INTRODUCTION

Welcome to radiology. This document is intended to provide you with some guidelines regarding your elective goals and objectives as well as some resources for study. Please note that IR morning meeting starts at 7:15a.

CODE OF CONDUCT IN RADIOLOGY

1. Please dress appropriately as you would in clinical areas. In IR, scrubs should be worn in procedures. Otherwise, scrubs with white coat. You must provide your own scrubs.
2. The presence of learners (outside of radiology residents) within radiology requires considerable time and effort by both radiology staff and residents in addition to the usual work. With this in mind, we will make every effort to teach you.
3. As in the OR, cellphones and pagers should not be in the procedure rooms or should be silenced.
4. The workstations are not to be used for email and other non-work uses. Bringing your own laptop would be wise.

ASSESSMENT AND EVALUATION

1. **Quiz:** You will be given a web-based quiz at the end of your elective. This will cover general aspects of interventional radiology such as anatomy, indications, management, etc. It will be both image and non-image based. It will usually take place on the last day of the rotation. Coordinate date and time with the elective coordinator.
2. **Presentation:** If you are on a 4 week rotation, you are expected to give a 15-20 minute presentation on a topic of your choice usually on the last Wednesday. Topics can be anything related to the rotation that interests you – an interesting case, patient, disease you saw, or new studies on certain procedures/techniques, etc.
3. **Evaluation:** E-value will be completed on all elective students. Input is requested from all staff and residents in IR.
4. You will be also be given an E-value to fill out to give feedback on your elective experience
LEARNING OBJECTIVES OF THE ROTATION

1. Explain how the listed imaging modalities are used to guide procedures and differentiate when each is used: ultrasonography, fluoroscopy, CT.
2. List the common indications and techniques of the following common IR procedures:
   - central venous access
   - fluid aspiration and drain placement
   - angiography
   - percutaneous nephrostomy
   - percutaneous transhepatic cholangiography
   - gastrostomy tube placement
   - percutaneous angioplasty and stent placement
3. Describe to a patient the following procedures (observe any of these which occur the day you are on angio):
   - vascular access
   - angiography
   - fluid aspiration and drainage
   - tube placement in stomach (gastrostomy), kidney (nephrostomy)
4. Critically assess requests for IR procedures and explain the factors that go into determining if a procedure is necessary and indicated, safe, and able to be performed.
5. Explain and demonstrate the factors used to reduce radiation dose during fluoroscopic and CT interventions

DUTIES WHILE ON THE ELECTIVE

1. Attend the daily morning conference to discuss the days cases. This begins at 7:15 am in the small reading room near angio; anyone in the angio suite can direct you.
2. If on a two or four week rotation plan to function as a sub intern; assisting in workups, consents and taking part in procedures, rounding on patients.
3. In the afternoon before the next IR day, pick one case that you would like to be involved with that’s scheduled for the next day (check with the resident, fellow or NP/PA on the service) and participate in/do the patient work-up. Review the relevant patient history, allergies, medications, PMH, Labs and pertinent imaging studies. Understand the indications for the requested procedure and how it is performed. Write the pre-procedure note and have an attending review it and sign it.
4. Put your initials on the angio board next to the cases you wish to participate in.
5. Ask to follow radiology technologists and nurses for the first several days of the rotation. Watch and help as they set up the room, bring the patient in, position them and prep and drape the field. Understand the techniques used to perform the procedure.
6. Observe and/or participate in several additional IR cases from start to finish: Review the patient history, labs and relevant imaging, learn the indication for the procedure, learn the pre-procedure work up and patient preparation.
7. Practice knot-tying with instruments and one/two hands.
8. Note that cases begin at 7:45 and continue until the day’s work is done. The only breaks during the day are gaps between cases, which we try to minimize.

**CONFERENCES**

There are multiple conferences per week where IR participates. If on a 2 or 4 week rotation, do try to attend some of these each week, attending all is not practical.

- Tuesday morning 6:45 am, GI Tumor Board. Radiation Oncology Conference Rm (2K)
- Tuesday 8 am, Dialysis Conference. Nephrology/Transplant (2M)
- Tuesday noon, Liver Tumor Conference. Nephrology/Transplant (2M)
- Wednesday 7 am combined Surgery, GI, Radiology conference. GI conference room (4C)
- Thursday 7 am, combined Urology/Radiology conference. Radiology Conference Rm

There are Radiology noon conferences 12:15-1:00pm in Radiology conference room. Topics can vary.

**EDUCATIONAL RESOURCES**

**GENERAL**

The self-teaching room is available all week The code for the door is: 135.

The computers in there have a login of: radstudent/Radiology1!

The interventional radiology section has a divisional page on our department website. Link:
http://geiselmed.dartmouth.edu/radiology/clinical/interventional/

A lot of useful information about procedures, logistic in the section, and patient care can be found there, including the VIR program manual. Link: http://geiselmed.dartmouth.edu/radiology/pdf/VIR_program_manual.pdf

**TEXTBOOKS & WEB RESOURCES**

The elective coordinator has copies of several standard student radiology textbooks that you may borrow for the period of your rotation. Reading the Interventional Radiology chapter is recommended. Additional resources:

2. ACR Case in Point case archive –> search for Vascular & Interventional cases. Link:
   https://3s.acr.org/CIP/ShowArchiveCases.aspx?Status=Unknown&CName=Vascular+%26+Interventional
4. AuntMinnie Case of the Day archive –> filter by modalities –> Angiography. Link:
**CORE CASES**

If you are a DMS student you will already have done some of the CORE cases. We highly recommend that you review these cases, which can supplement your learning. These cases can all be accessed at [http://www.med-u.org/](http://www.med-u.org/). These are a series of interactive cases that are designed to teach the student curriculum in radiology. These include cases in chest, GI, GU, neuro, pediatrics and MSK. They include multiple web-links to expand the learning experience. Your prior login or that from CLIPP or FM cases is valid.

**OTHER WEB RESOURCES (FOR GENERAL RADIOLOGY KNOWLEDGE)**

- www.learningradiology.com (use the ppt links, some of the flash links go to adverts for his book)
- Human anatomy at Geisel: [http://www.dartmouth.edu/~anatomy](http://www.dartmouth.edu/~anatomy)
- Beth Israel (Lieberman) web-tutorials: [http://eradiology.bidmc.harvard.edu/](http://eradiology.bidmc.harvard.edu/)

**WEB SOURCES OF RADIOLOGICAL IMAGES**

- [http://images.google.com/](http://images.google.com/)
- [http://goldminer.arrs.org/](http://goldminer.arrs.org/)
- [http://www.e---anatomy.org/index.html](http://www.e---anatomy.org/index.html)

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John Gemery MD

Nancy McNulty MD

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