

Pediatric Radiology

Competency Based Goals and Objectives

COMPETENCY 1. Patient Care. Provide family centered patient care that is developmentally and age appropriate, compassionate, and effective for the treatment of health problems and the promotion of health.

1. Order and interpret radiographic studies in common and emergency conditions.
2. Request the radiographic study needed to clarify a clinical problem.
3. Manage patients effectively using radiographic information.
4. Interpret common findings on radiographs accurately. For example, identify the following features on commonly obtained radiographs:
 - ◆ Abdominal radiographs: abdominal masses, fecaliths, free intraperitoneal air, ileus, congenital and acquired intestinal obstruction, pneumatosis intestinalis, intraperitoneal and retroperitoneal calcifications
 - ◆ Chest radiographs: atelectasis, airspace and interstitial pulmonary disease, cardiomegaly, foreign bodies, abnormalities of lung volume pneumothorax, pleural fluid, tumors, abnormal pulmonary vascularity, vascular anomalies
 - ◆ Extremity radiographs: benign and malignant bone tumors, cysts, bone destruction, common fractures [Salter-Harris classification], common dislocations, osteomyelitis, arthritis, soft tissue swelling, foreign body
 - ◆ Lateral neck radiographs: adenoidal and tonsillar hypertrophy, epiglottic and glottic edema, foreign body, retropharyngeal abscess, subglottic narrowing--congenital and acquired, cervical spine abnormalities
 - ◆ Sinus radiographs: mucosal thickening, masses, air-fluid levels, bone destruction
 - ◆ Spine radiographs: vertebral dislocation and fracture, vertebral destruction, collapsed vertebra, disc space disease, segmentation anomalies, scoliosis
5. Use appropriate imaging modalities to diagnose and manage pediatric patients.
6. Conduct timely and appropriate follow-up of fetal ultrasonographic abnormalities

COMPETENCY 2. Medical Knowledge. Understand the scope of established and evolving biomedical, clinical, epidemiological and social-behavioral knowledge needed by a pediatrician; demonstrate the ability to acquire, critically interpret and apply this knowledge in patient care.

1. Develop a basic level of proficiency in identifying common abnormalities in these radiographic studies that pediatricians order in emergent or urgent situations:
 - ◆ Skeletal survey for suspected non-accidental trauma
 - ◆ Computer tomography of the head
2. Recognize the most suitable imaging study for evaluation of various disease conditions (e.g. an ultrasound versus an upper GI for pyloric stenosis).
3. Demonstrate knowledge of reading basic pediatric xrays and the findings associated with various disease conditions.

COMPETENCY 3. Communication Skills. Demonstrate interpersonal and communication skills that result in information exchange and partnering with patients, their families and professional associates.

1. Communicate key patient information related to the radiographic study to the radiologist.
2. Counsel families and patients regarding the basic indications for and risks associated with specialized imaging such as the following:
 - ◆ Computed tomography (CT)
 - ◆ Contrast imaging: cystourethrography, barium esophagram, upper gastrointestinal series, small bowel follow through, contrast enema, angiogram, excretory urogram
 - ◆ Ultrasound
 - ◆ Nuclear medicine : Positron emission tomography (PET), Single photon emission computed tomography (SPECT)
 - ◆ Magnetic resonance imaging (MRI)
3. Use radiology consultation effectively for design of workup and diagnosis; provide key patient information to the radiologist and follow-up as needed.
4. Consult the radiologist for interventional procedures where appropriate, such as:
 - ◆ Vascular intervention (angioplasty, thrombolysis, embolotherapy)
 - ◆ Venous intervention (central venous lines, peripherally inserted central lines, peripheral and central ports)
 - ◆ Abscess drainage
 - ◆ Percutaneous biopsies
 - ◆ Gastrostomy, gastrojejunostomy and cecostomy
 - ◆ Tracheal and esophageal intervention (esophageal dilatation, tracheobronchial stents)
 - ◆ Renal and hepatobiliary intervention (drainage catheters, stents)

COMPETENCY 4. Practice-based Learning and Improvement. Demonstrate knowledge, skills and attitudes needed for continuous self-assessment, using scientific methods and evidence to investigate, evaluate, and improve one's patient care practice.

1. Use scientific methods and evidence to investigate, evaluate and improve one's own patient care practices and continually strive to integrate best evidence into one's daily practice.
2. Seek and incorporate feedback and self assessment into a plan for professional growth and practice improvement.
3. Demonstrate one's willingness and capability to be a life long learner by pursuing answers to clinical questions, using literature, texts, information technology, patients, colleagues and formal teaching conferences.

COMPETENCY 5. Professionalism. Demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to diversity.

1. Demonstrate commitment, responsibility, accountability for patient care.
2. Consistently use compassion and empathy in one's role as a physician.
3. Place the needs of patients and society over your own self-interest.
4. Respect your patients/parents privacy, autonomy and need to maintain a positive self-concept, irrespective of age, gender, or health belief system, regardless of acuity of disease.

COMPETENCY 6. Systems-Based Practice. Understand how to practice quality health care and advocate for patients within the context of the health care system.

1. Know the costs associated with different radiologic imaging procedures and how to maximize the information obtained in the most cost effective manner.

2. Clarify how documentation and billing/charges differ for procedures especially the differences between physician fees and hospital charges.
3. Demonstrate sensitivity to the costs of clinical care in radiology and take steps to minimize costs without compromising quality.
4. Know how the need for sedation potentially changes the system and causes problems for the radiology department.