

RADY 417 – Body Imaging

COURSE OBJECTIVE

This course is designed for medical students preparing to serve as practicing clinicians with hands on review of cases at the workstation in modalities pertaining to abdominal imaging including CT, US, MRI, Xray and Fluoroscopy. The course includes independent review of cases as well as some direct interactive teaching at a workstation independently or with residence, fellows, and/or senior staff radiologists (as allowed by time, workroom space and social distance regulations). Students will have the opportunity to observe diagnostic procedures such as ultrasound guided biopsies, fluoroscopic catheter and enteric barium examinations. The schedule allows for dedicated on site self-learning beginning with On-Line videos followed several interactive case reviews and learning modules. Throughout the month, the student will gain knowledge of normal anatomy and develop diagnostic differentials based on organ and disease specific conditions. In addition, one will become familiar with modality specific terminology and learn how different conditions appear in each modality. This course is designed to provide the experience and scope of work associated with the role of an Abdominal Radiologist pertaining to patient care and their interaction with clinical colleague and is a great opportunity for those students considering a career in this field.

At the end of the course the student will:

- Become familiar with abdominal and pelvic anatomy appearances on plain radiography and advanced imaging modalities and incorporate the findings with common acute and malignant diseases.
- Become comfortable evaluating abdominal radiography and acquire basic CT, Ultrasound and MRI skills to view relevant patient examinations when in practice.
- Learn the application and limitations of each modality and how it translates to ordering abdominal imaging examinations directed toward the clinical concern.
- Become familiar with online resources that help guide clinicians with follow-up recommendations and exam scheduling recommendations (example ACR appropriateness criteria).

COURSE SCHEDULE

Following a brief formal first day introduction by the course director; the student will be required to report to the reading room or designated workspace daily from 8:00am-2:30 with lunch breaks and lectures adjusted daily based on the week block workload and daily schedule.

The "reading room or designated workspace" may fluctuate as approved by social distancing, reading room space and regulations all will be discussed on the first day.

The morning is directed toward self-review of videos and completion of interactive cases (provided on first day of block) either independently or with additional medical student(s) on service. Portions of the morning education on weeks 2 and 3 (GI and Ultrasound) will include observing interventional procedures and will be managed based on scheduled examinations during those weeks on service.

Review of the completed interactive cases provided in the lesson plan will be with Dr. Finazzo and may be modified daily based on the scheduled workload. Some days the "lesson plan" is learning directly by review of cases with the resident in the designated reading rooms during the 8:00am-2:30pm schedule. Therefore, the student should be available to make adjustments to coincide with the availability of the staff on each day. Students should use the remainder of the day for independent reading and study but are welcome to view additional live cases as desired.

The student will be required to complete one (1) PowerPoint presentations focused on Abdominal imaging topics of their choice lasting 5-10 minutes to be presented to one of the course directors on The last day of the rotation (or another day that week tbd). Students will be given feedback on their

progress. Do not hesitate to ask questions! Below is the course schedule. The detailed description for each block will be provided on the first day of service.

- Block Week 1: CT
- Block Week 2: GI/GU
- Block Week 3: US
- Block week 4: MRI

Students are required to review the Youtube videos and the companion CT scan to become familiar with CT anatomy prior to the first day on service:

Practical Intro to CT:

<https://www.youtube.com/watch?v=VnpqyIFytqI&t=745s>

<https://www.youtube.com/watch?v=r6FXMZJGecg&t=533s>

Case 1 Basic Anatomy



Basic Anatomy Case 1.avi

Students are expected to attend all conferences focused on abdominal imaging on the UNC Radiology Medical Student Education Website and encouraged to attend the resident noon conferences posted on the UNC Radiology Resident Education Website.

COURSE ENHANCEMENT

Daily Noon Resident Conference: Students are encouraged to attend noon conference pertaining to abdominal imaging and can also attend all other radiology conferences held each day from 12:00pm-12:45pm. Subject matter changes daily and can be learned from the resident on service. Noon conference location is based on social distancing regulations and may be remote/zoom but typically is in the Main Conference Room in the basement of the Women's Hospital. There is also a hot seat case conference each Tuesday and Thursday at 7:00am.

Tumor boards: There are weekly, monthly and biweekly tumor boards that students are encouraged to attend. These include GI tumor board, GU tumor board, melanoma tumor board and hepatobiliary tumor board. Students may attend all or any conferences. If planning on attending, the students should let Dr. Finazzo or Dr. Olinger know to provide the student with the log on information.

PACS Review Cases: There are multiple cases on PACS and on-line learning modules for students to review during their independent study time. These are cases that have been selected as classic examples of common pathologies seen in abdominal imaging. Access to these cases will be provided on the first day of the course.

Case Presentation: During reading room observation, students will come across many interesting cases. Students can select from these cases for the brief PowerPoint presentation.

COURSE RESOURCES AND LEARNING RECOMMENDATIONS

Below is the list of additional resources and self-learning suggestions to make the course academically challenging by providing progressive expansion of familiarity toward the next modality as each week block is completed. Refer to the Week block word document for additional resources that initiates the learning for each week block. (It is suggested that students should review those focused resources *prior* to the first day of service.)

Tutorials and Modules:

Focused Abdominal CT Modules, including anatomy (to be used in this order)

- <https://www.med-ed.virginia.edu/courses/rad/CTAbdominalAnatomy/>
- <https://www.med-ed.virginia.edu/courses/rad/CTPelvisAnatomy/>
- <https://www.med-ed.virginia.edu/courses/rad/MalePelvis/index.html>
- <https://www.med-ed.virginia.edu/courses/rad/abdtrauma/index.html>

Focused Abdominal Radiograph modules

- <https://www.med-ed.virginia.edu/courses/rad/PlainAbdomen/index.html>

Focused Ultrasound Modules

- <https://www.med-ed.virginia.edu/courses/rad/edus/index.html>
- <https://www.med-ed.virginia.edu/courses/rad/testicularUS/index.html>

Focused Multimodality GI/GU Modules

- <https://www.med-ed.virginia.edu/courses/rad/gi/index.html>
- <https://www.med-ed.virginia.edu/courses/rad/qu/index.html>

Focused MRI Abdomen and Pelvis Modules

- http://www.learningradiology.com/lectures/facultylectures/mriofabdomen_files/frame.htm
- <http://radnet.bidmc.harvard.edu/education/medicalStudents/anatomy/mri.pps>

General information and Portals

- Aunt Minnie.com (<http://www.auntminnie.com>) General radiology news, cases, and well used med student discussion board. Good if you hear about some new radiology test/news and want the inside story on it before your patients ask you.
- [Dose-Reference-Card.pdf \(acr.org\)](#) Radiation dose to adjust for common examinations
- RSNA (<http://www.rsna.org/residency.cfm>) Links for medical students interested in a career in Radiology.
- Radiology Education (<http://www.radiologyeducation.com/>) Multiple links to a huge number of websites, lists textbooks and case files.
- ACR Appropriateness Criteria [ACR Appropriateness Criteria® | American College of Radiology](#) (http://www.acr.org/secondarymainmenucategories/quality_safety/app_criteria.aspx)
A must for every medical student to know about. Useful resource for image algorithm sessions

UNC Directed Websites

- <http://rads.web.unc.edu/> - UNC Radiology Resident Education Website filled with educational resources, teaching modules, and more.
- <http://msrads.web.unc.edu/> UNC Radiology Medical Student Education Website filled with educational resources, teaching modules, and more.

ABSENCES

Please notify the Course Coordinator, Virginia Carver / vbcarver@med.unc.edu / (919) 966-9047 of absences ahead of time, if possible. Course credit cannot be given if more than 5 days are missed. Please contact Virginia Carver or Course Director, Dr. Pina Finazzo - Pina_Finazzo@med.unc.edu if you have questions and/or an extraordinary circumstance.

STUDENT GRADES

Students will be evaluated based on:

1. Daily reading room attendance, participation, and professionalism
2. Attendance at optional conferences, tumor boards
3. One Power Point case presentation and end of course exam
4. Honors grade is awarded to those students that have consistently demonstrated achievements and dedication above the expected course participation.

HONOR SYSTEM

Academic dishonesty in any form is unacceptable, because any breach in academic integrity, however small, strikes destructively at the University's life and work, and ultimately at your future capability.

The Honor Code and Campus Code, embodying the ideals of academic honesty, integrity, and responsible citizenship, have for over 100 years governed the performance of all academic work and student conduct at the University. Acceptance by a student of enrollment in the University presupposes a commitment to the principles embodied in these codes and a respect for this most significant University tradition. Your participation in this course comes with our expectation that your work will be completed in full observance of the Honor Code.

If you have any questions about your responsibility or my responsibility as a faculty member under the Honor Code and as the instructor in this course, please bring them to the Course Coordinator/Director, or consult with the Officer of the Student Attorney General or the Office of the Dean of Students.