MULTIPLE CHOICE

MSK ANKLE FOOT AND GENERAL - PRACTICE SET - ANSWER KEY

PROPOSED FOR REVIEW - questions are the author's verbatim Q&A; distractors are auto-selected from other answers in the same bank and must be checked by a subject-matter reviewer (a distractor could coincidentally be correct). Not authoritative assessment content.

1. Which structure attaches to the medial calcaneal tubercle and is best evaluated for plantar fasciitis on longitudinal ultrasound of the heel?

A. Achilles tendon
B. Flexor digitorum brevis
C. Spring (calcaneonavicular) ligament
D. Plantar fascia (plantar aponeurosis)

2. During ultrasound evaluation of a suspected metallic foreign body in the foot, which artifact most strongly supports the diagnosis of a metallic object?

A. Posterior acoustic enhancement deep to the focus
B. Reverberation or comet-tail artifact deep to the echogenic focus
C. Edge shadowing without internal echoes
D. Mirror image across the cortex

3. The Achilles tendon is most commonly torn at which anatomic location?

A. At the musculotendinous junction of the gastrocnemius
B. Approximately 2 to 6 cm proximal to the calcaneal insertion
C. Directly at the calcaneal insertion
D. Within the soleus muscle belly

4. A patient presents with calf pain after a sudden push-off injury. Ultrasound shows fluid between the medial head of the gastrocnemius and the soleus muscle. This finding is most consistent with which diagnosis?

A. Tennis leg (medial gastrocnemius strain/partial tear)
B. Deep venous thrombosis
C. Achilles tendon rupture
D. Baker cyst rupture

5. A C-shaped or boomerang appearance of the peroneus brevis tendon wrapping around the peroneus longus on transverse imaging is most suggestive of which pathology?

A. Normal peroneus brevis
B. Longitudinal split tear of peroneus brevis
C. Accessory peroneus quartus muscle
D. Peroneus longus rupture

6. Which technique helps reduce anisotropy when imaging a curved tendon such as the peroneals around the lateral malleolus?

A. Heel-toe rocking of the probe (beam steering) to keep the beam perpendicular to fibers
B. Switching to a low-frequency curvilinear probe
C. Removing the standoff gel
D. Increasing the overall gain to maximum

7. Which of the following is the most appropriate sterile preparation step before an ultrasound-guided injection or aspiration?

A. Probe wiped with alcohol only, no probe cover
B. Sterile gloves only with no skin preparation
C. Standard nonsterile gel and clean (nonsterile) gloves
D. Sterile skin preparation, sterile probe cover, and sterile gel

8. A patient presents with posterior heel swelling. Ultrasound shows a fluid-filled compressible structure between the Achilles tendon insertion and the skin. This finding represents which bursa?

A. Subcutaneous (superficial Achilles) bursa
B. Olecranon bursa
C. Pes anserine bursa
D. Retrocalcaneal bursa

9. On ultrasound, a ganglion cyst typically demonstrates which of the following features?

A. Echogenic linear focus with comet-tail artifact
B. Hyperechoic, vascular solid mass with feeding artery
C. Heterogeneous hypoechoic mass with internal vascularity
D. Anechoic, well-defined, lobulated structure with posterior acoustic enhancement and no internal Doppler flow

10. Tarsal tunnel syndrome involves entrapment of which nerve as it passes posterior to the medial malleolus?

A. Sural nerve
B. Tibial nerve (posterior tibial nerve)
C. Common peroneal nerve
D. Saphenous nerve

11. On dynamic ultrasound, the peroneal tendons are seen to snap anteriorly over the lateral malleolus during dorsiflexion and eversion. This finding represents what condition?

A. Peroneal tendon subluxation
B. Os peroneum syndrome
C. Peroneus brevis longitudinal split tear
D. Peroneal tendinosis

12. Which maneuver is most useful during sonographic evaluation to confirm a complete Achilles tendon tear versus a partial tear?

A. Valsalva maneuver
B. Passive dorsiflexion and plantarflexion of the foot
C. Reverse Trendelenburg positioning
D. Color Doppler with augmentation

13. Which sonographic finding best indicates a complete (full-thickness) ligament tear of the ATFL?

A. Hyperechoic linear band without surrounding fluid
B. Mild ligament thickening with intact fibrillar pattern
C. Complete discontinuity of fibers with anechoic/hypoechoic gap and lack of taut fibers on stress
D. Color Doppler flow within an intact ligament

14. Which transducer is most appropriate for routine sonographic evaluation of the Achilles tendon in an adult?

A. Curvilinear 2-5 MHz transducer
B. High-frequency linear array transducer
C. Phased-array sector transducer
D. Endocavitary transducer

15. During sonographic evaluation for Morton neuroma, the sonographer applies medial-lateral compression to the forefoot while imaging from the plantar surface. This dynamic technique is known as which maneuver?

A. Mulder maneuver
B. Thompson test
C. Lachman test
D. Tinel sign

16. Which ligament is most commonly injured in an inversion ankle sprain and is therefore the primary focus of lateral ankle ultrasound?

A. Posterior talofibular ligament
B. Calcaneofibular ligament
C. Deltoid ligament
D. Anterior talofibular ligament (ATFL)

17. Which sonographic finding best differentiates a simple joint effusion from synovitis within the ankle joint?

A. Synovitis shows hypoechoic noncompressible thickened synovium with internal Doppler flow, whereas a simple effusion is anechoic, compressible, and avascular

B. Synovitis is always associated with cortical erosion; effusion is not
C. Effusion contains internal echoes and septations; synovitis is always anechoic
D. Effusion shows posterior acoustic enhancement; synovitis shows posterior acoustic shadowing

18. Which boundary forms the roof of the tarsal tunnel on ultrasound?

A. Superior peroneal retinaculum
B. Flexor retinaculum
C. Plantar fascia
D. Extensor retinaculum

19. To evaluate the anterior talofibular ligament with ultrasound, the transducer is placed connecting which two bony landmarks?

A. Calcaneus and cuboid
B. Medial malleolus and navicular
C. Distal fibula (lateral malleolus) and talus
D. Tibia and medial cuneiform

20. Which of the following best describes the sonographic appearance of myositis ossificans in a chronic muscle hematoma?

A. Diffuse anechoic fluid throughout the muscle with no calcification
B. Peripheral curvilinear calcifications producing acoustic shadowing within an evolving intramuscular lesion
C. Hyperechoic homogeneous lipomatous mass without shadowing
D. Anechoic cystic mass with through-transmission and septations

21. Which finding on ultrasound is MOST specific for chronic plantar fasciitis as opposed to acute plantar fasciitis?

A. Loss of the normal Achilles fibrillar pattern
B. Hyperechoic intrafascial calcifications or fibrosis at the calcaneal origin
C. Anechoic fluid in the retrocalcaneal bursa
D. Hypoechoic fusiform thickening with hyperemia on color Doppler

22. Which of the following is the most common cause of retrocalcaneal bursitis seen on ultrasound?

A. Acute deep venous thrombosis
B. Primary bone tumor of the calcaneus
C. Plantar fascia rupture
D. Mechanical impingement from footwear and chronic Achilles overuse

23. Which scanning plane and patient position best demonstrate the entire Achilles tendon?

A. Patient prone with feet hanging off the table; long-axis longitudinal scanning along the posterior calf and heel
B. Patient supine with knees flexed; transverse-only imaging
C. Patient lateral decubitus; axial imaging through the medial malleolus
D. Patient standing; sagittal imaging through the forefoot

24. A Morton neuroma is most commonly located between which two metatarsal heads?

A. Third and fourth metatarsal heads
B. Fourth and fifth metatarsal heads
C. First and second metatarsal heads
D. Second and third metatarsal heads

25. A superficial, well-circumscribed, compressible, isoechoic to slightly hyperechoic mass parallel to the skin in the dorsum of the foot with no internal vascularity most likely represents which lesion?

A. Nerve sheath tumor
B. Abscess
C. Ganglion cyst
D. Lipoma