**RADY412 – Bone and Joint Imaging – Medical Student Syllabus**

This course in Bone and Joint Imaging will be taught as hybrid of in person and virtually. You will spend 3 days a week in the reading room.

A weekly MSK virtual educational meeting will be held every Wednesday at 3pm; you will receive an invitation from Rachel Will. The remainder of the time will be in doing the reading (and watching the videos) assigned below as well as reviewing cases on PACS. A final PowerPoint presentation is required.

**Faculty**

Course Director: John Tobben, MD [john\_tobben@med.unc.edu](mailto:john_tobben@med.unc.edu)

**Time commitments of the rotation (In order of priority)**

1. 1 hour case review sessions with faculty. These will be based on faculty weekly schedule and availability but expect at least 1 towards the end of each week and possibly an additional session pending faculty availability.
2. Reading room shadowing: Tuesday, Wednesday, Thursday **9a-12p.**
   1. **Tuesday:** MSK Annex
   2. **Wednesday/Thursday:** MSK Bone Room
3. Weekly general MSK educational conference (Wednesdays at 3pm; you will get a link via email as noted above).
4. Virtual lectures via the medical student lecture series through the Radiology department. You will receive information separately regarding access. Schedule is at [msrads.web.unc.edu](file:///C:\Users\jtobben\Downloads\msrads.web.unc.edu).
5. Resident noon conference. Schedule and WebEx link is at [rads.web.unc.edu](https://rads.web.unc.edu/). These lectures are open to all except the Resident Conference on the 1st Tuesday of the block.

**Additional Responsibilities:**

1. Weekly reading/online video assignments (see below)
2. Independent study of cases on PACS. 1-on-1 conferences with a faculty member every week to discuss cases on PACS. Progress in the reading assignments will be assessed at these sessions.
3. Interesting case presentation, ~25 minutes in length, on a topic of your choosing. By the end of the 2nd week, a topic should be selected and discussed with the course director (to ensure proper scope)
   1. Cover: Imaging, pathology of condition, clinical presentation, appearance on various imaging modalities, and clinical management.
   2. Optional: Can submit case for ACR case in point.

**Attendance**

* Attendance at all 1-on-1 PACS conferences is required.
* Attending schedules are variable and less flexible than a student’s schedule. You need to make every effort to meet when the course directors have time to meet with you. Sometimes these may be last minute; we expect you to be available.
* Inform the course directors about any planned absences, research meetings, etc. at the beginning of the rotation.

**Grading**

* Final grade will primarily be determined by the quality of the final presentation. It is essential to thoroughly research the topic and discuss with the course director as progress is being made on the presentation.
* Participation in all virtual meetings is also required unless you have an official excuse.

**Reading List by Week**

* Note: If the hyperlinks don’t work, you can access these resources via the HSL link in the [msrads.web.unc.edu](file:///C:\Users\jtobben\Downloads\msrads.web.unc.edu) site.

Cases:

* Emergency and Trauma Radiology: A Teaching File. Of the 100 cases, approximately 30 are MSK-related. You should work through these cases as you progress through the rotation. <https://ebookcentral-proquest-com.libproxy.lib.unc.edu/lib/unc/detail.action?docID=4931403&query=emergency+and+trauma+radiology>

Week 1 – General Overview:

* Chapter 9 - Musculoskeletal Imaging. In: Critical Observations in Radiology for Medical Students. <https://ebookcentral-proquest-com.libproxy.lib.unc.edu/lib/UNC/detail.action?docID=1965989>

Focus on

* Pros and cons of the different imaging modalities

Week 2 - Arthritis:

* Arthritis in Black and White. The book is divided into 2 parts that both cover the same material: joint-based or disease process-based. Use disease-based approach, focus on **osteoarthrosis/osteoarthritis, gout, psoriatic arthritis,** and **rheumatoid arthritis**.
  + [LINK to Ebook](https://web-s-ebscohost-com.libproxy.lib.unc.edu/ehost/detail/detail?vid=0&sid=a668d085-3cd5-4d83-98b3-5e40c203d6de%40redis&bdata=JnNpdGU9ZWhvc3QtbGl2ZQ%3d%3d#AN=445724&db=nlebk)
* SSR Lecture Series:
  + Target Area Approach to Arthritis: <https://radiologycorelectures.org/msk/iss135-resnick/>

Focus on

* Classifying arthropathies based on: bone production, erosions, distribution

Week 3 – Trauma:

* Chapter 2 – General Principles of Osseous Injury. In: Musculoskeletal Imaging. Pope, et al. <https://ebookcentral-proquest-com.libproxy.lib.unc.edu/lib/unc/reader.action?docID=4673782>
* SSR Lecture Series Videos:
  + C-spine trauma: <https://radiologycorelectures.org/msk/iss128-pathria/>
  + Upper Extremity: <https://radiologycorelectures.org/msk/iss112-gyftopoulos/>
  + Lower Extremity: <https://radiologycorelectures.org/msk/iss110-resnik/>
  + Pelvis and Hip: <https://radiologycorelectures.org/msk/iss125-blankenbaker/>
  + Fracture healing: <https://radiologycorelectures.org/msk/iss138-rubin/>

Focus on:

* Description of fractures and alignment abnormalities
* Fracture healing

Week 4 – Tumors/Infection

* SSR Core lecture series videos
  + Bone Tumors: <https://radiologycorelectures.org/msk/iss107-boutin/>
  + Soft Tissue Tumors (MR): <https://radiologycorelectures.org/msk/iss115-kransdorf/>
  + Myeloma and Hematogenous Bone Tumors: <https://radiologycorelectures.org/msk/iss116-ilaslan/>
  + Osteomyelitis: <https://radiologycorelectures.org/msk/iss119-morrison/>
  + Septic Arthritis: <https://radiologycorelectures.org/msk/iss133-grainger/>

Focus on

* Describing lytic bone lesions: margins, matrix, periosteal reaction, location
* General principles of osteomyelitis/septic arthritis
* Basics of MRI of soft tissue tumors