Florida Hospital Diagnostic Radiology Residency
Body Imaging Goals and Objectives
Training Locations: Orlando/FRi Princeton

Many of the goals and objectives apply to all rotations and are listed below. Those goals that are more specific to a rotation are listed separately.

**Body Imaging Curriculum**

The educational curriculum in Body Imaging is comprised primarily of the rotations through the Body Imaging Section at FH Orlando and FRi Princeton where the Faculty provide direct training and supervision; as well as, a comprehensive series of lectures and conferences in Body Imaging. Correlation is made on a case-by-case basis with other imaging modalities, facilitated by the PACs system. A series of interdepartmental conferences, grand rounds, Journal Clubs, meetings and other venues are expected to enhance the residents’ knowledge of Body Imaging.

Because a full outline of disease entities and conditions is provided under each organ system elsewhere in the Radiology Residency Curriculum, a summarized curriculum for the Body Imaging Section follows:

- A review of the principles of physics and instrumentation/technology that underlie CT, GI/GU, and MRI imaging.
- A review of the normal anatomy, physiology, pathology and clinical conditions that are evaluated by CT, GI/GU, and MRI.
- The indications, limitations, contraindications and optimal protocols for the various studies, diseases, conditions, as well as, the optimal sequencing of various imaging studies is reviewed.
- The use, delivery systems, timing and dosages of intracavitary and intravenous contrast material is reviewed including any appropriate patient preparation, indications, contraindications, and the physiology and pathophysiology of contrast materials. The recognition and treatment of any allergic, chemotoxic reactions, or other adverse reactions is reviewed. The characteristic appearance of contrast during imaging in various normal and pathologic conditions is reviewed.
- The ACR appropriateness criteria and the economic implications for the health care system and patient of various diagnostic pathways are reviewed as appropriate.

**Daily Required Worklists and Reading Minimums**

**Assigned Worklists**
- Body/Orlando Rotation – Fluoro and read from Body Worklist
- Body/Princeton Rotation – Oncology/Body Worklist
- ER Rotation (4 pm-12 pm) – ER worklist
- On-Call (11p-7a) – ER worklist

On all rotations, it is suggested that residents try to read 25 cases/day. 3rd and 4th year residents should strive to read 15-20 CT/MR cases/day.
Training using the ACGME Six-Core Competencies:

**Year 1: Body Imaging**

1) **Patient Care**: Residents should be able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health.
   - Shows ability to interact with clinicians when reviewing GI/GU studies.
   - Shows ability to recommend additional imaging studies as appropriate to better assess GI/GU studies (e.g. CT/US/MRI).
   - Shows ability to use PACS and hospital information systems.

   Milestones include:
   - Using established evidence based guidelines such as ACR appropriateness criteria
   - Appropriately use the electronic health record to obtain relevant clinical information
   - Competently perform basic fluoro studies under indirect supervision
   - Recognize and manage complications of basic procedures

2) **Medical Knowledge**: At the end of the rotation, the resident should be able to:
   - Demonstrates knowledge of normal/abnormal anatomy as seen on GI/GU studies including flooro, CT and plain films.
   - Shows ability to recognize and describe common medical conditions as depicted on GI/GU imaging studies.
   - Discuss the proper clinical and radiological indications for the following studies:
     1) Video swallowing study
     2) Barium swallow
     3) Upper GI series
     4) Single-contrast barium enema
     5) Air-contrast barium enema
     6) Small bowel follow-through
     7) Cystogram

   - State the physiologic properties, proper concentrations and proper indications for the use of the following contrast media:
     1) Ionic intravenous contrast media
     2) Non-ionic contrast media
     3) Standard barium mixtures
   - List the risk factors for allergic reaction to intravenous contrast media.
   - State the proper assessment and treatment for allergic reactions to contrast media.
   - Begin reviewing the core curriculum for GI and GU at the end of this document.

**Medical Training**:
- Setup & Positioning of patients
- Actively use software/machine to perform scanning
- Perform Prescan interview to ensure save scanning and adhere to protocol regarding contract, metal (MRI, etc)
Expected Reading List:

- Fundamentals of Diagnostic Radiology, By Brandt and Helms – GI/GU Chapters
- Practical Fluoroscopy of the GI and GU Tracts by Marc Levine
- Fundamentals of Body CT by Richard Webb, William Brandt, and Nancy Major
- Case Review Series GI Imaging
- Case Review Series GU Imaging

Milestones include:
- Selecting appropriate protocol and contrast agent/dose for basic fluoroscopy and CT procedures
- Makes core observations
- Formulate differential diagnoses
- Recognize critical findings
- Differentiate normal from abnormal

3) Practice-Based Learning and Improvement: Residents must demonstrate skills to:

- Shows evidence of independent study using textbooks from expected reading list.
- Demonstrates appropriate follow up of interesting cases.
- Prepares teaching file of interesting cases.

Milestones include:
- Recognizes and manages contrast reactions
- Describes the mechanism of radiation injury and the ALARA concept
- Documents training in critical thinking skills and research design

4) Interpersonal and Communication Skills: Residents must demonstrate skills to:

- Interact with x-ray technologists, medical students, fellow residents, and attending radiologists.
- Interact with clinicians when reviewing cases involving GI/GU imaging studies.

Milestones include:
- Communicating information about imaging and examination results in routine, uncomplicated cases
- Obtains informed consent
- Adhere to transfer of care policies
- Generates accurate reports with appropriate elements for coding
- Communicates urgent and unexpected findings according to RSF policy

5) Professionalism: Residents must demonstrate ability to interact with patient/patient’s family/clinician when discussing significance of x-ray findings and their impact on patient care including what imaging studies may or may not be appropriate.

Milestones include:
- Recognizing the importance and priority of patient care and advocates for patient interests
- Fulfills work related responsibilities
- Recognizes personal limitations and seeks help when appropriate
- Responds appropriately to constructive criticism
- Maintains patient confidentiality
- Attends required meetings

6) Systems-Based Practice: Residents must demonstrate skills to:
- Shows ability to interact with clinicians regarding cost effective and streamlined patient evaluation for differing clinical entities.
- Able and willing to participate in clinical conferences in which imaging studies used to guide patient care/evaluation.

Milestones include:
- Describes departmental QI initiatives
- Describes the departmental QA system

Year 2: Body Imaging

1) Patient Care: At the end of the rotation, the resident should be able to:
- Refine interpretive skills with complex pathology
- Better perform the GI/GU studies listed in the first rotation
- Identify the abnormality at fluoroscopy and modify the technique or change the patient’s position or obtain special views or perform special maneuvers to obtain diagnostic fluoroscopic spot films
- Decreasing fluoroscopic time needed to perform a study without compromising diagnostic acumen
- Demonstrate more confidence when evaluating and integrating data from other studies (CT, MRI, sonography and nuclear medicine) of the GI/GU tract to make recommendations to the referring physician about more appropriate or additional diagnostic studies needed for evaluation of the patient’s abnormality
- Be able to direct the choice of imaging modality and protocol emergent studies
- Understand when referral or other imaging modalities is necessary
- Understand the basic physics of MR including TR, TE, T1W, Spin echo, Gradient Recall Echo imaging, and Inversion Recovery
- Learn the basic principles of contrast distribution, particularly as applied to arterial and venous phase scanning
- Protocol and monitor MR studies. Modify protocols when appropriate
- Understand the principle of a saline chaser
- Learn to recognize and treat contract reactions
- Develop skills in interpretation of basic MR pathology
- Learn the appropriate format for dictation of MR reports

Milestones include:
- Recommends appropriate imaging of common conditions independently
- Competently performs intermediate procedures (HSG, thyroid biopsy, etc)
- Recognizes and manages complications of intermediate procedures

2) Medical Knowledge: At the end of the rotation, the resident should be able to:
- Demonstrate review and/or retention of knowledge requirements set forth for the first year rotations.
• Learn the basic concepts of surgical procedures, their indications, their normal radiographic appearance, and finally the radiographic appearance of their complications. In addition to the traditional surgical procedures, this would include new procedures such as new laparoscopic GI and GU procedures.
• Describe and/or discuss GI/GU tract pathology in specific detail.
• Reviewed the entire core curriculum for GI and GU imaging at the end of this document.
• Learn the radiographic appearance of specific diseases on the following procedures:
  a) Barium swallow
  b) Upper gastrointestinal series (UGI)
  c) BE
  d) ACBE
  e) Small bowel follow through (SBFT)
  f) Fistulograms
  g) Cystogram
  h) HSG
• Understand the basic physics of MR including TR, TE, T1W, Spin echo, Gradient Recall Echo imaging, and Inversion Recovery.
• Learn the basic principles of contrast distribution, particularly as applied to arterial and venous phase scanning.
• Protocol and monitor MR studies. Modify protocols when appropriate.
• Understand the principle of a saline chaser.
• Develop skills in interpretation of basic MR pathology.
• Learn the appropriate format for dictation of MR reports.

Medical Training:
• Setup & Positioning of patients
• Actively use software/machine to perform scanning
• Perform Prescan interview to ensure safe scanning and adhere to protocol regarding contract, metal (MRI, etc)

Expected Reading List:
• Textbook of Uroradiology by Dunnick
• Body MRI by Evan Siegelman
• CT and MRI of the Abdomen and Pelvis by Pablo Ross and Koenraad Mortele

Milestones include:
- Selects appropriate protocols and contrast agent/dose for intermediate imaging like basic abdominal MRI
- Makes secondary observations
- Narrows differential diagnosis
- Describes management options

3) Practice-Based Learning and Improvement: At the end of the rotation, the resident should be able to:
• Shows evidence of independent study using textbooks from expected reading list.
• Demonstrates appropriate follow up of interesting cases.
• Prepares teaching file of interesting cases.
• Is able and willing to make detailed presentations of GI/GU studies at both intra and interdepartmental conferences.
• Upon request, participates in educational courses for clinicians, medical students, and fellow residents.

Milestones include:
- Re-demonstrates recognition and management of contrast reactions
- Accesses resources to determine exam specific average radiation dose info
- Accesses resources to determine safety of implanted devices and retained metal
- Works with faculty mentors to identify potential scholarly projects

4) **Interpersonal and Communication Skills:** Residents must demonstrate skills to:
• Interact with x-ray technologists, medical students, fellow residents, and attending radiologists.
• Interact with clinicians when reviewing cases involving GI/GU studies.
• Participate in administrative and scholarly committees when asked.

Milestones include:
- Communicates under direct supervision in challenging circumstances
- Communicates under direct supervision difficult information such as errors, complications, adverse events, and bad news
- Efficiently generates clear and concise reports that do not require substantive faculty member correction on routine cases
- Communicates findings and recommendations clearly and concisely

5) **Professionalism:** At the end of the rotation, the resident should be able to:
Residents must demonstrate ability to interact with patient/patient’s family/clinician when discussing significance of GI/GU findings and their impact on patient care including what imaging studies may or may not be appropriate.

Milestones include:
- Becomes an effective health care team member
- Continues to demonstrates professional behaviors described under year 1

6) **Systems-Based Practice:** At the end of the rotation, the resident should be able to:
• Shows ability to interact with clinicians regarding cost effective and streamlined patient evaluation for differing clinical entities.
• Able and willing to participate in clinical conferences in which imaging studies used to guide patient care/evaluation.
• Is able and willing to organize and present case conferences/didactic sessions as directed and supervised by radiology staff.

Milestones include:
- Incorporating QI into clinical practice
- Participates in the QA department process
- States relative cost of common procedures

**Year 3 and 4: Body Imaging**
1) **Patient Care:** At the end of the rotation, the resident should be able to:

- Perform, interpret, and dictate the GI/GU studies with sufficient competence to be able to practice independently.
- Continue to expand the knowledge of CT anatomy and pathology begun in the first two rotations.
- Assist technical staff in the performance of CT angiography and its interpretation.
- Refine MRI interpretive skills with complex pathology.
- Understand the principles of magnetic resonance angiography.
- Be able to identify life-threatening findings, particular with aortic aneurysm and grafts.
- Provide emergent provisional interpretation as needed.
- Be able to direct the choice of imaging modality and protocol emergent studies.
- Understand when referral or other imaging modalities is necessary.
- Become a more autonomous consultant and teacher.

Milestones include:
- Recommends appropriate imaging of uncommon conditions independently
- Integrates current research and literature with guidelines, taking into consideration cost effectiveness and risk benefit analysis, to recommend imaging
- Competently performs advanced procedures
- Recognizes and manages complications of advanced procedures
- Independently performs fluoroscopy and image guided body procedures

2) **Medical Knowledge:** At the end of the rotation, the resident should be able to:

- Demonstrate review and/or retention of knowledge requirements set forth for the first two years.
- Understand the role and basic principles of newly evolving and potential future new examinations such as CT urography, MR angiography, CT/PET, and molecular imaging in the evaluation of GI/GU disease.
- Understand the uses, interpretation, and limitation of techniques that have been replaced e.g. oral cholecystogram and intravenous cholangiogram.
- Assist in preparation and presentation of interdepartmental case conferences.

**Expected Reading List:**

- **CT Urography** by Stuart Silverman and Richard Cohan
- **Mayo Clinic GI Imaging Review** by Dainel Johnson and Grant Schmit
- **Abdominal and Pelvic MRI** by Richard Semelka

Milestones include:
- Selects appropriate protocols and contrast agent/dose for advanced imaging
- Demonstrates knowledge of physical principles to optimize imaging quality
- Independently modifies protocols as determined by clinical circumstances
- Provides accurate, focused, and efficient interpretations
- Prioritizes differential diagnoses and recommends management
- Makes subtle observations
- Suggests a single diagnosis when appropriate
- Integrates current research and literature with guidelines to recommend management
3) **Practice-Based Learning and Improvement**: At the end of the rotation, the resident should be able to:

- Shows evidence of independent study using textbooks from expected reading list.
- Demonstrates appropriate follow up of interesting cases.
- Prepares teaching file of interesting cases.
- Is able and willing to make detailed presentations of GI/GU studies at both intra and interdepartmental conferences.
- Upon request, participates in educational courses for clinicians, medical students, and fellow residents.
- Upon request, participates in educational activities at the local/national level.

Milestones include:
- Re demonstrates recognition and management of contrast reactions
- Communicates the relative risk of exam specific radiation exposure to patients and practitioners. Applies principles of image Gently and Wisely
- Communicates MR safety of common implants and retained foreign bodies to patients and practitioners
- Selects appropriate sedation agent and dose of conscious sedation

4) **Interpersonal Skills**: Residents must demonstrate skills to:

- Interact with x-ray technologists, medical students, fellow residents, and attending radiologists.
- Interact with clinicians when reviewing cases involving GI/GU imaging studies.
- Can participate in administrative and scholarly committees when asked.
- Can serve as a liaison between our department with both other radiology departments and other specialty groups in our institution.

Milestones include:
- Communicates without supervision in challenging circumstances
- Efficiently generates clear and concise reports that do not require substantive faculty member correction on all cases
- Communicates appropriately under stressful situations

5) **Professionalism**: Residents must demonstrate skills to:

- Residents must demonstrate ability to interact with patient/patient’s family/clinician when discussing significance of x-ray findings and their impact on patient care including what imaging studies may or may not be appropriate.
- Can participate in activities relative to the role of GI/GU imaging both to the medical community and the general public.
- Is perceived as a role model for radiology from both within and outside the department.

Milestones include:
- Is an effective team leader promoting patient welfare, patient autonomy, and social justice
- Serves as a role model for professional behavior

6) **Systems-Based Practice**: Residents must demonstrate skills to:
• Shows ability to interact with clinicians regarding cost effective and streamlined patient evaluation for differing clinical entities.
• Able and willing to participate in clinical conferences in which imaging studies used to guide patient care/evaluation.
• Is able and willing to organize and present case conferences/didactic sessions as directed and supervised by radiology staff.
• Is able and willing to participate in activities at the local/national level under staff supervision.

Milestones include:
  - Identifying and completing a systems based practice project

**Assessment tools for all Body Rotations:**
• Reviewing rotation curriculum, goals and objectives, as a benchmark for progress of resident, and success of faculty, is educating the resident. Discussion regarding the specifics of the document is encouraged to promote improvement of the resident’s learning and the program’s teaching. Positive points and deficiencies and unfulfilled goals and objectives should be discussed by the residents and faculty.
• Global ratings by faculty including rotation evaluation sheet
• Resident’s performance discussing unknown cases in conference (one of the metrics on Global Evaluation sheet is particularly important)
• Placing cases in teaching file (one of the metrics on Global Evaluation)
• Conference attendance logs
• In-service examination
• 360 degree evaluations – supervisory technologists in radiology core
• Fluoroscopy time log submitted by physicist to Program Director
• Self assessment based on Rad Primer quizzes
• Future plans: evaluation of teaching by medical students
Gastrointestinal Imaging Curriculum based off the ABR Core Exam

1) Pharynx
   a) Benign diseases
      i) Zenker diverticulum
      ii) Foreign bodies
      iii) Trauma
   b) Motility disorders
2) Esophagus
   a) Benign diseases
      i) Diverticula
      ii) Trauma
      iii) Esophagitis
         (1) Reflux
         (2) Infectious
         (3) Caustic
         (4) Drug-induced
      iv) Barrett’s esophagus
   v) Rings, webs, strictures
   vi) Varices
   vii) Benign tumors and tumor-like conditions
   viii) Extrinsic processes affecting the esophagus
         1) Pulmonary lesions
         2) Mediastinal structures
   ix) Hiatal hernia (types, significance)
   b) Malignant tumors
      i) Squamous
      ii) Adenocarcinomas
      iii) Other malignant tumors
         (1) Lymphoma
         (2) Kaposi
         (3) Metastases (lymphatic and hematogenous)
   c) Motility disorders
      i) Primary motility disorders
      ii) Secondary motility disorders
   d) The postoperative esophagus

3) Stomach
   a) Benign diseases
      i) Diverticula
      ii) Gastritis
         (1) Erosive
         (2) Atrophic
         (3) Infectious
         (4) Other
            (a) Crohn’s disease
      iii) Peptic ulcer disease
      iv) Hypertrophic gastropathy
   v) Varices
   vi) Volvulus
vii) Entrapment after diaphragmatic injury

b) Malignant diseases
i) Primary
   (1) Adenocarcinoma
   (2) Lymphoma
   (3) GI stromal tumors
   (4) Carcinoid

ii) Metastatic

c) The postoperative stomach
i) Expected surgical appearance
   (1) Bariatric, including gastric banding
   (2) Nissen and other fundoplications
   (3) Whipple
   (4) Billroth procedures

d) Complications

4) Duodenum
a) Benign diseases
i) Congenital abnormalities
ii) Diverticula
iii) Trauma
iv) Inflammation
   (1) Duodenitis
   (2) Ulcer disease
   (3) Crohn’s disease
v) Aortoduodenal fistula
vi) Benign tumors

b) Malignant diseases
i) Adenocarcinoma
ii) Lymphoma
iii) Metastatic disease

5) Small Intestine
a) Benign diseases
i) Congenital disorders
ii) Diverticula
iii) Trauma
iv) Vascular diseases
   (1) Intestinal ischemia and infarction
   (2) Radiation enteritis
   (3) Scleroderma
   (4) Vasculitides
      (a) Henoch-Schönlein purpura
      (b) Polyarteritis nodosa
      (c) Systemic lupus erythematosus
v) Malabsorption
   (1) Sprue
   (2) Lymphangiectasia
vi) Inflammatory diseases
   (1) Crohn’s disease
(2) Infectious and parasitic diseases

vii) Benign tumors
   (1) Sporadic
   (2) Associated with polyposis syndromes

viii) Malrotation/Volvulus
ix) Obstruction
x) Hemorrhage
xi) Other
   (1) S/p Bone Marrow Transplant
   (2) Drug effects
      (a) NSAIDS enteritis
      (b) ACE inhibitors

b) Malignant tumors
   i) Adenocarcinoma
   ii) Lymphoma
   iii) Carcinoid
   iv) GI stromal tumors
   v) Metastases

6) Colon and Appendix
   a) Benign disease
      i) Congenital abnormalities
      ii) Diverticular disease
      iii) Inflammatory diseases
         (1) Crohn’s disease
         (2) Ulcerative colitis
         (3) Infectious colitis
            (a) Pseudomembranous
            (b) Viral
            (c) Bacterial
            (d) Colitis in AIDS
         (4) Appendicitis
      iv) Ischemic colitis
   v) Benign neoplasms
      (1) Adenoma
      (2) Mesenchymal tumors
      (3) Polyposis syndromes

b) Malignant diseases
   i) Adenocarcinoma
   ii) Other malignant tumors
      (1) Lymphoma
      (2) Carcinoid
      (3) Melanoma
      (4) Squamous (anal)
      (5) Metastases

7) Pancreas
   a) Congenital abnormalities and variants
   b) Pancreatitis
      i) Acute
ii) Chronic
iii) Complications
iv) Autoimmune
c) Pancreatic neoplasms
   i) Duct cell adenocarcinoma
   ii) Cystic pancreatic neoplasms
      (1) IPMN
      (2) Mucinous cystadenomas
      (3) Serous cystadenomas
   iii) Islet cell tumors
   iv) Lymphoma
   v) Metastases

8) Liver
   a) Normal anatomy
   b) Diffuse diseases of the liver
      i) Cirrhosis
      ii) Diseases associated with infiltration
         (1) Fatty infiltration/NASH/NAFLD
         (2) Hemochromatosis
         (3) Storage diseases
      iii) Vascular diseases
         (1) Portal hypertension
         (2) Portal vein occlusion
         (3) Hepatic venous hypertension/Budd Chiari, nutmeg liver
   c) Focal diseases of the liver
      i) Benign
         (1) Cavernous hemangioma
         (2) Liver cell adenoma
         (3) Focal nodular hyperplasia
      ii) Malignant
         (1) Hepatocellular carcinoma
         (2) Metastases
         (3) Other malignant liver lesions
d) Liver transplantation
   (1) Surgical candidates
   (2) Expected postoperative appearance
   (3) Complications

9) Spleen
   a) Splenomegaly
   b) Focal lesions
      i) Cysts
      ii) Hemangioma
      iii) Infarction
      iv) Abscess/microabscesses
      v) Granulomatous disease
c) Trauma

10) Bile Ducts and Gallbladder
i) Congenital abnormalities and variants
   (1) Choledochal cysts
   (2) Caroli disease

ii) Inflammatory diseases
   (1) Gallbladder
      (a) Acute cholecystitis
      (b) Emphysematous cholecystitis
      (c) Porcelain bladder
   (2) Biliary ducts
      (a) Primary sclerosing cholangitis
      (b) Ascending cholangitis
      (c) Recurrent pyogenic cholangitis
      (d) AIDS cholangiopathy
      (e) Ischemic injury
      (f) Surgical injury
      (g) Stone disease

iii) Tumors
   (1) Gallbladder cancer
   (2) Cholangiocarcinoma
   (3) Metastases

11) Peritoneal Spaces
    a) Normal anatomy
    b) Fluid collections
    c) Diseases of the peritoneum
       i) Inflammatory diseases
          (1) Bacterial peritonitis
          (2) TB
          (3) Other
       ii) Primary tumors
       iii) Metastatic tumors
    d) Mesenteries
       i) Normal anatomy
       ii) Pathologic conditions
          (1) Sclerosing mesenteritis/misty mesentery
          (2) Mesenteric fibromatosis
    e) Retroperitoneum
       i) Normal anatomy
       ii) Retroperitoneal spaces
       iii) Benign diseases
          (1) Fibrosis
          (2) Inflammatory diseases
       iv) Malignant tumors

12) Multisystem Disorders
    a) Acute abdomen
    b) Trauma to the abdomen
    c) Syndromes involving the gastrointestinal tract
    d) Hernias, including internal hernias
    e) All obstruction
GU Imaging Curriculum based off the ABR Core Exam

1) Kidneys
   a) Malignant tumors
      i) Primary
      ii) Secondary
   b) Benign tumors
   c) Endocrine tumors
   d) Cystic disease
   e) Complicated cysts
   f) Granulomatous diseases
   g) Infection/inflammation
   h) Hemorrhage
   i) Infarction and ischemia
   j) Trauma/iatrogenic
   k) Congenital anomalies
   l) Medical renal disease
   m) Inherited diseases involving the kidneys (including transplantation)

2) Ureter
   a) Malignant tumors
   b) Benign tumors
   c) Infection/inflammation
   d) Hemorrhage
   e) Trauma/iatrogenic
   f) Congenital anomalies
   g) Stricture
   h) Filling Defects

3) Bladder and Neobladder
   a) Malignant tumors
   b) Benign tumors
   c) Infection/inflammation
   d) Hemorrhage
   e) Trauma/iatrogenic
   f) Congenital anomalies

4) Prostate Gland and Seminal Vesicles
   a) Malignant tumors
   b) Benign tumors and hyperplasia
   c) Infection/inflammation
   d) Trauma/iatrogenic
   e) Congenital anomalies

5) Urethra and Penis
   a) Malignant tumors
   b) Benign tumors
   c) Infection/inflammation
   d) Trauma/iatrogenic
e) Congenital anomalies
f) Stricture

6) Retroperitoneum
   a) Malignant tumors
      i) Primary
      ii) Secondary
   b) Benign tumors
   c) Hemorrhage
   d) Trauma/iatrogenic
   e) Congenital anomalies
   f) Aortic aneurysm
   g) Retroperitoneal fibrosis
   h) Pelvic lipomatosis
   i) Venous anomalies
   j) Fournier gangrene

7) Vascular Diseases Affecting the Genitourinary Tract
   a) Aneurysms
   b) Stenoses
   c) Malformations
   d) Fistulae
   e) Occlusions
   f) Congenital anomalies

8) Intravascular Contrast Media
   a) Extravasation
   b) Physiology
   c) Adverse reactions (idiosyncratic and non-idiosyncratic)
   d) Prevention and treatment of adverse reactions

9) Urolithiasis (Including Kidney, Ureter, Bladder)

10) Adrenal
   a) Congenital abnormalities
   b) Benign masses
   c) Malignant primary and secondary neoplasms
   d) Endocrine disorders
   e) Acquired diseases and conditions
      i) Infection
      ii) Inflammatory conditions
      iii) Hemorrhage

11) Female genitourinary tract
   a) Congenital abnormalities
   b) Infertility
   c) Menopause
   d) Uterus and cervix
      i) Benign and malignant masses
      ii) Acquired conditions (infection, hemorrhage)
e) Ovaries and fallopian tubes
   i) Benign and malignant masses
      (1) Cysts and cystic lesions
   ii) Acquired conditions (infection, hemorrhage)
      (1) Infections
         (a) Pelvic inflammatory disease
      (2) Torsion
      (3) Ovarian failure
f) Vulva and vagina
   i) Benign and malignant masses
      (1) Cysts and cystic lesions

12) Techniques
   a) Excretory urography
   b) Cystography
   c) Urethrogram (including antegrade and retrograde)
   d) Computed tomography (including CT urography, CT angiography)
   e) Magnetic resonance imaging (including MR urography, MR angiography)
   f) Ultrasound (including Doppler and color flow)
   g) Hysterosalpingography
Florida Hospital Radiology Residency
Technologist Shadowing Log

<table>
<thead>
<tr>
<th>Modality (please circle):</th>
<th>CT</th>
<th>MR</th>
<th>Fluoroscopy</th>
<th>X-Ray</th>
<th>Portable X-Ray</th>
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Resident’s Name: ____________________________________________

**General Requirement**
Date, print supervisor’s last name (printed), supervisor’s signature

1) The resident has helped perform (not only observed) the daily QA
   Date:__________ Supervisor (Printed):__________ Signature:____________________

2) The resident has helped perform (not only observed) the weekly QA (as applicable by modality)
   Date:__________ Supervisor (Printed):__________ Signature:____________________

3) The resident has helped perform (not only observed) the quarterly QA (as applicable by modality)
   Date:__________ Supervisor (Printed):__________ Signature:____________________

4) The resident has aided (not only observed) in the setup/positioning of at least 5 patients
   Date:__________ Supervisor (Printed):__________ Signature:____________________
   Date:__________ Supervisor (Printed):__________ Signature:____________________
   Date:__________ Supervisor (Printed):__________ Signature:____________________
   Date:__________ Supervisor (Printed):__________ Signature:____________________
   Date:__________ Supervisor (Printed):__________ Signature:____________________

5) The resident has actively used the software/machine to perform the scanning of at least 5 patients
   Date:__________ Supervisor (Printed):__________ Signature:____________________
   Date:__________ Supervisor (Printed):__________ Signature:____________________
   Date:__________ Supervisor (Printed):__________ Signature:____________________
   Date:__________ Supervisor (Printed):__________ Signature:____________________
   Date:__________ Supervisor (Printed):__________ Signature:____________________

6) The resident has performed the a “prescan” interview (as applicable by modality) with at least 3 patients to ensure that it is safe to scan the patient with the current protocol in regards to contrast, metal (MRI), etc.
   Date:__________ Supervisor (Printed):__________ Signature:____________________
   Date:__________ Supervisor (Printed):__________ Signature:____________________
   Date:__________ Supervisor (Printed):__________ Signature:____________________
By signing this document you are confirming that you have received and reviewed, with your preceptor, the Abdominal imaging goals and objectives for this academic year.

This receipt will be kept in your personal file.

Resident Name (please print) ____________________________________________

Resident Signature ___________________________________________________

by signing this – you confirm that you have reviewed the G&O with your preceptor

Date ________________________________________________________________

Preceptor Signature __________________________________________________

by signing this – you confirm that you have reviewed the G&O with the resident

Date ________________________________________________________________