

SECOND YEAR RADIOLOGY WORKSHOP 2008 - 2009

Time Fridays 1 pm to 5 pm (during Laguna Honda and Homeless Clinic rotations)

Location ~~2250 Hayes Street (St. Mary's Medical Center)~~
~~4th Floor, Radiology Learning Lab (next to Parnassus clinic)~~

Samuel Merritt College, room to be announced

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Overall goals To gain proficiency in obtaining and interpreting radiographs of the foot and ankle with emphasis on normal radiographic anatomy.

To become proficient in identifying cross-sectional anatomy on MRI, CT and ultrasonic images of the foot and ankle.

To interpret a lower extremity arteriogram.

Course Format The second-year radiology workshop is taught in two month-long independent modules. Module A covers normal adult and pediatric radiographic anatomy. Module B covers normal anatomy on MRI, CT, diagnostic ultrasound and angiography. Depending on your rotation schedule, you may begin with either module A or module B. ***During each module you will be expected to know and identify normal anatomy on x-ray, MRI, CT and diagnostic ultrasound images of the foot and ankle.***

Required texts Christman, RA: *Foot and Ankle Radiology*. St. Louis, Missouri, Churchill Livingstone, 2003. A detailed synopsis of foot and ankle radiology and radiography written for the podiatric medical student.
☆☆☆☆

Manchester, Crim, Rosenberg: *Diagnostic and Surgical Imaging Anatomy: Knee, Ankle, Foot*, Published by Amirsys. The best MRI anatomy text that I have found so far. ☆☆☆☆

Recommended Helms, CA: *Fundamentals of Skeletal Radiology*. 3rd ed.
Philadelphia, Saunders, 2004
Foot skeleton
Anatomy atlas of the foot and ankle
Access to radiological websites

Useful Radiographic Websites

chorus.rad.mcw.edu

A quick list of hundreds of radiographically relevant definitions.

www.MDchoice.com

A general medical reference site.

www.radiologyeducation.com

A site with links to everything radiological. A good place to find teaching files, practice films, MRI basics.

www.vh.org

Virtual Hospital was a comprehensive medical site, but is now a link that includes links to radiological education.

www.worldwidefeet.com

Despite the odd name, this site posts excellent diagnostic ultrasound images, especially the color enhanced images at the University of Michigan link.

Attendance Mandatory. One unexcused absence constitutes a failure of the rotation.

What to Bring Articulated foot skeleton model, anatomy text

Attire **Clinical attire** (includes scrubs + white coat)

Grading

Pass/Fail based on attendance, overall mastery of the rotation objectives and two on-line practical examinations given during the last week of module A and module B. ***A failure in any one of these areas will result in a failure of the rotation.***

Although the examinations are given on-line, they must be taken closed book, closed note without any assistance whatsoever.

Module A examination: must pass 4 out of 6 questions to pass
Module B examination: must pass 3 out of 4 questions to pass

Examination grades will be available on Blackboard within 7 days of the examination. You are responsible for checking your own grades. If you fail or do poorly on an examination please contact Dr. Stamps as soon as possible to review your examination.

Policy on Learning Disabilities

Samuel Merritt College will make reasonable accommodation for students with documented disabilities. Students with physical, learning, or psychological disability, who believe that they may need accommodation in the Simulation Center rotation, are encouraged to contact the Director of Academic and Disability Support Services and Dr. Stamps as soon as possible.

SCHEDULE — MODULE A

Week 1	X-ray views and positioning
Week 2	Technique of radiographic interpretation Normal radiographic anatomy of the adult foot
Week 3	Normal radiographic anatomy of the adult and pediatric foot
Week 4	Normal radiographic anatomy of the pediatric foot Practical examination

SCHEDULE — MODULE B

Week 1	Cross sectional anatomy on MRI and CT
Week 2	Cross sectional anatomy on MRI and CT
Week 3	Cross sectional anatomy on MRI and CT
Week 4	Diagnostic ultrasound and angiography Practical examination

MODULE A

Goals

Become familiar with the views used in the evaluation of the foot and ankle.

Become more adept at reading radiographs of the foot and ankle.

Become familiar with identifying anatomy on pediatric foot and ankle radiographs.

Become aware of common pitfalls in interpretation of foot and ankle radiographs.

To begin the process of building an appropriate vocabulary for radiographic interpretation.

Objectives

You should be able to do the following:

Recognize the following radiographic views of the foot and ankle: AP, MO, lateral, LO, plantar axial, calcaneal axial, AP ankle, mortise ankle.

Select the best radiographic views for viewing the forefoot, rearfoot, medial foot, lateral foot, sesamoids and ankle.

Describe the position of the foot and/or ankle when taking each view.

Know how to scan an x-ray for quality assurance

Recognize over and under exposure of a radiograph

Identify the normal osseous anatomy visible on each view.

Identify the following normal supernumerary bones on a foot radiograph: os tibiale externum (accessory navicular type I), accessory navicular type II, os peroneum, os subfibulare, os subtibiale, os supratolare, os talonaviculare dorsale, os trigonum, os vesalianum.

Distinguish the 1st MCJ from the 2nd MCJ on a lateral view

Differentiate the posterior facet of the subtalar joint from the middle facet on a calcaneal axial view.

Identify every radiologically visible landmark on every bone of the foot and ankle.

Identify the location of ligamentous, tendinous and muscular insertions on every radiographically visible bone.

Identify the plantar layer location of the plantar structures of the foot.

List the order of appearance of the bones of the foot.

Determine the approximate age of a patient based on the ossification of the bones of the foot.

MODULE B

Goals

Recognize normal cross sectional anatomy on MRI and CT.

Become familiar with basic MRI physics.

Recognize lower extremity anatomy on diagnostic ultrasound.

Accurately interpret a lower extremity arteriogram.

Objectives

You should be able to do the following:

Identify **every** structure (bone, muscle, tendon, nerve, etc.) on axial, sagittal and coronal MRI and CT images of the foot, ankle and leg.

Identify the major vessels on a lower extremity angiogram, including the popliteal artery, anterior tibial artery, posterior tibial artery and peroneal artery.

Identify an organic occlusion on an angiogram.

Define the following terms used in diagnostic ultrasound:

- Near field
- Far field
- Hyperechoic
- Hypoechoic
- Anechoic
- Echogenic

Describe the DUS appearance of the following structures: tendon, muscle, ligament, bone, articular cartilage, peripheral nerve, fluid.