back pain with bilateral sciatica, urinary retention, saddle anaesthesia, and lower limb weakness after lifting a heavy object. Which of the following is the most appropriate next step in management?

- ☒ A Urgent MRI of the lumbosacral spine within hours and surgical decompression if a compressive lesion is confirmed
- ☐ B Strict bed rest and re-assessment in 48 hours
- ☐ C Lumbar epidural steroid injection and outpatient follow-up
- ☐ D Plain radiographs of the lumbosacral spine and physiotherapy referral

ANSWER A

WHY Cauda equina syndrome is a surgical emergency. The most appropriate next step is urgent MRI to confirm the diagnosis, followed by urgent surgical decompression (typically discectomy) to optimise the chance of neurological recovery. Delays beyond 24-48 hours are associated with worse bladder, bowel and motor outcomes.

QUESTION 6

SINGLE CHOICE

A 3-month-old infant is brought for routine assessment. Examination reveals a positive Ortolani sign on the left hip. Which imaging modality is most appropriate to confirm the diagnosis and guide treatment at this age?

- ☐ A Plain anteroposterior pelvic radiograph
- ☐ B CT of the pelvis
- ☒ C Ultrasound of the hips (Graf method)
- ☐ D MRI of the pelvis
- ☐ E No imaging is required; proceed directly to closed reduction and spica casting

ANSWER C

WHY Up to about 4-6 months of age the femoral head and acetabulum are largely cartilaginous and not reliably seen on plain radiographs, so ultrasound (using the Graf technique) is the imaging modality of choice for confirming developmental dysplasia of the hip. It visualizes the cartilaginous acetabulum and assesses both morphology and dynamic stability. CT is useful for postoperative assessment of reduction, MRI can be used in late-presenting or complex cases, but neither is first-line at 3 months. Plain radiographs become useful once the proximal femoral epiphysis ossifies, usually after 4-6 months. Closed reduction should be preceded by imaging to confirm dysplasia and assess reducibility.

QUESTION 7

SINGLE CHOICE

A 60-year-old man with poorly controlled diabetes presents with a 4-day history of a swollen, hot, exquisitely tender right knee held in slight flexion. Aspiration yields turbid synovial fluid. Synovial fluid analysis is most likely to show which of the following findings consistent with septic arthritis?

- ☐ A Clear fluid, low white cell count, no crystals
- ☐ B WBC $<2,000/\text{mm}^3$ with mononuclear predominance
- ☒ C WBC $>50,000/\text{mm}^3$ with neutrophil predominance and no crystals
- ☐ D Needle-shaped negatively birefringent crystals

ANSWER C

WHY Septic arthritis typically yields synovial fluid with WBC counts above $50,000/\text{mm}^3$ and a neutrophil predominance ($>70\%$), in the absence of crystals. Low WBC counts with mononuclear cells suggest inflammatory or chronic effusions. Negatively birefringent needle-shaped crystals are diagnostic of gout, which can mimic infection clinically but should not delay treatment if infection cannot be excluded.

QUESTION 8

SINGLE CHOICE

A 50-year-old man presents with severe lower back pain and bilateral lower limb weakness. On examination he has saddle anaesthesia, urinary retention with a palpable bladder, and decreased anal tone. Which of the following is the most appropriate next step in management?

- ☒ A Urgent MRI of the lumbosacral spine and referral for surgical decompression
- ☐ B Trial of oral non-steroidal anti-inflammatory drugs and outpatient physiotherapy
- ☐ C Epidural steroid injection and review in 6 weeks
- ☐ D Plain radiographs of the lumbar spine and a nerve conduction study

ANSWER A

WHY The combination of saddle anaesthesia, bladder dysfunction and lower limb weakness is suggestive of cauda equina syndrome, a surgical emergency. Urgent MRI is required to confirm the diagnosis, followed by prompt surgical decompression (typically within 24-48 hours) to optimise neurological recovery.

QUESTION 9

SINGLE CHOICE

A 10-year-old boy presents with painless swelling over the dorsomedial aspect of the foot near the navicular. Radiograph shows an accessory ossification center with sclerosis and fragmentation of the secondary ossification center of the navicular. What is the most likely diagnosis?

- ☒ **A Köhler disease**
- ☐ B Sever disease
- ☐ C Osteochondritis dissecans of the talus
- ☐ D Tarsal coalition

ANSWER A

WHY Köhler disease is an idiopathic avascular necrosis of the tarsal navicular seen in children aged 4-10 years and presents with a painful limp; radiographic features include sclerosis, flattening and fragmentation of the navicular. Sever disease is an apophysitis of the calcaneal tuberosity. Osteochondritis dissecans of the talus involves the talar dome. Tarsal coalition presents with restricted hindfoot motion, not navicular fragmentation.

QUESTION 10

SINGLE CHOICE

A 45-year-old man develops acute severe lower back pain and bilateral lower limb weakness after lifting a heavy object. On examination he has saddle anaesthesia, urinary retention with a palpable bladder, and decreased anal tone. What is the most likely diagnosis requiring emergency referral?

- ☐ A Acute mechanical low back pain
- ☐ B Unilateral lumbar disc herniation with radiculopathy
- ☒ C Cauda equina syndrome
- ☐ D Conus medullaris syndrome from spinal cord tumour

ANSWER C

WHY The combination of bilateral leg weakness, saddle anaesthesia, bladder dysfunction (retention) and loss of anal tone following a precipitating back injury is the classic presentation of cauda equina syndrome. This is a surgical emergency requiring urgent MRI and decompression, typically within 24-48 hours, to maximise the chance of neurological recovery. Mechanical back pain is not associated with saddle anaesthesia or sphincter dysfunction, and a unilateral radiculopathy does not produce bilateral or saddle findings.

QUESTION 11

SINGLE CHOICE

A 14-year-old boy presents with progressive pain in the distal femur of several months' duration, worse at night and partially relieved by ibuprofen. Radiographs show a mixed lytic and sclerotic lesion in the metaphysis of the distal femur with cortical destruction, a soft-tissue mass, and periosteal reaction. Which is the most likely diagnosis?

- ☐ A Unicameral bone cyst
- ☐ B Non-ossifying fibroma
- ☒ C Osteosarcoma
- ☐ D Ewing sarcoma
- ☐ E Osteochondroma

ANSWER C

WHY A destructive metaphyseal lesion of the distal femur in an adolescent, with pain that is worse at night and relieved by NSAIDs, cortical destruction and a soft-tissue mass, is the classic presentation of conventional (osteoblastic/mixed) osteosarcoma. Ewing sarcoma typically arises in the diaphysis of long bones (or pelvis) and produces a permeative 'onion-skin' periosteal reaction. Unicameral bone cysts and non-ossifying fibromas are well-defined lytic lesions without soft-tissue mass. Osteochondroma is a benign exostosis with a continuous cortex and medulla. The patient requires urgent referral to a sarcoma centre for biopsy and neoadjuvant chemotherapy followed by limb-salvage resection.

QUESTION 12

MULTIPLE CHOICE

Which of the following clinical features are characteristic of carpal tunnel syndrome? (Choose two.)

- ☒ **A** Tinel sign elicited by percussion over the volar wrist
- ☐ **B** Wrist pain relieved by rest in a neutral position
- ☐ **C** Numbness in the dorsal first web space
- ☒ **D** Symptoms characteristically worse at night

ANSWER **A - D**

WHY Carpal tunnel syndrome results from compression of the median nerve at the wrist. A positive Tinel sign (paresthesia on percussion of the volar wrist) and nocturnal worsening of symptoms (patients often wake to shake the hand) are classic features. The dorsal first web space is supplied by the superficial branch of the radial nerve and is therefore spared. Wrist pain is not specifically relieved by rest in a neutral position; rather, nocturnal symptoms are improved by shaking or flicking the hand (Flick sign), and neutral splinting is the treatment.

QUESTION 13

SINGLE CHOICE

A 7-year-old boy presents with a 4-day history of progressive thigh pain, fever of 39.4°C, and inability to bear weight on the right leg. Blood tests show a white cell count of $18 \times 10^9/L$ and CRP of 180 mg/L. Which of the following is the most likely causative organism?

- ☒ **A** *Staphylococcus aureus*
- ☐ **B** *Streptococcus pyogenes*
- ☐ **C** *Haemophilus influenzae* type b
- ☐ **D** *Kingella kingae*

ANSWER A

WHY *Staphylococcus aureus* is by far the most common cause of acute haematogenous osteomyelitis in children of all age groups, accounting for the majority of cases in those older than about 4 years. It produces a range of virulence factors (such as coagulase, Panton-Valentine leukocidin and adhesins) that allow it to seed and proliferate within the metaphyseal sinusoidal vessels. *Kingella kingae* is increasingly recognised as a cause in children under 4 years of age, but in a 7-year-old with high fever, marked leucocytosis and very elevated CRP, *S. aureus* remains the most likely organism and must be covered empirically until culture results are available.

QUESTION 14

MULTIPLE CHOICE

An 11-year-old obese boy presents with several weeks of insidious-onset groin and ipsilateral knee pain and walks with an out-toed, externally rotated gait. Which of the following are recognized clinical features of slipped capital femoral epiphysis? (Choose two.)

- ☒ **A** Obligate external rotation of the hip on flexion
- ☒ **B** Pain commonly referred to the knee
- ☐ **C** Normal range of internal rotation
- ☒ **D** Bilateral involvement in a significant minority of cases
- ☐ **E** Reduced risk of avascular necrosis of the femoral head

ANSWER A • B • D

WHY SCFE classically presents in obese adolescents (often 10-16 years) with insidious groin, thigh or knee pain. Because the hip slips posteromedially, the femur obligately rolls into external rotation and abduction as it is flexed (Drehmann sign), internal rotation is restricted, and the gait becomes out-toed. Pain referred to the knee is so common that any adolescent with knee pain must have the hip examined. Approximately 20-25% of cases are bilateral, either at presentation or subsequently, so the contralateral hip must be assessed radiographically. SCFE markedly increases the risk of avascular necrosis and of femoroacetabular impingement (cam-type) in adulthood, so it does NOT reduce the risk of AVN.

QUESTION 15

SINGLE CHOICE

A 45-year-old woman presents with numbness and tingling in the thumb, index, and middle fingers, worse at night. Tinel sign over the volar wrist is positive. Which of the following is the most likely diagnosis?

- ☐ A Cubital tunnel syndrome
- ☒ B Carpal tunnel syndrome
- ☐ C De Quervain tenosynovitis
- ☐ D Radial tunnel syndrome

ANSWER B

WHY Carpal tunnel syndrome is compression of the median nerve at the wrist, causing numbness/tingling in the thumb, index, middle, and radial half of the ring finger (not the palm, since the palmar cutaneous branch branches proximal to the retinaculum). Classic symptoms include nocturnal paresthesia. Tinel sign (tapping) and Phalen sign (wrist flexion) are positive. Cubital tunnel involves the ulnar nerve at the elbow causing ring/little finger symptoms. De Quervain involves first dorsal compartment tendons (pain with thumb extension/abduction).