# MULTIPLE CHOICE

## MSK HIP AND KNEE - PRACTICE SET - ANSWER KEY



**1. Which transducer is most appropriate for evaluating the superficial gluteus medius tendon at its trochanteric insertion in an average-sized adult?**

A. A low-frequency curvilinear transducer
B. A phased array (sector) cardiac transducer
C. An endocavitary transducer
**D. A high-frequency linear array transducer**

**2. Color or power Doppler interrogation of a chronically painful patellar tendon most commonly demonstrates which finding in symptomatic tendinopathy?**

A. Absence of any Doppler signal in or around the tendon
**B. Neovascularity within the hypoechoic, thickened portion of the tendon**
C. High-velocity arterial flow consistent with an arteriovenous fistula
D. Reversal of flow in the popliteal artery

**3. A patient presents with anterior groin pain and a painful audible 'clunk' with hip extension from a flexed, abducted, externally rotated position. Dynamic ultrasound is most likely to demonstrate snapping of which structure?**

A. Iliotibial band snapping over the greater trochanter
**B. Iliopsoas tendon snapping over the iliopectineal eminence or femoral head**
C. Long head of biceps femoris snapping over the ischial tuberosity
D. Rectus femoris snapping over the anterior inferior iliac spine

**4. The quadriceps tendon is formed by the convergence of how many muscle tendons?**

**A. Four (rectus femoris, vastus lateralis, vastus medialis, vastus intermedius)**
B. Three (rectus femoris, vastus medialis, vastus lateralis)
C. Five (the four quadriceps plus sartorius)
D. Two (rectus femoris and vastus intermedius)

**5. A fluid-filled cystic structure deep to the iliopsoas tendon and anterior to the hip joint capsule, which may communicate with the joint in up to 15 percent of patients, most likely represents which entity?**

A. Pes anserine bursitis
**B. Iliopsoas bursitis**
C. Ischiogluteal bursitis
D. Trochanteric bursitis

**6. The lateral collateral ligament (LCL) of the knee extends between which two bony landmarks?**

**A. The lateral femoral epicondyle and the head of the fibula**
B. The lateral femoral epicondyle and the lateral tibial plateau
C. The lateral femoral condyle and Gerdy tubercle
D. The medial femoral epicondyle and the medial tibial plateau

**7. Pes anserine bursitis on ultrasound appears as an anechoic or hypoechoic fluid collection in which location?**

A. Posterior to the medial gastrocnemius head
B. Anterior to the patella in the subcutaneous tissue
C. Lateral to the iliotibial band at the lateral femoral condyle
**D. Deep to the conjoined pes anserine tendons at the anteromedial proximal tibia**

**8. An acute partial-thickness tear of the medial collateral ligament on ultrasound is most likely to demonstrate:**

**A. Focal hypoechoic disruption and surrounding hypoechoic fluid/edema with preserved continuity of remaining fibers**

B. Anechoic cystic transformation of the entire ligament
C. Complete absence of the ligament with a large bony avulsion fragment
D. Diffuse hyperechoic thickening of all MCL fibers without fluid

**9. A Baker (popliteal) cyst arises from fluid distending which specific bursa?**

A. The iliotibial bursa
B. The prepatellar bursa
C. The pes anserine bursa
**D. The gastrocnemius-semimembranosus bursa**

**10. On transverse ultrasound of the popliteal fossa, the neck of a Baker cyst characteristically passes between which two structures?**

A. The medial and lateral heads of the gastrocnemius
**B. The medial head of the gastrocnemius and the semimembranosus tendon**
C. The popliteus tendon and the lateral collateral ligament
D. The biceps femoris and the iliotibial band

**11. On ultrasound evaluation for snapping hip syndromes, which technique is essential for confirming the diagnosis?**

**A. Dynamic, real-time imaging during the provocative maneuver**
B. Static imaging in neutral position only
C. Color Doppler interrogation of the femoral vessels
D. Strain elastography of the tendon

**12. On longitudinal sonography of the lateral hip, the gluteus medius tendon is best identified by following it to its insertion on which landmark?**

A. The lesser trochanter
**B. The lateral and superoposterior facets of the greater trochanter**
C. The intertrochanteric crest medially
D. The anterior inferior iliac spine

**13. When comparing the symptomatic to the asymptomatic hip, a difference in anterior synovial recess thickness is suggestive of effusion when the symptomatic side exceeds the contralateral by approximately:**

A. 20 mm or more
B. 0.2 mm or more
**C. 2 mm or more**
D. 100 mm or more

**14. Which tendon is most commonly evaluated along the anterior aspect of the hip overlying the femoral head and acetabular rim?**

A. Gluteus medius tendon
**B. Iliopsoas tendon**
C. Rectus femoris tendon at its reflected head
D. Adductor longus tendon

**15. Which maneuver is performed during dynamic ultrasound of the infant hip to assess for instability?**

**A. Barlow (posteriorly directed stress on the adducted, flexed hip) and Ortolani (abduction with anterior lift)**
B. McMurray and Lachman
C. Hawkins-Kennedy and Neer
D. Apley grind and pivot-shift

**16. The acetabular labrum on ultrasound of the hip normally appears as which of the following?**

A. A linear hyperechoic band overlying the femoral head
B. A rounded anechoic structure deep to the joint capsule
C. A triangular, hypoechoic (anechoic) structure at the lateral acetabular rim
**D. A triangular, hyperechoic structure at the lateral edge of the acetabular rim**

**17. The patellar tendon extends between which two anatomic landmarks?**

**A. The inferior pole of the patella and the tibial tuberosity**
B. The quadriceps muscle belly and the superior pole of the patella
C. The inferior pole of the patella and the medial tibial plateau
D. The superior pole of the patella and the tibial tuberosity

**18. A patient presents with sudden calf pain and swelling and is being evaluated for deep vein thrombosis. Ultrasound shows a ruptured Baker cyst with dissecting fluid in the calf. This clinical picture is classically called:**

A. Cellulitis
**B. Pseudothrombophlebitis**
C. Phlegmasia cerulea dolens
D. Compartment syndrome

**19. On longitudinal sonography of the anterior hip in an adult, the most reliable indicator of a joint effusion is:**

A. Thickening of the iliotibial band
B. A linear hyperechoic line along the femoral cortex
**C. Anterior bulging of the joint capsule with anechoic or hypoechoic fluid distending the anterior synovial recess**
D. Hyperechoic fat in the femoral triangle

**20. During Graf static evaluation of the infant hip, the standard coronal/lateral plane image must demonstrate which three anatomic landmarks for the alpha angle to be valid?**

A. The greater trochanter, lesser trochanter, and ischial tuberosity
**B. A straight echogenic iliac line, the lower limb of the ilium at the triradiate cartilage, and the labrum**
C. The femoral head ossification center, the acetabulum, and the sciatic notch
D. The pubic symphysis, the acetabular roof, and the femoral neck

**21. Anisotropy is an important pitfall when imaging the quadriceps and patellar tendons. It is best described as:**

A. Increased through-transmission deep to a tendon cyst
**B. Artifactual hypoechogenicity of a tendon when the ultrasound beam is not perpendicular to its fibers**
C. Posterior acoustic shadowing behind a calcified tendon
D. A real focal hypoechoic tear within the tendon

**22. A complete quadriceps tendon rupture on ultrasound is most reliably identified by which finding?**

A. Diffuse hypoechoic thickening of the tendon without a discrete gap
B. Focal hyperechoic calcification within the tendon
C. Anechoic fluid in the suprapatellar recess only
**D. A full-thickness tendon gap with retraction of the proximal stump and hematoma filling the defect**

**23. During ultrasound of the knee for joint effusion, the most sensitive site to assess is the:**

**A. Suprapatellar recess with the knee in slight flexion**
B. Posterior popliteal fossa
C. Prepatellar subcutaneous tissue
D. Pes anserine region

**24. Using the Graf classification, a mature normal infant hip is defined by an alpha angle of:**

**A. 60 degrees or greater**
B. Between 50 and 59 degrees
C. Less than 43 degrees
D. Between 43 and 49 degrees

**25. Sinding-Larsen-Johansson disease involves traction injury at which site?**

A. The superior pole of the patella at the quadriceps insertion
B. The anterior inferior iliac spine at the rectus femoris origin
C. The tibial tuberosity at the distal patellar tendon insertion
**D. The inferior pole of the patella at the proximal patellar tendon origin**