

Pediatric Radiology (Second Year, First Block)

This Pediatric Radiology rotation involves three blocks of practical experience at Children's Mercy Hospital in the performance and interpretation of imaging studies in pediatric patients, including newborn infants. Residents will spend their time at the Children's Mercy Hospital in Kansas City. All interpretations are reviewed with and countersigned by attending radiologists. Each resident at Children's Hospital works in the main reading room and covers: 1) outpatient radiology, 2) ultrasound/nuclear medicine, 3) CT, and 4) MRI (including inpatient fluoroscopy and NICU interpretations). The residents in this block are expected to gain a basic understanding and are given increasing levels of responsibility with each week of the rotation. The site has a fully-integrated PACS and performs multidetector scanning of pediatric patients.

Patient Care

Goal

Residents must be able to perform compassionate, appropriate, and effective radiologic health care tailored to the special needs of each child. Residents are expected to:

Knowledge Objectives:

- (1) Recognize the following radiographic signs of critical pediatric problems:
 - * Malposition of lines and tubes
 - * Abnormal air collections, i.e., pneumothorax, pneumomediastinum, pneumoperitoneum, and pneumatosis intestinalis
 - * Abnormal intracranial bleeding, i.e., epidural, subdural, and subarachnoid hemorrhage
 - * New childhood brain tumors
 - * CNS malformations and shunt malfunctions
 - * Acute abdominal pathologies such as acute appendicitis, intussusception, and malrotation of the small bowel
- (2) Discuss the principles of an air reduction of an iliocolic intussusception,
- (3) Be facile with basic principles of radionuclide imaging, ultrasound imaging, CT imaging and MR imaging, and
- (4) Describe the use of non-ionic water soluble contrast material, barium, and gadolinium when appropriate.

Skill Objectives:

- (1) Safely and accurately prescribe CT and MR examinations of the head and body in children,
- (2) Correctly use 3D technologies when appropriate,
- (3) Be facile with PACs and Dictation Systems. The residents will also be encouraged to obtain up-to-date medical information from the patient's chart,
- (4) Accurately complete diagnostic GI/GU studies in pediatric patients using fluoroscopy equipment,
- (5) Accurately perform a normal UGI/LGI examination,
- (6) Correctly interpret a conventional and radionuclide voiding cystogram examinations,
- (7) Adequately minimize exposure to patients using last image hold and pulsed fluoroscopy, and
- (8) Provide concise, accurate, and timely reports using dictation system.

Behavior and Attitude Objectives:

- (1) Work with the health care team in a professional manner to provide patient-centered care.

Medical Knowledge

Goal

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:

Knowledge Objectives:

- (1) Identify relevant anatomic structures on contrast studies,
- (2) Identify variations of anatomic structures specific to each phase of childhood maturation and development,
- (3) Diagnose common pathologic conditions in the Chest, abdomen and pelvis and understand their pathophysiology,
- (4) Discuss the physiology of radionuclide and MR examinations, and
- (5) Apply physics concepts of CT and radiographic examinations.

Skill Objectives:

- (1) Accurately interpret all but the most complex contrast studies.

Behavior and Attitude Objectives:

- (1) Demonstrate resourcefulness in providing information to the referring physicians in a prompt manner, and
- (2) Attend multidisciplinary patient care conferences.

Practice-Based Learning and Improvement

Goal

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 lifelong learning. Residents are expected to develop skills and habits to be able to:

Knowledge Objectives:

- (1) Utilize the Cleveland Clinic open access teaching site on Pediatric Radiology and master the objectives, and
- (2) Utilize Google and library resources in the discovery of up to date information concerning active patient problems.

Skill Objectives:

- (1) Successfully utilize computer and library resources to investigate complex pediatric pathologies,
- (2) Facilitate the learning of students and other health care professionals, and
- (3) Develop two teaching file cases for presentation during each Block of rotation.

Behavior and Attitude Objectives:

- (1) Recognize limitations of personal competency and ask for guidance when appropriate,
- (2) Incorporate formative feedback into daily practice, positively responding to constructive criticism, and

(3) Follow-up interesting or difficult cases without prompting and share this information with appropriate faculty and fellow residents.

Systems Based Practice

Goal

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. Residents are expected to:

Knowledge Objectives:

(1) Understand how their image interpretation affects patient care.

Skill Objectives:

- (1) Provide accurate and timely interpretations to decrease length of hospital and emergency department stay,
- (2) Appropriately notify the referring clinician if there are urgent or unexpected findings and document such without being prompted; and
- (3) Practice using cost effective use of time and support personnel.

Behavior and Attitude Objectives:

(1) Advocate for quality patient care in a professional manner, particularly concerning imaging utilization issues.

Professionalism

Goal

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

Knowledge Objectives:

- (1) Understanding of the need for respect for patient and family privacy and the special needs of pediatric patients, and
- (2) Understanding of their responsibility for the patient and the service, including arriving in the reading room promptly each day, promptly returning to the reading room after conferences, completing the work in a timely fashion, and not leaving at the end of the day until all work is complete. If the resident will be away from a service (for time off, meeting, board review, etc.), this must be arranged in advance with the appropriate faculty and/or fellow.

Skill Objectives:

- (1) Sensitivity and responsiveness to a diverse patient population, including but not limited to diversity in gender, age, culture, race, religion, disabilities, and sexual orientation, and
- (2) Treat radiologic technologists and file room personal in a kind and professional manner.

Behavior and Attitude Objectives:

(1) Respect, compassion, integrity, and responsiveness to patient care needs that supersede self-interest.

Interpersonal and Communication Skills

Goal

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

Knowledge Objectives:

(1) Know the importance of accurate, timely, and professional communication.

Skill Objectives:

(1) Produce concise and accurate reports on most examinations,

(2) Notify referring clinician for urgent, emergent, or unexpected findings, and document in dictation,

(3) Communicate effectively with physicians, other health professionals,

(4) Attentively listen to the patients and their parents, and

(5) Demonstrate compassion and empathy to pediatric patients.

Behavior and Attitude Objectives:

(1) Work effectively as a member of the patient care team. Attend appropriate patient care conferences on a regular basis, and

(2) Exhibit a caring, empathetic attitude toward patients and parents.

Pediatric Radiology (Third Year & Fourth Year, Second & Third Blocks)

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