

## Goals and Objectives – GI/GU Radiology (First year)

- I. Patient Care  
Residents must be able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health.
  - (a) Shows ability to interact with clinicians when reviewing GI/GU studies.
  - (b) Shows ability to recommend additional imaging studies as appropriate to better assess GI/GU studies (e.g. CT/US/MRI).
  - (c) Shows ability to use PACS and hospital information systems
  
- II. Medical Knowledge
  - (a) Demonstrates knowledge of normal/abnormal anatomy as seen on GI/GU studies.
  - (b) Shows ability to recognize and describe common medical conditions as depicted on GI/GU imaging studies.
  - (c) 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) Enteroclysis
    - 8) Defecography
    - 9) ERCP
    - 10) Cystogram
    - 11) IVP
    - 12) Hysterosalpingogram
    - 13) Voiding cystourethrogram
    - 14) Retrograde urethrogram
    - 15) Contrast injections, including fistulograms, T-tube cholangiograms, loop-a-grams
  - d) 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
  - e) List the risk factors for allergic reaction to intravenous contrast media.
  - f) State the proper assessment and treatment for allergic reactions to contrast media.
  
- I. Practice Based Learning and Improvement
  - (a) Shows evidence of independent study using textbooks from suggested reading list.
  - (b) Demonstrates appropriate follow up of interesting cases.
  - (c) Prepares teaching file of interesting cases.
  
- I. Interpersonal Skills  
Residents must demonstrate skills to:
  - a) Interact with x-ray technologists, medical students, fellow residents, and attending radiologists.

- b) Interact with clinicians when reviewing cases involving GI/GU imaging studies.
- I. Professionalism
  - VI) 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.
  - VI. Systems Based Practice
    - a) Shows ability to interact with clinicians regarding cost effective and streamlined patient evaluation for differing clinical entities.
    - b) Able and willing to participate in clinical conferences in which imaging studies used to guide patient care/evaluation.

Reading List:

1. Double Contrast Gastrointestinal Radiology by Laufer
  - Chapter 2 – "Principles of Double Contrast Diagnosis", pp. 9-54
  - Chapter 3 - "Upper GI Tract: Technical Aspects, pp. 59-77
  - Chapter 12 – "Double Contrast enema: Technical Aspects", pp. 423-
2. Textbook of Gastrointestinal Radiology. 1984, Gore, Levine, Laufer
  - Volume I, Chapters 4,5,6
3. Review of the following basic radiology texts:
  - Gastrointestinal Radiology, 1983. Gedgaudos-McClees
  - Gastrointestinal Radiology: The Requisites. Halpert and Goodman
4. Essentials of Uroradiology. 1991. Amis and Newhouse

**Goals and Objectives – GI/GU (Second Year)**

- VI) I. Patient Care
  - Residents must be able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health.
  - a) Shows ability to interact with clinicians when reviewing chest imaging studies.
  - b) Shows ability to recommend additional imaging studies as appropriate to better assess GI/GU studies (e.g. CT/US/MRI).
  - c) Shows ability to use PACS and hospital information systems
  - d) Is able and willing to assist lower level residents
- II. Medical Knowledge
  - a) Demonstrates knowledge of normal/abnormal anatomy as seen on GI/GU
  - b) Shows ability to recognize and describe common medical conditions as



appropriate, and effective for the treatment of health problems and the promotion of health.

- a) Shows ability to interact with clinicians when reviewing GI/GU studies.
- b) Shows ability to recommend additional imaging studies as appropriate to better assess GI/GU studies (e.g. CT/US/MRI)
- c) Shows ability to use PACS and hospital information systems
- d) Is able and willing to assist lower level residents

II. Medical Knowledge

At the end of the rotation the resident should be able to:

- 1) Demonstrate review and/or retention of knowledge objectives set forth for the first and second rotations.
- 2) Describe and/or discuss GI/GU tract pathology in greater detail.
- 3) Assist in preparation and presentation of interdepartmental case conferences.
- 4) Prepare cases for UAMS teaching file.
- 5) Demonstrate further development of the technical skills for the GI/GU studies listed in the first rotation.

VI) III. Practice Based Learning and Improvement

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

VI) IV. Interpersonal Skills

Residents must demonstrate skills to:

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

VI) V. Professionalism

- a) 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.
- b) Can participate in activities relative to the role of GI/GU imaging both to the medical community and the general public.
- c) Is perceived as a role model for radiology from both within and outside

the department.

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

### **Gastrointestinal Imaging Lecture Topics**

Colon: Examination techniques, normal anatomy, and benign inflammatory diseases

Colon: Polyps, carcinomas, and other neoplastic processes

Computed tomography of the colon

Abdominal malignancy, metastatic disease, sarcomas, and soft tissue tumors with emphasis on CT, MRI and US

Appendiceal pathology and misc. GI infections with US and CT correlation

Defacography

Esophagus: Includes normal anatomy, examination techniques, and inflammatory lesions

Pharynx and swallowing: Includes normal anatomy, physiology and examination techniques

Benign swallowing disorders: Pharynx and esophagus

Neoplasms of the pharynx and esophagus

CT of the esophagus

Stomach: Nonneoplastic processes, includes anatomy and physiology of the stomach and duodenum, examination techniques, hernias

Stomach: Benign inflammatory disorders including gastric and duodenal ulcers

Stomach: Neoplasms, barium and CT

Small bowel: Examination techniques, normal patterns, diffuse diseases, physiology of the small bowel

Small bowel: Malabsorption and misc. inflating lesions

Small bowel: Neoplasms, barium with CT correlation

Inflammatory bowel disease

## **GI/GU Evaluation**

### Patient Care

- 1) Communicate effectively and demonstrate caring and respectful behavior when interacting with patients and families
- 2) Gather essential and accurate information about patients when appropriate (reviews old films, chart, lab work, calls referring MD)
- 3) Use information technology to support patient care decisions and patient education (looks up needed information in books, on-line)
- 4) Work effectively with other health care professionals including other disciplines to provide patient focused care (interpersonal skills, calls reports when needed, affable on call)

### Knowledge

- 5) Demonstrate an investigatory and analytic thinking approach to clinical situations (after gathering necessary history and clinical information, tailors studies to answer clinical questions)
- 6) Know and apply basic and clinical sciences  
Physics (uses physics and radiation biology in daily practice, ie: short as possible fluoro times; proper collimation; appropriate repeat of studies)
- 7) Know and apply basic and clinical sciences - Is familiar with proper use of various contrast agents
- 8) Know and apply basic and clinical sciences - Appropriate knowledge of common disease processes
- 9) Visual perception
- 10) Ability to formulate a differential diagnosis
- 11) Knows necessary anatomy
- 12) Performs completely all invasive procedures appropriate for level of training (manual skills)

### Practice-Based Learning and Improvement

- 13) Locate and assimilate evidence from scientific studies related to patient problems (shows evidence of independent study and choice of journal club articles)
- 14) Appropriate followup of cases
- 15) Facilitates learning of students and other health care professionals (teaches

others in the reading room - students, other service residents, techs, nurses, etc.)

#### Interpersonal and Communication Skills

16) Work effectively with others as a member of the imaging team (pitches in where and when needed - not a clock watcher, comes on time, stays late, timely return from conf.)

17) Dictate written reports that are correct, concise, meaningful, quality of dictation - timeliness of signing reports

#### Professionalism

18) Considers well being of patients and department ahead of personal needs (availability)

19) Commitment to ethical principles (pt. Confidentiality, obtaining informed consent, business practices)

20) Maintains appropriate professional demeanor in patient care areas and reading room

#### Systems-Based Practice

21) Understands how their patient care and image interpretation affects patient care and other professionals (and vice versa) (demonstrates timely reporting, faxing, calls to referring MD's, careful coding)

22) Concern for cost-effective operation of department, patient imaging work-up, effect on hospitalization, etc. (adds on studies late when needed, timely reporting, use of most efficient modality to obtain needed information)

23) Assist patients with complexities of medical system when possible