



## Vascular and Interventional Radiology

*Baypines VA Hospital*

**Rotation Director:** Bruce Kudryk, M.D.

**General Goals:** On this rotation, the resident will learn special procedures used in the diagnosis and treatment of vascular diseases of the arterial and venous systems. The resident will be involved in the diagnosis and treatment of non-vascular diseases involving the genitourinary, biliary, and enteric systems. All imaging modalities will be integrated with special attention to fluoroscopy, ultrasound, and CT.

### **Daily Work:**

**Start Time:** Residents are to report to the Vascular and Interventional Radiology section at 7:30 a.m.

Residents should evaluate and consent patients prior to their scheduled procedure. The procedure must be explained to the patient and consent obtained. Problems such as missing necessary History and Physical, labs or absence of premedication are to be addressed at this time. Questions should be resolved with the assistance of the attending staff. A thorough understanding of the patient's condition, the indication for the procedure, and the technique involved in performance of the procedure is mandatory. In many cases, this will require specific reading and preparation the evening prior to performance of the procedure. This preparation is prerequisite for any direct resident involvement as the primary operator in the procedure. It is also strongly urged that reading each evening should include material on cases scheduled for the next day, regardless of the anticipated level of involvement in the performance of the procedure.

**Pre-procedure assessment:** Pre-procedure assessment optimally will occur in the VIR Clinic or on the wards. Alternatively, this will occur in the department prior to the procedure if it has not previously been done. Pre-procedure evaluation includes a history, physical examination, review of pertinent labs and other examinations, formulation of a likely plan, and obtaining informed consent. Informed consent includes 4 parts: 1) explanation of the procedure in terms that the patient will understand, 2) expected benefit(s) of the procedure, 3) expected potential risks of the procedure, and 4) explanation of alternative diagnostic procedures or treatments.

**Procedures:** Procedures begin approximately at 8:00 a.m. Residents ideally should be involved with procedures for patients that they evaluated prior to the procedure. Patients who present to the department without prior assessment should undergo the same evaluation as those seen in the VIR Clinic or on the wards.

At all times while residents are in procedure rooms, whether performing, assisting, or observing, they are required to wear proper eye, nose and mouth protection. Face shields or goggles with side shields are mandatory. Eyeglasses alone are not sufficient.

Degree of involvement in procedures will be determined based on demonstrated ability. Familiarity with the clinical presentation, including history, physical examination, laboratory and other tests, pathophysiology of the disease process, and an appropriate assessment should precede resident's involvement in any case.

**Inpatient service:** Most inpatients are to be seen daily. This may be accomplished prior to start of the work day or after completion of the day's procedures. More active patients may be seen both prior to and after the work day. Less active patients may be seen less frequently or dropped from the inpatient list. This will be determined on a case-by-case basis by the attending Interventional Radiologists.

## **Educational Goals and Objectives:**

Level of performance for each of the criteria is expected to vary based on experience. Fulfillment of expected level performance will be categorized as introductory, familiarity, competency, or mastery. At all levels, achievement of performance criteria for previous levels is subsumed. Definitions of these categories are given below:

**Introductory:** the resident has observed at least one of the procedures, and has seen or assisted another person performing the task

**Familiarity:** the resident has seen the task performed enough times to accurately describe technical factors necessary for performance of the task and may have performed the task with supervision

**Competency:** the resident has observed and performed the task with supervision enough times to be capable of performing the task with direct or indirect supervision, but without explicit direction

**Mastery:** the resident has observed and performed the task with supervision enough times to be capable of performing the task without direct or indirect supervision

### **Patient Care:**

- Master clinical skills
- Properly synthesize data including lab and imaging results prior to initiating any procedure
- Achieve competency with all invasive diagnostic procedures including first-order selective arteriography, transhepatic cholangiography, antegrade nephrostogram, venography and biliary drainage

### **Medical Knowledge:**

- Gain a thorough understanding of pathophysiology of vascular disease, noninvasive tests, hemodynamics, and angiograms
- Read and retain pertinent literature, including research for cases of particular interest

### **Interpersonal and Communication Skills:**

- Achieve mastery in departmental presentation of diagnostic findings and therapeutic options
- Appropriately obtain informed consent
- Produce radiologic reports that are accurate, concise and grammatically correct
- Effectively teach medical students
- Communicate effectively with technical and nursing staff in the section

### **Practice-Based Learning and Improvement:**

- Effectively use electronic medical record and radiology information system to access prior labs and reports
- Incorporate feedback obtained during the rotation into improved performance

### **Professionalism:**

- Demonstrate initiative by being available and volunteering services during procedures and between cases
- Demonstrate willingness to perform additional duties that contribute to the overall patient care and academic interest of the section
- Demonstrate respect for patients and all members of the healthcare team
- Respect patient confidentiality
- Present one's self as a professional in appearance and communication

### **Systems-Based Practice:**

- Demonstrate knowledge of cost effectiveness of procedures such as endovascular treatment of aneurysms, and peripheral vascular disease vs. surgical intervention
- Be able to discuss the relative merits of endovascular vs. surgical approach to oncologic, peripheral vascular and neurovascular disease

**Mechanism of Evaluation:** In addition to the staged expectations for daily performance of the residents depending on level of training, residents' work done outside of the section will be assessed. Diligent reading of core text books and literature to result in familiarity with concepts of Vascular and Interventional Radiology commensurate with level of training is expected. Reading should be dictated in part by cases scheduled for the next day or another day in the future. At times, patient care may mandate literature review of a particular disease or procedure. Resident evaluations will depend in part on their achievement of these performance criteria. This will be reflected in the global evaluation form included at the end of this document. All residents are required to maintain a log of their procedures to document the type and number of procedures performed during their residency, as well as the outcome and incidence of their complications.