

BODY IMAGING COMPUTED TOMOGRAPHY ROTATION

Dear Resident and Faculty

Please review your Goals and objectives of this rotation with the Body Faculty.

Please go to <http://www.apdr.org/directors/curriculum.htm>

For more information.

Signature of Resident

Yes the Goals and objectives of this rotation have been reviewed with me.

Signature of Faculty member

Yes -the Goals and objectives of this rotation have been reviewed with this Resident.

UMDNJ/ RWJMS Radiology Residency Body Imaging Computed Tomography (CT) Curriculum, Goals and Objectives

Body Imaging CT Goals and Objectives

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

Those Goals and Objectives for ALL Body Imaging CT Rotations

1. Demonstrate learning of the knowledge based objectives
2. Review the request and all applicable clinical history and previous laboratory tests and previous imaging studies to be certain that the proper test has been ordered and that the patient's condition is such that the examination is safe and that any necessary preparation for the test has been completed before starting the examination. If the indication for the examination is unclear contact the referring physician or another of the patient's appropriate and knowledgeable health care providers.
3. Perform all examinations in the appropriate way. If you have a question – ask before performing the examination.
4. Accurately dictate all studies in a timely fashion
5. Communicate effectively and courteously with referring clinicians
 - a. Including obtaining relevant history for study interpretation
 - b. Regarding important findings on studies performed
6. Demonstrate learning of the clinical indications for ordering and using radiological examinations including advanced CT imaging
7. Demonstrate responsible work ethic.

This would include being present at the CT station at 8 A.M, and throughout the work day, completion of dictation of all reviewed studies in a timely manner, attendance at all departmental teaching conferences, and grand rounds presentations.
8. Facilitate the learning of medical students, peers, other professionals participating in the CT service including technologists and fellows.
9. Build confidence in reading routine and STAT CT studies.
10. Contribute AT LEAST 2 cases per month to the Radiology Department Teaching File
11. Start Reviewing the ACR teaching files
12. Review ACR Appropriateness Criteria and Standards regarding CT

(including the Communications Standard.)

13. Follow up results of surgery or examinations performed by other clinical services to determine final diagnosis.

The above rotational goals incorporate the core competencies as follows:

Medical Knowledge - Goals 1 through 13

Interpersonal and Communication Skills - Goals 2, 4, 5, 8, and 12

Practice Based Learning and Improvement - Goal 2, 3, 4 and 13

Professionalism – Goal 5, 7, 8 and 9

Patient Care - Goals 2, 3, 4, 9

Assessment tools utilized-

Global ratings by faculty including rotation evaluation sheet

Conference attendance logs

In-service examination

Plan -

Develop 360 degree evaluations

Individuals to be included –technologists

on day shift in radiology core, technology supervisor for radiology,

Body Imaging Fellows

Those Goals and Objectives for SPECIFIC Body Imaging CT Rotations:

Rotation Objective - Learn Basic Body CT. Learn basic emergency CT.

Rotation 1

1. The resident will know Axial CT anatomy to include:
 - ❖ Normal abdominal anatomy
 - ❖ Normal chest anatomy
 - ❖ Normal pelvic anatomy
2. The resident will know diagnostic criteria for CT diagnosis of renal stones, ureteral stones, appendicitis, aortic aneurysm, and liver metastases.

Rotation Objective - Learn Basic Oncology CT. Continue refining objectives of rotation 1.

Rotation 2

1. The resident will know Axial CT Anatomy of the normal neck and normal groin.
2. The resident will know diagnostic criteria used for neoplasm of lung, liver, pancreas, nodal system, as well as traumatic injuries to liver, spleen, pancreas and kidneys when evaluating with CT.

3. The resident will be able to diagnose ascites, pleural effusion and cul de sac fluid as well as mesenteric involvement with a tumor.

Rotation Objective - Learn Basic And Advanced Pediatric CT. Continued refining objectives of rotations 1 and 2.

Rotation 3

1. The resident will know axial CT anatomy of the normal pediatric neck, chest abdomen and pelvis.
2. The resident will know axial CT anatomy of male and female genital system.
3. The resident will be able to diagnose intussusception, cystic hygroma, psoas abscess.

Rotation Objective - Learn Advanced Emergency CT. Continued refining objectives of rotations 1, 2 and 3.

Rotation 4

1. Learn advanced analysis for trauma and malignancy diagnosis by CT with definitive correlation with MR, US, plain film and nuclear medicine review of such cases.

Elective:

1. If time permits, learn beginnings of 3D CT protocols.

Body Imaging CT Curriculum

The educational curriculum in body CT is comprised primarily of the rotations through the Body Imaging – CT section where the faculty and Body Imaging Fellows provide direct training and supervision as well as a series of lectures and conferences in body imaging using CT. Correlation is made on a case-by-case bases with other imaging modalities, facilitated by the PACs system. Lectures and rotations in other sections such as Pediatric Radiology, Body Imaging GI/GU, Chest, Musculoskeletal, Neuroradiology, Interventional Radiology, Radiology Physics, etc, often overlap and supplement the CT curriculum and are outlined in the appropriate sections of the Radiology Residency Curriculum. A series of interdepartmental conferences, grand rounds, journal club meeting and other venues are expected to enhance the residents' knowledge of CT.

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

1. A review of the principles of physics and instrumentation/technology that underlie CT imaging.

2. A review of the normal anatomy, physiology, pathology and clinical conditions that are evaluated by CT. The organ system include the pulmonary, cardiovascular, gastrointestinal, genitourinary, musculoskeletal, endocrine, lymphatic, and portions of the neurologic systems. Pediatric, adult and in some cases prenatal conditions are reviewed.
3. The indications, limitation, contraindications and optimal protocols for the various studies and diseases conditions as well as the optimal sequencing of various imaging studies is reviewed.
4. The use, delivery systems, timing and dosages of intracavitary and intravenous contrast material for CT 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.
5. The ACR appropriateness criteria and the economic implications for the health care system and patient of various diagnostic pathways is reviewed as appropriate.
6. An incomplete list of the more emergent diagnosis which will be initially taught to the resident include
 - Aortic disruption or dissection
 - Pneumothorax, including tension
 - Esophageal rupture
 - Pulmonary embolism
 - Diaphragmatic rupture
 - Pulmonary atelectasis
 - Pulmonary traumatic injury
 - Pericardial effusion
 - Pneumoperitoneum/ruptured organ
 - Active arterial hemorrhage
 - Aortic aneurysm with or without hemorrhage/leakage
 - Bowel obstruction
 - Traumatic image to organ
 - Bowel ischemia
 - Acute appendicitis
 - Hypotension with circulatory collapse or allergic reaction
 - Internal abdominal hernia or volvulus
 - Pancreatitis
7. A general outline of types of conditions and pathologic entities that will be review (often in conferences/lectures organized by organ system) are:
 - Normal anatomy and normal variants (including embryologic basis)
 - Congenital Diseases
 - Traumatic injuries
 - Neoplasms and other masses
 - Infection
 - Immunologic and autoimmune conditions

- Metabolic diseases
- Cardiovascular conditions
- Toxin, burn, irradiation and other environmental injuries or diseases
- Iatrogenic injuries and post surgical change

All residents are encouraged to master protocol ordering (CT technique) for various clinical conditions.

