

Name of Rotation:	Introductory Diagnostic Radiology
PGY Level:	PGY-2, PGY-3
Supervising Attending(s):	Drs. Christopher Oustwani, Caryl Salomon, Antonella Lostumbo, Priti Patel, Myriam Bermudez

Goals and objectives of rotation: please specify how this rotation experience can enhance the education of the trainee (refer to [Curriculum Template](#)).

Residents on this rotation will primarily be performing the following activities:

- Interpretation of radiographic examinations (including, but not limited, to skull/face, neck, spine, chest, abdomen, pelvis, and extremity radiographs)
- Interpretation of ultrasound examinations (including, but not limited, to neck/thyroid, abdominal, renal/bladder, pelvic, first trimester obstetric, scrotal, and superficial soft tissue extremity ultrasounds)
- Checking completed ultrasound examinations with technologists, instructing technologists to obtain additional / modified images as necessary
- Performing fluoroscopic examinations, including, but not limited, to speech pathology swallow evaluations, esophagrams, upper GI series, small bowel follow through, and barium enema examinations
- Interpretation of STAT CT examinations from the emergency department, including, but not limited, to CT of the brain, spine, and noncontrast CT of the abdomen
- Providing protocols and answering technologist questions pertaining to CT examinations
- Answering inquiries from clinicians regarding fluoroscopy, radiography, ultrasound, or CT examinations

GOALS AND OBJECTIVES:

MEDICAL KNOWLEDGE

- Understand appropriate use of radiography for diagnostic purposes, based on indication, risks and benefits, and cost effectiveness

- Develop a systematic approach to the interpretation of radiography examinations
- Correctly identify important anatomic structures on radiographs, including, but not limited, to:
 - Chest
 - Lobes and fissures
 - Pleural and pericardial spaces
 - Heart chambers and valves
 - Thoracic aorta
 - Hilar structures
 - Bones
 - Diaphragm
 - Spine and Musculoskeletal
 - Bones
 - Soft tissue structures
 - Abdomen and Pelvis
 - Bowel
 - Liver, renal, and urinary bladder shadows
 - Bones
- Correctly identify abnormal chest radiography findings, including, but not limited, to
 - Mispositioned support devices
 - Cardiac silhouette enlargement
 - Mediastinal or hilar masses
 - Aortic aneurysm
 - Pneumomediastinum
 - Hiatal hernia
 - Pneumothorax
 - Pleural effusion
 - Pneumonia
 - Pulmonary masses
 - Fractures / osseous lesions
 - Upper abdominal abnormalities
- Correctly identify abnormal musculoskeletal radiography findings, including, but not limited, to
 - Fracture / traumatic injuries
 - Arthritis and arthropathy
 - Osteomyelitis
 - Bone tumors
 - Soft Tissue Abnormalities
- Correctly identify abnormal abdominal radiography findings, including, but not limited, to
 - Pneumoperitoneum
 - Bowel obstruction
 - Urinary tract stones

- Mispositioned support devices
- Correctly identify ultrasound anatomy of the following structures
 - Thyroid and parathyroid glands
 - Neck lymph node stations
 - Liver
 - Hepatic artery and portal vein
 - Gall Bladder
 - Bile Duct
 - Spleen
 - Pancreas
 - Abdominal aorta and IVC
 - Kidneys and Renal Vein
 - Urinary bladder
 - Prostate
 - Uterus, Cervix, and Ovaries
 - Inguinal canal
 - Testicle, Epididymis
 - Soft tissue/extremity
- Correctly identify abnormal ultrasound findings, including, but not limited, to
 - Thyroid and parathyroid nodules
 - Pathologically enlarged or morphologically abnormal lymph nodes
 - Parenchymal liver disease, including cirrhosis and steatosis
 - Liver masses
 - Abnormal portal vein flow, portal vein thrombosis
 - Abnormal hepatic arterial flow
 - Ascites and pleural effusion
 - Cholelithiasis, gallbladder sludge, and sonographic findings of cholecystitis
 - Gallbladder adenomyomatosis
 - Gallbladder polyps and masses
 - Biliary ductal dilation and choledocholithiasis
 - Splenomegaly and splenic masses
 - Pancreatitis and pancreatic masses
 - Pancreatic ductal dilation
 - Abdominal aortic ectasia or aneurysm, abdominal aortic atherosclerosis
 - Hydronephrosis
 - Renal or bladder masses
 - Renal or bladder stones
 - Pyelonephritis
 - Prostatomegaly
 - Urinary retention
 - Uterine and cervical masses
 - Endometrial thickening
 - Adnexal masses

- Ovarian torsion
- Inguinal hernias
- Testicular torsion
- Testicular and extratesticular scrotal masses
- Epididymitis / Orchitis
- Hydrocele and Varicocele
- Extremity soft tissue masses
- Correctly identify normal fluoroscopic anatomy
 - Esophagus
 - Stomach
 - Small bowel
 - Colon
- Correctly identify abnormal fluoroscopy findings, including, but not limited to
 - Esophageal masses and strictures
 - Esophageal mucosal abnormalities and esophagitis
 - Achalasia
 - Esophageal perforation
 - Hiatal hernia and gastroesophageal reflux
 - Gastric masses
 - Gastric mucosal abnormalities and gastritis
 - Gastric perforation
 - Postoperative appearance of stomach
 - Bowel obstruction
 - Small bowel mucosal abnormalities
 - Small bowel strictures and fistulae
 - Colonic masses
 - Postoperative appearance of the colon
- Correctly identify abnormal emergent CT findings, including, but not limited to
 - Intracranial hemorrhage
 - Brain herniation
 - Acute infarction
 - Intracranial masses
 - Intracranial aneurysms
 - Dense intracranial vessels
 - Calvarial or spine fractures
 - Spinal canal hemorrhage
 - Acute disc herniation
 - Spinal canal masses
 - Urinary tract stones
 - Pyelonephritis
 - Intraabdominal / retroperitoneal hemorrhage
- Correctly synthesize identified abnormal imaging findings to produce appropriate differential diagnosis and recommendations

PATIENT CARE

- Communicate significant imaging findings to clinical service, with appropriate documentation
- Obtain appropriate medical history of patients from electronic medical record, radiology order, and communication with ordering provider
- Recognize when to consult senior resident or attending physician regarding patient care issues
- Understand and correctly perform fluoroscopy examinations, including, but not limited, to
 - Speech pathology swallow examinations
 - Esophagogram
 - Upper GI
 - Small bowel follow through
 - Barium Enema
- Assess patients experiencing a complication while undergoing a CT scan in the radiology department, including, but not limited to,
 - Contrast extravasation
 - Contrast reaction
- Answer common clinician questions regarding radiography, ultrasound, fluoroscopy, and CT examinations, including, but not limited to,
 - Appropriate examination choice
 - Appropriate use of intravenous contrast
 - Review and explanation of previously performed examinations
- Understand CT imaging protocols and correctly protocol CT examinations
- Answer technologist questions regarding common CT issues, including, but not limited to
 - Appropriate use of intravenous contrast in patients with renal impairment
 - Appropriate use of intravenous contrast in patients with contrast allergy, including appropriate contrast premedication
 - Appropriate use of CT in pregnant patients

INTERPERSONAL AND COMMUNICATION SKILLS

- Effectively communicate with all members of radiology team, including attending physicians, fellow trainees, technologists, and support staff
- Effectively communicate with all members of clinical services
- Produce concise and comprehensive radiology reports of radiography examinations, utilizing proper terminology
- Correctly utilize American College of Radiology standardized reporting systems (TIRADS and LIRADS) for appropriate examinations

PROFESSIONALISM

- Demonstrate responsible, ethical behavior; positive work habits; and professional appearance; and adhere to principles of patient confidentiality
- Positively incorporate constructive feedback

PRACTICE-BASED LEARNING AND IMPROVEMENT

- Recognize and correct personal errors
- Understand ultrasound examination imaging protocols, accurately check exams performed by ultrasound technologists and request repeat/additional imaging as warranted
- Understand protocols for radiographic examinations, including patient positioning and obtained views. Request repeat/additional imaging as warranted
- Provide feedback to technicians about performed examinations and suggestions for improvement

SYSTEMS-BASED LEARNING AND IMPROVEMENT

- Participate in discussions with faculty and staff regarding operational challenges and potential system solutions regarding all aspects of radiologic services and patient care

Regularly scheduled didactic educational experiences:

Residents will attend all UIC radiology conferences remotely via Webex.

Additionally, residents will participate in monthly departmental interesting case conference.

Delineation of trainee responsibilities for patient care, progressive responsibility for patient management, and supervision of trainees over the continuum of the program:

Trainees will be independently reviewing radiology studies and generating preliminary reports. Studies will subsequently be reviewed by a department attending and revised as necessary. As the resident progresses, it is expected that less revisions to reports will be necessary.

Additionally, trainees will be answering questions from clinicians and technologists independently, as their knowledge and competency allows. The attending physician is always available to help the resident answer a question. As the resident progresses, it is expected that most questions will be answered independently.

Unique educational value of this rotation offers: please explain unique educational values that the rotation offers.

The introductory diagnostic radiology rotation at the Jesse Brown VA Medical Center (JBVAMC) will offer radiology residents a unique opportunity to experience an integrated rotation which includes multiple organ systems and modalities, which mirrors the workflow of many diagnostic radiologists. Additionally, the majority of radiology patients at JBVAMC are medically complex, which provide radiology trainees with excellent learning opportunities. Furthermore, radiologists at the JBVAMC will voluntarily choose a teaching or clinical track, ensuring that all teaching attendings are enthusiastically interested in working with radiology trainees. The presence of clinical track radiologists will ensure ideal management of the radiology workflow, allowing teaching attendings more time to provide education to trainees.