

## **Sub-Internship Description**

**Campus:** All Campus (Fargo)

**Sub-Internship Title:** Radiology Sub-Internship

**Location of Sub-Internship:** Fargo VA HCS – Fargo, ND

**Department:** Radiology

**Course Number:** RAD 9501

**Preceptor(s):** Roger Hynes, MD & Joshua Morrell, MD

**Period(s) offered:** All

**Course Prerequisites:** Previous Radiology elective taken OR applying to Radiology residency

**Number of students per period:** 1

**Phase Available:** ONLY Phase 3

**Purpose:** To provide an advanced experience in radiology. The rotation utilizes a dedicated student PACS workstation. The student will be challenged to function similarly to a first year radiology resident, reading cases independently prior to preceptor review, and performing minor procedures.

**Objectives:** After completing the sub-internship, the student will be able to:

1. Obtain a problem focused history and physical exam prior to procedures in interventional radiology.  
*EPA #1 – Year 4 LO #1*
2. Present the history and physical in a concise, well-organized format to attending physician  
*EPA #6 - Year 4 LO #6*
3. Document the clinical encounter in a timely fashion  
*EPA # 1,5– Year 4 LO #2*
4. Discuss appropriateness of screening and diagnostic studies  
*EPA #3 - Year 4 LO #14*
5. Research a well-formulated clinical question and use evidence-based information to arrive at an answer.  
*EPA #7 - Year 4 LO #13*
6. Formulate or update an accurate problem list for patients who have undergone radiologic students reviewed by the student.  
*EPA #5 - Year 4 LO #5*

**Specialty Specific Objectives:** (These should be linked to EPAs and Year 4 learning objectives which can be found at <https://med.und.edu/education-training/education-resources/phase3.html#Yr4O> under “Overview & Objectives”) Please include any procedures the student will be expected to perform.

7. Form and prioritize a differential diagnosis. Select a working diagnosis.  
*EPA #2 - Year 4 LO #3*
8. Obtain informed consent for patients requiring interventional radiological procedures including those patients with suboptimal kidney functions who require contrast administration.  
*EPA # 11 – Year 4 LO #12*
9. Triage diagnostic testing of patients requiring urgent or emergent care.  
*EPA #10 – Year 4 LO# 10*

10. Prioritize and organize daily imaging work effectively. Articulate uncertainty in imaging interpretation and know how and when to seek appropriate help.  
*EPA #9,10 – Year 4 LO # 7*
11. Discuss and interpret clinical cases and provide radiological and pathologic correlations of various disease processes.  
*EPA #2,3 – Year 4 LO #3,4,5*
12. Incorporate patient specific variables into interpreting appropriate imaging tests.  
*EPA #4 – Year 4 LO #4*
13. Identify potential risks related to radiation, and contrast, used in imaging studies and state methods to improve patient and staff safety.  
*EPA # 13 – Year 4 LO #4*
14. Demonstrate advanced knowledge of various imaging examinations, (including their indications and alternatives) and actively participate in their performance.  
*EPA#12 – Year 4 LO#14*
15. Communicate effectively with referring physicians.  
*EPA#9 – Year 4 LO# 7*
16. Demonstrate a working knowledge of
  - a. pre interventional radiology preparation
  - b. basic interventional radiology skills
  - c. post-procedure care
  - d. patient safety protocols.*EPA#12 – Year 4 LO#14*

**Instructional Activities: During this elective, the student will be involved in/experience:**

1. Primary responsibility of his or her assigned patients under the supervision of resident or attending.
2. Performing supervised procedures utilizing imaging protocols.
3. Obtaining consent for contrast administration and interventional procedures.
4. Interactive imaging interpretation with the preceptor.
5. Communicating imaging findings to referring physicians.
6. Participating in common pre-interventional procedure consultations.
7. Participating in supervised interventional procedures.
8. Participating in post procedure care of the patients.

**Evaluation Methods: The preceptor will:**

1. By direct observation and checklist, evaluate the student's ability to perform a focused history and physical prior to procedure in interventional radiology and present his or her findings. (objective #1, 2)
2. By direct observation or review of written work, evaluate the student's ability to form a complete differential diagnosis and select a working diagnosis. (objective #3)
3. By direct observation or verbal discussion, evaluate the student's formulation of patient management plans including those for patients requiring emergent management. (objective #4, 5)
4. By direct observation, verbal discussion or review of written work, evaluate the student's selection and interpretation of screening and diagnostic laboratory and radiologic tests. (objective #4)

5. By direct observation and checklist, evaluate the student's documentation of radiologic studies. (objective #6, 7)
6. By direct observation and via feedback from the healthcare team, patients, and families, evaluate the student's communication skills including results communication. (objective #8, 9)
7. By review of written or verbal presentation made by the student, evaluate the student's use of evidence-based information to research a patient care question. (objective #10)

*Include below the evaluation methods to be used for the specialty specific objectives. Link the evaluation method to the objective #.*

Direct observation of student's performance in:

8. The imaging reading room, to include appropriate triage, differential diagnosis and interpretation of imaging studies (objective # 7, 9, 10, 11, 12, 13, 14)
9. The performance of procedures. (objective # 14, 16);
10. Obtaining informed consent. (objective # 8, 13);
11. The student's ability for appropriate interaction with referring physician. (objective #15).

## **Assessment:**

Evaluation methods #1-11 will be assessed using the following Entrustability scale.

Level	Descriptor	Example
1	"I had to do"	Requires complete hands on guidance, did not do, or was not given the opportunity to do
2	"I had to talk them through"	Able to perform tasks but requires constant direction
3	"I had to prompt them from time to time"	Demonstrates some independence, but requires intermittent direction
4	"I need to be there in the room just in case"	Independence but unaware of risks and still requires supervision for safe practice
5	"I would not have needed to be there other than to fulfill regulatory requirements"	Complete independence, understand risks and performs safely, practice ready

*\*This scale was adapted from the Ottawa surgical competency operating room evaluation (O-SCORE): A tool to assess surgical competence. Acad Med. 2012; 87:1401-407.*

The primary preceptor will be responsible for the assessment by direct observation. At the discretion of the primary preceptor additional preceptors may be asked to comment.

## **Grading Criteria:**

*To receive honors, the student must:* perform at a level greater than 4.5 (average).

*To pass the Sub-I, the student must:* perform at a level greater than 2.0 up to 4.5 (average)

*If a student fails the Sub-I,* the Sub-I director and campus dean will work with the student to form a written remediation plan (signed by all 3) that specifically addresses the competencies that the student did not meet during the rotation. A copy of this plan will be sent to the Office of Student Affairs. The minimum remediation for this Sub-I will consist of repeating the month long rotation. In order to pass the Sub-I, the student will be required to meet the original passing requirements. A student may not receive honors on an Sub-I that was initially failed.



## Fargo VA HCS Evaluation Checklist

### Radiology Sub-Internship

Task	Needs Improvement	Completion of task at student level	Completion of task at resident level
Targeted history			
Targeted physical examination			
Recognizes or excludes pneumothorax on CXR			
Recognizes infiltrate on CXR			
Recognizes normal cardiac silhouette on CXR			
Recognizes lung mass on CXR			
Recognizes fracture on X-ray			
Recognizes dislocation on X-ray			
Recognizes peritoneal free air on X-ray			
Recognizes bowel obstruction on X-ray			
Recognizes blood on CT imaging			

Date of evaluation: \_\_\_\_\_

\_\_\_\_\_  
Student

\_\_\_\_\_  
Evaluator