Radiography of Trauma: Lower Extremity 6 Hours
~ Dr. Jennifer Pedley, DC, DACBR
Simply list your answers (write down letter choice only: a. b. c. d. e. T F) in a NUMBERED vertical column and email to: marcusstrutzdc@gmail.com

1. For every____degree(s) of tube tilt, the tube is moved ____inch(es) closer to the patient to reduce magnification.
   a. 10 degrees, 2 inches
   b. 1 degree, 1 inch
   c. 5 degrees, 1 inch
   d. Don’t move the tube

2. What advanced imaging is recommended to evaluate for fracture fragments or bony detail?
   a. Ultrasound
   b. MRI
   c. CT
   d. Bone scan

3. When positioning the patient for AP pelvis and AP spot view of the hip, the femur should be rotated in which position?
   a. 20 degree external rotation
   b. 20 degree internal rotation
   c. No rotation
   d. 5 degree internal rotation

4. The lateral frog-leg projection is taken AP with the position of the femur being:
   a. Flexion, adduct and internally rotation of the femur
   b. Flexion and internally rotation of the femur
   c. Flexion, abduct and externally rotation of the femur
   d. Flexion of the femur only

5. Description of X-ray: The AP view of the left hip indicates an osseous bump along the lateral aspect of the head-neck junction of the left femur. The patient has hip pain. What ranges of motion are likely decreased in this individual?
   a. Flexion and external rotation of the femur
   b. Extension
   c. Flexion, adduction and internal rotation of the femur
   d. Flexion only

6. What advanced imaging would be helpful in determining a labral tear of the hip?
   a. Bone Scan
   b. X-ray
   c. CT
   d. MRI with arthrography
7. The AP view of the right hip demonstrates an abnormal Klein’s line which does not intersect the femoral epiphysis. The superior height and size of the epiphysis is also decreased in size. This patient has open growth plates. What is a likely diagnosis?
   a. Femoroacetabular impingement syndrome
   b. Slipped capital femoral epiphysis
   c. Avascular necrosis
   d. Chandler’s disease

8. What advanced imaging could be ordered to evaluate for a stress fracture with NO radiation?
   a. Bone scan
   b. PET scan
   c. CT
   d. MRI

9. How much flexion of the knee is required to perform a lateral x-ray of the knee?
   a. 180 degrees of flexion
   b. 90 & 120 degrees
   c. 120 degrees
   d. 90 degrees

10. What is the tube tilt for the AP x-ray study of the knee?
    a. 15 degree cephalad tube tilt
    b. 5 degree cephalad tube tilt
    c. None
    d. 25-35 degree caudad tube tilt

11. The tibial eminences are avulsed from the proximal tibia. On MRI, what soft tissue structure attaches to the tibial eminences and is likely torn?
    a. Anterior cruciate ligament
    b. Posterior cruciate ligament
    c. Infrapatellar tendon
    d. Popliteus tendon

12. The AP x-ray study of the knee demonstrates an oval radiopacity or bony ossicle along the superolateral portion of the patella with smooth margins. What is this normal finding?
    a. Fracture
    b. Bipartite patella
    c. Myositis ossificans
    d. Tumor

13. The lateral x-ray study of a ten-year-old male exhibits fragmentation and slight separation of the tibial tuberosity with adjacent soft tissue swelling. What is the likely diagnosis?
    a. Osgood-Schlatter’s disease
    b. Sinding-Larsen- Johansson disease
    c. Normal finding
    d. Panner’s disease
14. The AP x-ray study demonstrates an avulsed fragment at the styloid process of the fibula. What ligament and tendon attach to this site?
   a. Lateral (fibular) collateral ligament and quadricep tendon
   b. Lateral collateral ligament and bicep femoris tendon
   c. Meniscofemoral ligament and quadricep tendon
   d. Posterior cruciate ligament and semitendinosus tendon

15. The AP x-ray study shows calcification or heterotopic ossification along the medial femoral condyle. Patient reports previous knee trauma. What structure is calcified/ossified and what is it known as?
   a. Lateral collateral ligament; Myositis ossificans
   b. Medial collateral ligament; Myositis ossificans
   c. Semimembranosus tendon; Pellegrini Stieda syndrome
   d. Medial collateral ligament; Pellegrini Stieda syndrome

16. What are the 3 standard x-ray projections of the ankle (choose one answer)?
   a. AP, medial oblique and lateral
   b. AP, PA and lateral
   c. PA only
   d. Bilateral obliques and PA

17. A subtle linear sclerosis is traversing the posterior aspect of the calcaneus on the lateral x-ray study of the foot. Patient has pain in this area. What is the likely diagnosis and what advanced imaging could be performed?
   a. Degeneration and CT
   b. Stress fracture; MRI
   c. Normal finding; no imaging needed
   d. Tumor; PET scan

18. The AP x-ray study of the ankle exhibits a linear radiolucency within the epiphysis of the distal tibia extending into the growth plate. What are the possible complications with this injury?
   a. Early closure of the growth plate
   b. Partial closure of the growth plate
   c. Angular deformity
   d. A, B and C

19. A small oval radiolucency or osteochondral lesion is seen along the articular surface of the talar dome following trauma. What advanced imaging can be performed for further evaluation to determine surgical versus conservative care?
   a. CT
   b. Fluroscopy
   c. Bone scan
   d. MRI

20. The foot x-rays should include what bony structures?
   a. Distal toes to the distal tibia
   b. Distal tibia to the navicular
   c. Only the distal toes
   d. Toes to the navicular
21. Patient had an inversion sprain of the foot and ankle. The x-ray study exhibits an avulsed fragment adjacent to the base of the 5th metatarsal or styloid process. What attaches to the styloid process of the 5th metatarsal?
   a. Anterior tibialis tendon
   b. Peroneus tertius tendon
   c. Peroneus longus tendon
   d. Lateral cord of plantar aponeurosis and peroneus brevis tendon

22. The dorsoplantar x-ray study of the foot requires a tube tilt of what degree and direction?
   a. 5 degree caudal tube tilt
   b. 10 degree caudal tube tilt
   c. 10 degree cephalad tube tilt
   d. Doesn’t require a tube tilt

23. Patient has been training for long distance breast cancer walk, and has been gradually experiencing foot pain for the last 3 weeks. The x-ray of the foot exhibits callous formation within the mid-diaphysis of the 4th metatarsal. What is the likely diagnosis?
   a. Stress fracture
   b. Lisfranc dislocation
   c. Tumor
   d. Calcific tendinitis

24. Widening of the tarsometatarsal joint is a serious injury and may result in:
   a. Surgical intervention
   b. Tear of the tarsometatarsal
   c. A and B

25. What special or additional radiograph of the foot can be taken to evaluate AND stress the tarsometatarsal joint?
   a. Lateral view with tube tilt
   b. DP weight-bearing radiograph of the foot
   c. Harris view
   d. Oblique radiograph with tube tilt