



Lower Extremity Anatomical and Diagnostic Curriculum (Example)

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1-Day Course, 7 hours of instruction

Learning Objectives

- Ultrasound physics and instrumentation
- Image artifacts and scanning technique
- Ergonomics and patient positioning
- Normal MSK anatomy for hip, knee, ankle and foot
- Basic pathology

Practical Goals

- Have the skills and knowledge to scan patients in a clinical setting and gain diagnostic information immediately
- Understand sonography in a way that allows for further self-led skill development

Curriculum Outline

1. Physics and Instrumentation
 - a. 1 hour
 - b. Sound dynamics
 - c. Tissue attenuation
 - d. Basic/common artifacts
 - e. Probe choice
 - f. Basic/common machine variables
2. Hip
 - a. 2 hours
 - b. Patient positioning
 - c. Anatomy
 - i. Bony landmarks
 1. Femoral head and neck
 2. Acetabulum and labrum
 3. Greater trochanter

- 4. Ischial tuberosity
 - ii. Tendons
 - 1. Iliopsoas
 - 2. Glute medius and minimus
 - 3. Conjoined hamstring
 - iii. Ligaments
 - 1. FA joint capsule
 - iv. Muscles
 - 1. Iliospas
 - 2. Rectus femoris
 - 3. TFL
 - 4. Glutes
 - 5. Piriformis
 - 6. Deep rotators
 - 7. Adductors
 - v. Nerves
 - 1. Sciatic
 - 2. Femoral
 - 3. Lateral femoral cutaneous
- 3. Knee
 - a. 2 hours
 - b. Patient positioning
 - c. Anatomy
 - i. Bony landmarks
 - 1. Patella
 - 2. Medial tibia and femur
 - 3. Lateral tibia and femur
 - 4. Fibular head
 - 5. Femoral trochlea
 - ii. Tendons
 - 1. Pes anserine
 - 2. Semimenbranosus
 - 3. Gastrocnemius
 - 4. Quadriceps
 - 5. Biceps femoris
 - iii. Ligaments
 - 1. MCL
 - 2. LCL
 - 3. Patella
 - 4. MPFL
 - 5. Retinaculum
 - 6. *Meniscus

- iv. Muscles
 1. Quadriceps
 2. Semitendinosus
 3. Semimembranosus
 4. Biceps femoris
 5. Gracilis and sartorius
 6. Gastrocnemius
- v. Nerves
 1. Tibial
 2. Sural
 3. Peroneal
 4. Geniculars

4. Ankle/Foot

- a. 2 hours
- b. Patient positioning
- c. Anatomy
 - i. Bony landmarks
 1. Malleoli
 2. Talar dome
 3. Mid-tarsals
 4. MCP, PIP, DIP
 5. Sesamoids
 - ii. Tendons
 1. Achilles
 2. Flexor group
 3. Extensor group
 4. Peroneals
 - iii. Ligaments
 1. ATFL
 2. CFL
 3. Tib-fib
 4. Deltoid
 5. Flexor retinaculum
 6. Tarsal
 7. *Plantar fascia
 8. *Plantar plate
 - iv. Muscles
 1. Gastrocnemius
 2. Flexor group
 3. Extensor group
 4. Peroneals
 5. Intrinsic arch

v. Nerves

1. Tibial/plantar
2. Sural
3. Medial dorsal cutaneous
4. Lateral dorsal cutaneous
5. Deep fibular