

# UNIVERSITY OF MINNESOTA CHILDREN'S HOSPITAL - FAIRVIEW INTERVENTIONAL RADIOLOGY CURRICULUM

## DESCRIPTION OF ROTATION OR EDUCATIONAL EXPERIENCE

Two week rotation with Interventional Radiology during which time the fellow will participate in morning patient conference to review indications, treatment options and special issues for upcoming pediatric interventional cases, and will learn current techniques for central venous access and other relevant procedures.

## ROTATION GOALS

1. Determine appropriateness of patient selection for the requested procedure through review of available history, imaging, laboratory values and proposed/expected outcomes of the procedure as well as identify and obtain deficient information in these areas.
2. Demonstrate understanding of history/physical findings or treatment scenarios that require pre-procedure assistance from other disciplines such as cardiology, anesthesia, surgery, etc.
3. Obtain informed consent after a review of procedure(s), risks, benefits and alternatives.
4. Recognize monitoring abnormalities and physical signs/symptoms that need immediate attention.
5. Demonstrate appropriate post-procedure recovery, patient management and follow-up.
6. Demonstrate understanding and appropriate management of pharmaceutical or physiologic issues relative to: Drug/Contrast Reactions; Antibiotic Therapy; Conscious Sedation; Anesthesia/Analgesia; Anticoagulation, Immune Suppression, Renal Function, and Infection Control.

## PATIENT CARE

### Goals

Residents must be able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health. Residents are expected to:

1. Review patient's history and physical with appropriate consideration of circumstances leading to need for vascular access, identify and communicate known difficulties or challenges unique to a particular patient, and potential unique risks of placing access.
2. Learn appropriate pre-procedure planning, competently perform vascular access procedures essential in the pediatric age group and manage complications related to such procedures.
3. Provide appropriate after-care and communication to patient's family and medical team.

### Objectives

1. Demonstrate in morning patient care meetings that they can accomplish the following steps in the care of their IR patients:
  - Gather essential and accurate information.
  - Discuss difficult cases with referring clinicians in other disciplines to ensure that the care plan is firmly patient-focused.
  - Make informed decisions based on up-to-date scientific evidence and sound clinical judgment.
  - Use information technology to support the above decisions.
2. Perform the vascular access procedures considered essential in the pediatric patient group competently and with an acceptable complication rate.
3. Demonstrate during and following the procedure that they can accomplish the following steps in the care of their IR patients:
  - Communicate effectively and demonstrate caring and respectful behaviors when interacting with patients and their families.

- Recognize changes in the patient’s medical condition that warrant intervention or alterations in the planned case.
- Proved effective communication to the primary care team at the conclusion of the procedure.

Competencies

1. Faculty Rotation Evaluation
2. Procedure log

**MEDICAL KNOWLEDGE**

Goals

Residents must demonstrate knowledge of established and evolving biomedical, clinical, epidemiological, and social-behavioral sciences, as well as the application of this knowledge to patient care. Residents are expected to:

1. Understand the principles of imaging as applied during vascular access procedures.
2. Understand the indications, risks, benefits and alternatives to the planned procedure.

Objectives

1. Understand the principles of radiographic and cross-sectional imaging as applied in the performance of interventional vascular procedures, actively advocate minimizing exposure of the patient and personnel to ionizing radiation wherever possible.
2. Understand indications for pediatric interventional imaging and appropriateness of the various imaging modalities.
3. Demonstrate a thorough understanding of the medical issues pertinent to the patients being treated.

Competencies

1. Faculty Rotation Evaluation.
2. Society of Critical Care Medicine’s Multidisciplinary Critical Care Knowledge Assessment Program (MCCCKAP) in-service examination.

**PRACTICE-BASED LEARNING AND IMPROVEMENT**

Goals

Residents must demonstrate the ability to investigate and evaluate their care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on constant self-evaluation and life long learning. Residents are expected to develop skills and habits to be able to:

1. Recognize competency or lack of competency performing a procedure.
2. Assess any complication from their procedure(s) and address possible prevention strategies.
3. Be familiar with blood stream infection initiative and importance of line insertion guidelines.

Objectives

1. Attend the complications conferences/M & M and analyze their experience and the experience of others in IR in such a way as to foster improvement in patient care.
2. Maintain procedure log.

Competencies

1. Maintain procedure log, including annotations regarding technical insights, level of comfort performing procedure.
2. Faculty Rotation Review

**SYSTEMS BASED PRACTICE**

Goals

Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care, as well as the ability to call effectively on other resources in the system to provide optimal health care.

### Objectives

1. Demonstrate with at least one case example that they have acted as a patient advocate assisting the patient or family deal with a patient relations, discharge difficulty or other system related complexity.
2. Review risk factors associated with catheter-related complications.

### Competencies

1. Review complications at M&M conferences.
2. Review NACHRI BSI initiative with comparison to IR procedural routine.

## **PROFESSIONALISM**

### Goals

Residents must demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles.

### Objectives

1. Demonstrate sensitivity and responsiveness to patients' culture, age, gender and disabilities
2. Demonstrate respect, compassion and integrity for the skills and efforts of the technologists and nurses of the IR team.
3. Demonstrate the qualities of a dedicated IR physician including punctuality, thoroughness, clarity, and completeness of notes and dictations.

### Competencies

1. Communicate effectively with patients and families across a broad range of socioeconomic and cultural backgrounds as evidenced by satisfactory family 360 evaluation.
2. Communicate effectively with physicians and other health professionals as evidenced by a satisfactory 360 evaluation.

## **INTERPERSONAL AND COMMUNICATION SKILLS**

### Goals

Residents must demonstrate interpersonal and communication skills that result in the effective exchange of information and teaming with patients, their families, and professional associates.

### Objectives

1. Communicate all significant procedure results by personal phone call to a member of the referring clinical team.
2. Communicate procedure results to the family accompanying the patient in all cases where a family member is available.
3. Demonstrate that during the patient evaluation and consent process, that they can create and then sustain through the procedure and follow-up care a trusting and ethically sound relationship with patients.
4. Work with the IR nurses and techs as an effective leader of the care team.
5. Document complete procedure note for all procedures.

### Competencies

1. Communicate effectively with patients and families across a broad range of socioeconomic and cultural backgrounds as evidenced by satisfactory 360 evaluation.
2. Communicate effectively with physicians and other health professionals as evidenced by a satisfactory 360 evaluation.
3. Maintain comprehensive, timely, and legible medical records for all procedures.

**TEACHING METHOD(S)**

1. Direct questioning during morning patient presentation with opportunity for didactic correction/embellishment.
2. One-on-one instruction at the bedside.

**ASSESSMENT METHOD - RESIDENT(S)**

End-of-rotation evaluation by IR staff.

**ASSESSMENT METHOD – ROTATION**

The fellows provide an anonymous review of the rotation, including comment on patient volume, quality of supervision and overall value of rotation.

**LEVEL OF SUPERVISION**

The fellow is directly supervised by Interventional Radiology faculty.

**EDUCATIONAL RESOURCES**

Interventional Radiology teaching files.  
NACHRI BSI Initiative protocol.