2.1 The Evolution

To understand the overall challenges and interest in curriculum development, it is important to first understand the changes in medical training over the past two decades.

In the past, medical students would select a year of internship that usually involved circulating through multiple clinical rotations prior to entering a 4-year radiology residency program. There was no CaRMS match, and the number of applicants for the few residency positions in radiology was low. Residents were referred to by their training year; R1–4 to reflect their 4-year training program.

From the 1970s up to early 1980s, most radiology programs did not have separate rotations during the first year and residents were based at a single hospital rotation for 6–12 months performing general radiology. With the advances in cross-sectional imaging and the introduction of ultrasound and computed tomography in the 1980s, radiology programs introduced core rotations based on monthly changes with some rotations taking up to 2–4 months. The introduction of magnetic resonance imaging and more invasive technology with angiography/interventional radiology contributed to the expansion of the rotations. As a result, many of the early rotations were so-called modality-based, concentrating on training of a single technology for the month.

By the late 1980s and 1990s, with the change to postgraduate training for all physicians including family medicine, the traditional internship year became part of the radiology residency program and residency programs were now considered to be for 5 years (including the internship year as a residency year). Residents are now designated as PGY 1–5 (PGY: post graduate year). Although by itself, this did not really change the number of total years an individual physician participates in training, the change did result in medical students having to make their decision to apply for residency training during their fourth year of medical training.
school. This placed more backward pressure on the medical school curriculum to provide sufficient exposure to inform medical students’ choices among innumerable clinical specialties. In addition, rapid advances in computer technology have reshaped current practices in imaging. As each modality attained a level of “maturity,” radiology rotations reflected the multimodality of the advances and many became “organ system” or “program based.”

2.2 Components of Radiology Teaching

Radiology programs have utilized three basic core approaches for teaching residents both the clinical and academic aspects of radiology: Rotations, Rounds or Small Group Case Based Learning, and Academic Afternoons.

2.2.1 Rotations

If a student hasn’t learnt, the teacher has not taught

Even before the introduction of CanMEDS competencies (Frank 2005) and the shift toward outcomes-based curriculum development, the importance of identifying a set of criteria identifying the requisite knowledge, skills, and attitudes desired for radiology residents was recognized. At the time, there was no research focused on radiology core curriculum development for either undergraduate medical school teaching or radiology residency programs.

In every specialty there are core imaging specialties that each resident needs to know. With modality-based rotations such as fluoroscopy (Gastrointestinal studies), the apprenticeship model of teaching was appropriate as many of the techniques were taught by demonstration. With the integrated program or “organ system” approach to rotations and multiple modalities, the need for a more structured curriculum grew to ensure that all areas are addressed.

Radiology uses a version of PBL (problem based learning) called case based learning (CBL). Residents are presented with imaging studies for independent viewing and then reviewed with the attending radiologist, repeating this process throughout the day. This process has many benefits as it allows the resident to have time to review the findings on the examination in an undisturbed and calm manner; to formulate his/her own diagnosis, to research, if needed, potential questions, and to record any unresolved questions for further discussion with the attending radiologist. The advent of electronic medical records and PACs on each patient also allows the resident to review previous imaging, if available, as well as historical and current medical laboratory data including clinical consultations and pathology which are now easily accessible on-line.

Radiology residency review of cases in most centers is customized, with dedicated individual review time spent with each resident rather than the more team-oriented larger
medical or surgical services. This provides radiology residents with a greater opportunity for learning, given the significant amount of feedback and interaction they are afforded with staff radiologists daily. In order to integrate the radiology training with other services, group rounds are held to allow residents from various specialties to congregate and review cases collectively.

2.2.1.1
Rotation Objectives

Rotation objectives are important for both the supervisor(s) and the resident to ensure that the resident has well-defined learning outcomes. It is instructive when the individual rotations incorporate the overall CanMEDS’ roles as well as identify specific expectations for the resident to guide their progress through the rotations. All are listed under the appropriate CanMEDS’ competency headings in the objectives for the rotation, which are distributed to all residents at the beginning of each academic year. As rotation objectives also differ based on the level of residency training, residents have customized daily rotations. (see for example, Appendix – an excerpt from the Abdominal/Body Imaging Rotations offered at our center.) The residents spend a minimum of 4–6 months if additional elective time is either required or requested in the PGY 5 year.

2.2.1.2
Learning

Radiology learning involves three fundamental components:

- Perception – ability of the resident to see the abnormality
- Interpretation – ability of the resident to understand the significant finding
- Diagnosis – ability of the resident to arrive at either a definitive diagnosis or give a differential list of diagnostic possibilities

As the curriculum is enacted, through CBL at rounds, through daily interactions with attending radiologists and through conversations with medical professionals from various specialties (referring or consulting), opportunities for developing and improving the three components will be at the forefront. Recent research has demonstrated the role reflection plays in goal setting, internal analysis, and as a means to enhance the learning experience (Toy et al. 2009).

2.2.1.3
Reporting

In the business world, customers are referred to as clients. In medicine, the referring physician has traditionally been the “client” as reports are generated for the referring physician. However,
as a more patient-centered philosophy has evolved, the patient is also viewed as a client, presenting radiologists with the dual responsibility of serving both the referring physician and the patient. This increased responsibility has become more apparent in recent years as shared clinical and imaging practices with nonradiologist imagers and the promotion of screening programs (e.g., breast screening where the patient self-refers) become more prevalent.

While verbal preliminary reports can satisfy urgent requests (e.g., where a stat report needs to be communicated for patient care and safety) following up with written documentation of what was communicated in the form of a final written report is critical. The need for documentation must not be minimized, as it is often the case that a patient has involvement across multiple medical/surgical teams making accurate and focused information vitally important. Negative patient outcomes or complications can never be entirely avoided, but it is noteworthy that legal consequences are often a result of poor documentation rather than lack of competency.

There are many styles of reporting and they are well-described in the Radiology literature (Stolberg 2002). What is of utmost importance is the need to summarize and include the interpretation of imaging studies at the conclusion of the report, making recommendations where appropriate.

2.2.2
Rounds or Small Group Case Based Learning

2.2.2.1
Rounds by Radiologists

Formal Radiology teaching has primarily occurred through a tradition of “rounds,” which are often held at specific times daily, ranging from one to three times per day. These sessions both model and foster a team approach, while bringing residents together for about an hour of undisturbed, focused interaction. Generally, rounds include the participation of a few subspecialty staff radiologists who bring expertise in various topics.

Radiologists encounter interesting cases on a daily basis, and it is the compilation of these cases which will easily facilitate teaching. There are many systems to categorize teaching file cases, and in the current electronic environment, rapid and accessible files with user-friendly programs are integral to the smooth operation of an academic center.

It is important to note that residents are assessed, as part of their rotation, on their contributions to rounds. The milieu of rounds allows each resident to demonstrate, in a communal setting, their evolving abilities to problem solve since the format for the majority of rounds utilizes a CBL framework with explicit instruction or didactic lectures used to address specific information. The conditions of the learning environment contribute greatly to the success (or lack of success) that takes place during rounds. Staff Radiologists leading rounds need to:

- Recognize the importance of modeling how to present and communicate effectively
- Point out common errors that are made and demonstrate the critical thinking processes that are used to arrive at a differential diagnosis
• Understand that residents learn information in different ways and provide multiple avenues to instruct and support learners
• Recognize that creating an environment which views mistakes as “sites for learning” can be a valuable instructive opportunity in a setting with low risk
• Understand the difference between poor communication skills and a lack of knowledge, and be able to support the development of both
• Understand deeply the importance of meaningful feedback that clarifies, corrects, extends, supports, or confirms the residents’ evolving understanding, with clear direction in the instructional “next steps”
• Be aware that rounds may be experienced as highly stressful (in particular by junior residents) and that appropriate supports may be required to develop confidence in their abilities as they hone their skills in preparation for examinations

The teaching/learning relationship is a reciprocal one. In addition to the responsibilities outlined above for faculty, residents share in the responsibility for their learning. Sometimes, the PGYs present challenges and obstacles that residents have never faced in their previous academic experiences and it can be somewhat overwhelming. It is important for residents then to:

• Complete the necessary reading in advance of rounds in order to be prepared and to participate fully in the discussions of the teaching files presented
• Learn to ask questions where clarification or information is needed, and ask for information about additional resources if needed
• Recognize the central role that strong communication skills (verbal and written) play in the professional life of the radiologist, and work to strengthen those skills
• Learn to accept constructive criticism as a mechanism to improve
• Recognize that the “stress” associated with rounds and presenting an opinion on a case with a diagnosis simulates “real-life” consultations with clinicians and to a lesser extent Royal College exams

2.2.2.2 Rounds by Residents

In partial fulfillment of developing the CanMEDS competency of communication, residents are offered opportunities to present imaging findings at other clinical rounds, allowing them to develop their skills in public presentation, demonstrate their expertise and teaching abilities, as well as promoting collaboration and consultation with other clinical services.

Residents are also given the opportunity to present a set of rounds to their peers during their rotation and are encouraged to explore innovative ways of presenting. Some choose a familiar format such as the case-based presentation or a didactic lecture, while others have adopted an interactive game show method such as “Jeopardy,” introducing competition, enjoyment, and imagination into their learning.
2.2.3 Academic Afternoons

The curriculum in radiology education is not unlike other specialties and is primarily addressed in half-day sessions of academic teaching known as Academic Afternoons. The structure of the academic afternoons varies greatly from those that are very structured to those that are unstructured, depending upon the topic and the instructor. One of the ways in which educationalists work within a radiology department is to work with faculty to ensure that the structure selected is purposeful. The radiologist, with a focus on their subspecialty content, can work with the educationalist to develop a plan that acknowledges the foundations of teaching and learning; creating an environment for learning, selecting appropriate and relevant content, choosing the teaching and learning strategies, devising suitable assessment and evaluation practices, and ensuring that all align with the objectives established by the Royal College of Physicians and Surgeons of Canada (RCPSC) per specialty.

2.3 Components of Radiology Assessment and Evaluation

Assessment and evaluation are two terms that are often conflated or used interchangeably but they are really quite distinct. They are used differently across subject area disciplines with variable criteria attached to them. For the purposes of this chapter, they are defined as follows.

Educational assessment is a process of gathering information from multiple and diverse sources in an ongoing way, in order to learn what students know, understand, and can do with their knowledge both prior to, and as a result of their educational experiences. The information is used initially to help the instructor develop curricula and prioritize goals around learning. Once teaching begins, the information is gathered to inform the instructor and the resident about the resident’s progress and to help the instructor make decisions about instructional next steps (Weimer 2002). Assessment is typically formative, ongoing, and used to guide future actions.

Evaluation on the other hand, is typically summative in nature, and is used to determine the merit of the resident’s performance in relation to set standards and criteria. At the point of evaluation, it is essential that the resident has already received ongoing assessment and feedback throughout the teaching–learning cycle in order to identify and address any problems in a timely manner. The evaluation serves to document the achievement for accountability and progression requirements.

2.3.1 Resident Assessment and Evaluation

As previously noted, “assessment and evaluation have proven to be two of the more contested and challenging areas to work through” (Chhem et al. 2008). This statement certainly
underpins ongoing challenges for radiologists despite the advent of many tools including electronic on-line programs to facilitate this process. The process of assessment in residency needs to be a combination of formative and summative. Formative assessments leverage ongoing reviews and observations during a rotation and are very important because radiologists providing meaningful and timely feedback is the first step to identifying instructional next steps or resources that guide the resident in his/her development of the required professional knowledge and competencies. It also serves as a model for providing feedback which is integral in the radiologist’s practice and addresses the CanMEDS communication competency. Summative assessments will optimally occur at the end of a rotation, with summative evaluation occurring semi-annually and annually to ensure that the resident has achieved the required physician competencies.

Like most teachers, radiologists are caught in the dichotomy of having to prepare residents both for a final examination set by the RCPSC, and also to be patient-focused, caring imagers who provide consultancy and expertise in imaging. These two purposes should be complementary but often appear incompatible as residents, during their final years, may focus narrowly on the details of the final credentialing examination to the near exclusion of engaging in a plethora of clinical cases that could enhance their experience.

All residents need appropriate and timely assessments throughout their rotations, as well as meaningful evaluation at the end of their rotations (Adusumilli et al. 2000). On-line assessment and evaluation tools are now in place which integrate the CanMEDS competencies and facilitate the process for radiologists. As the RCPSC moves toward more specific rotation objectives, it will be important for rotations to have appropriate assessments in place that align with those objectives.

Although faculty appreciate the importance of resident assessments and evaluations, most programs still experience low rates of resident evaluation returns despite emphasis and encouragement by the Residency Program Director and Chairperson. One study on Psychiatry Faculty studied the change in return rate of resident rotation evaluations by utilizing a survey and open discussion as methods of intervention to improve faculty rates of evaluation return (Shah et al. 2007). What has emerged is an understanding that support, guidance, and strategies are needed to help faculty learn how to offer constructive feedback to residents who are struggling or underachieving. Offering positive feedback is easy but often does not help the student understand ways to improve or identify areas to work on. Radiologists on a leadership track are discovering that developing critical communication skills that include constructive feedback strategies are part of today’s leadership training curriculum. As leaders and future leaders in radiology departments, resident supervisors are well-positioned to help shape a culture in which constructive criticism is both expected and valued for the benefits to the department, and ultimately to patient care, that it brings. Modeling and practicing these skills will serve as powerful models for junior faculty – the supervisors of tomorrow’s residents. Identifying and seeking support, education, and resources to develop these skills becomes additionally important. Although there are mechanisms within each university for resident remediation, when there is a documented failure, it is paramount that timely, meaningful, and appropriate assessment has occurred, with opportunities for remediation along the way.

Historically, residents have been evaluated against their peer group and compared to others at the same level over time incorporating both formative and summative assessments along
with evaluations of their teaching assignments. The Royal College specialty requirements are becoming more explicit (as well as prescriptive), which should allow resident supervisors to assess and evaluate residents against the stated criteria that they are expected to meet, rather than “the best compared to the rest.” In addition, it is anticipated that summative assessments such as OSCE examinations at the end of rotation and year end along with oral examinations, supplemented with American examinations, such as the ACR in-training examination, will increasingly become integral components of radiology curriculum.

2.3.2 Radiologist and Rotation Assessment and Evaluation by Residents

Although it is often not as well-communicated, for the educational cycle to be complete, residents also have an obligation to provide feedback on their teaching and learning experience. Like their supervisors, residents need appropriate tools and processes to ensure that their feedback offers an optimal assessment of their rotations and supervisors. At our institution, the on-line assessment/evaluation forms residents are asked to complete are often not done. The lack of feedback makes it very difficult for rotation supervisors to modify or enhance the residents’ training or their own teaching practices. In addition, faculty seeking promotion need to include assessments and evaluations in their teaching dossiers, as well as for annual Royal College Continuing Professional Development records. Many universities also have Career Development Planning cycles for faculty review and development for which these evaluations are also required.

2.3.3 Reflection, Last But Not Least

Schön (1983) describes two fundamental reflective practices. The first, reflection-on-action, refers to a looking back at what one has already done, examining and critiquing the practice with the goal to improve the practice in subsequent experiences. The second, reflection-in-action, suggests a level of metacognitive awareness while one is teaching, thereby allowing for decisions to be made during the experience. Both contribute to the ability of residents and faculty to assess their own progress toward goals and work to continually improve and build on their professional knowledge and competency in their chosen career.

the attributes of a professional … emphasize that a professional: applies technical knowledge, has completed higher levels of education, demonstrates competence in order to be admitted to and remain in the profession, is bound by a code of ethics, is a member of a professional association which supports his/her practice, and feels responsible to the public he/she serves … [and] … “are rewarded for efficiency, technical skill, and measurable results, while their concern, attentiveness, and human engagement go unnoticed within their professional organizations and institutions.” ways of knowing that value care, nurturance, relationship and situated knowledge are frequently given less attention and legitimacy in professional practice. This creates a tension whereby practitioners face an implicit pressure to attend most seriously to professional ideals of objectivity and measurable results, despite
frequently being drawn to a career … out of relational ideals and a desire to “care” for the
cited in Kinsella 2006)

To become professional entails going beyond the credentialing discourses of Board exami-
nations and mandated Continual Professional Development. Being professional means,

- Meeting the requisite academic qualifications set by the governing body, the RCPSC
- Continually upgrading your specialized knowledge in the area of your professional
  practice (i.e., reading about new research in academic journals, attending rounds, con-
  ferences and professional sessions, participating in or conducting research studies to
  improve the knowledge in the field)
- Practicing and modeling best practices for those learning with and from you, with the
  ultimate goal of improving patient care
- Maintaining documentation that facilitates and motivates professional growth (e.g.,
  teaching portfolios) and continuing the ongoing search for discrepancies between your
  beliefs and practices through a process of deep reflection upon your own performance
- Demonstrating an exemplary level of professional ethics in all communication, activi-
ties, and decision making

2.4 Summary

As academic faculty members, we have a responsibility to share our knowledge with the
next generation. Education is lifelong learning and as we begin to understand and articu-
late what we do, we then open up more opportunities to recognize where we might begin
to improve. Residents are here to challenge us and sometimes they are our greatest chal-
lenge. Our collective goal is to remain open to what is behind those challenges and to seek
ways to learn from them and ultimately, to build the capacity of the whole department
together.

References

resident rotation performance and examination scores. Acad Radiol 7:920–926
and learning. Springer, Heidelberg
physicians. Better care. The Royal College of Physicians and Surgeons of Canada, Ottawa
Kinsella A (2006) Poetic resistance: juxtaposing personal and professional discursive construc-
tions in a practice context. J Can Assoc Curric Stud 4:35–49
York

Suggested Reading


Journals

Radiology
American Journal of Roentgenology
Canadian Association of Radiologists Journal
Academic Radiology
Clinical Radiology
Investigative Radiology
British Journal of Radiology
Magnetic Resonance Imaging Clinics of North America
American College of Radiology teaching files should be used as additional resources.

Associations

American College of Radiology
Canadian Association of Radiologists
Appendix

Abdominal/Body Imaging Rotations

Adapted from: Victoria Hospital LHSC Abdominal/Body Imaging Rotation Documents

The rotation will be an integrated abdominal/body imaging rotation for radiology residents which will focus on cross-sectional abdominal/body imaging modalities CT, US, and MRI with some radiography/fluoroscopy. Some chest CT will be included where possible.

Rotation Objectives by Resident Year

By the end of the PGY2 Rotation the resident will:

- Experience 3–4 months in the department with a focus on CT, US, and fluoroscopy
- Identify and communicate imaging indications and diagnosis of trauma and acute/urgent abdominal diseases
- Demonstrate an introductory knowledge of differential diagnosis

Assessment

- Residents will be assessed daily through a review of their knowledge of abdominal anatomy in each modality and their ability to perceive and analyze imaging findings.

By the end of the PGY3/4 Rotation the resident will:

- Gain a further 2 months experience in the department with a focus on CT, US, and MRI
- Demonstrate an abdominal MRI integrating multimodality imaging
- Consolidate previous knowledge from PGY2 and begin formulating complete differential diagnosis in their daily reviews of cases
- Demonstrate supervisory skills in interactions with technologists, medical students, and other off-service residents
- Demonstrate leadership and collaboration skills in interactions with junior residents (where applicable)
- Triage, protocol, and prioritize cases

(Residents who would like further experience in biopsies can obtain additional experience if requested.)

Assessment

- Residents will be assessed daily through a review of their knowledge of abdominal anatomy in each modality and their ability to perceive and analyze imaging findings.
By the end of the PGY 5 Rotation the resident will:

- Experience an additional 1 month elective CT, US, and MRI
- Demonstrate ability to identify abdominal imaging diseases with further development of differential diagnosis combining real-practice aspects with Royal College examination requirements appropriate for a PGY5 candidate
- Function as a junior consultant, taking on supervisory responsibilities and requesting staff assistance when necessary in alignment with graded responsibilities as part of developing the CanMEDS competencies

CanMEDS Rotation Objectives Pgy2–5

In accordance with RCPSC CanMEDS roles, the rotation-specific objectives are as follows:

**Medical Expert**

**Technology**

- An understanding of various technologies, recent advances, advantages vs. limitations
- An understanding of the role of technologists and expertise
- An understanding of scanning protocols, postprocessing techniques
- Knowledge of appropriate contrast utilization and techniques (IV, oral, etc.)
- Develop an understanding about the physics involved with each technique including artifacts
- Be knowledgeable about quality assurance of each modality

**Anatomy**

- Cross-sectional anatomy of the abdomen (GI, GU, Vascular, Lymphatics, etc.) in all modalities
- Normal variants
- Pathways of pathology spread

**Skills**

- Able to insert angiocatheter for venous access
- Able to apply the appropriate protocol(s) for each patient
- Able to modify scanning protocols based on variations of clinical and technical factors
- Able to supervise examinations including checking acute cases from ER, trauma
- Able to diagnose and treat complications related to intravenous injections (limitations, extravasation, reactions, etc.)
Senior residents should be able to perform simple biopsies including the organization of the procedure (pre, during, and post)

Understand the various oral and rectal preparations for fluoroscopic examinations and performance of those examinations

**Interpretation**

- Knowledge of abdominal pathologies and the capability of the exam to evaluate the pathology
- Knowledge of the diagnostic ability of each examination including recognizing artifacts, limitations, potential contraindications, and complications
- Learn the importance of comparisons with previous examinations and correlative imaging including clinical information on the case and clinical expectation of the results
- Knowledge of additional examinations required for further diagnostic or therapeutic intervention
- Ability to recognize critical acute diagnosis
- Ability to develop appropriate differential diagnosis and suggest appropriate further imaging, therapy, or clinical action required

**Communicator**

- Develop communication skills with attending radiologists and radiology residents with a positive and enthusiastic attitude toward learning
- Develop communications skills with referring physicians, residents including results of examinations (preliminary and final report), notification of complications and follow-up
- Develop communications skills with patients (families) when asked about results in an ethical and appropriate manner or when dealing with a complication of an examination
- Ability to discuss and obtain informed consent from patient, parent, or legal guardian
- Communicate with support staff within the specialty, technologists, nurses, clerical booking personnel, as well as with referring support staff such as ward clerks, nurses, etc.
- Listen effectively to concerns of others and enjoy continuous learning
- Once an acute diagnosis is made, the ability to communicate urgent results by immediate communication with referring/attending physicians and documentation of the discussion
- Ability to dictate in a concise, clear manner to facilitate typing of reports by stenographers and developing an appropriate usage of the radiology lexicon
- Complete communication process by signing reports in timely manner

**Collaborator**

- Ability to communicate and develop an expertise related to consultation on abdominal imaging cases and an appreciation of other specialists imaging requirements
- Develop a cooperative attitude and facilitate imaging requests, working as a team with clinicians
- Assist clinicians in understanding appropriateness criteria for examinations (best test)
Manager

- Ability to triage cases based on urgency
- Ability to manage workload on a daily basis by reviewing cases at appropriate intervals and an appropriate work ethic
- Work effectively within the context of the subspecialty area

Health Advocate

- A global understanding of the determinants of health
- An understanding of cross-sectional imaging determinants which include awareness of radiation safety, contraindications to examinations (pregnancy, metals in MRI, body habitus, etc.), and alternate methods of imaging such as no radiation vs. radiation based on the understanding of the clinical requirements and the appropriateness of each examination
- Contribute to the improved health of the patients and communities by advocating the best examination and promoting appropriate access

Scholar

Learning

- Daily case review and differential diagnosis discussions with radiologists
- Develop a lifelong learning strategy
- Read core reference textbook and utilize journals/on-line resources (see references below)
- Utilize information technology (electronic patient record) or patient chart to obtain clinical information relevant to the examination
- Develop an ability to critically appraise resources of radiological information
- Participate in abdominal imaging resident and clinical rounds and be a role model for residents/students
- Contribute toward learning of other residents by submitting two teaching file cases/month of rotation in electronic format
- PGY 2: Fundamental interpretation skills of emergency imaging and trauma which include bowel diseases (perforation, obstruction, ischemia, appendicitis, other “itis,” inflammatory and infection, neoplasms), renal/retroperitoneal acute diseases (renal colic, infection, neoplasm, hemorrhage, etc.), thoracic dissection, PE, pneumonia, pulmonary edema, etc.
- PGY 3/4: To consolidate differential diagnosis of diseases, patterns of spread of disease, building on previous rotation
- PGY 5: To develop into junior clinical consultant, supervising area, and developing some independence in reporting whilst reviewing key diseases and differentials in preparation for exams
Teaching

- Participate in weekly abdominal imaging rounds with abdominal radiologists which will include one presentation by resident once a month to peer group to develop teaching expertise
- Teaching off-service residents/students (formally/informally) as required by Radiology program
- Learn to teach by presenting one rounds/month to other radiology residents of interesting cases during rotation and by mentoring off-service residents or medical students
- Teach clinical staff at regular clinical service rounds (general surgery, urology, other) and be an advocate of abdominal imaging and radiology

Professional

- Deliver high-quality imaging, optimized for disease entity, clinical requirements
- Encouraged to support the imaging profession and to develop a sense of professionalism by becoming a member of professional organizations (CAR, RSNA, AJR, etc.)
- Ensure that an examination provides and contributes toward optimized patient care and appreciating that there is a person behind the images
- Practice imaging ethically consistent with the obligations of a physician which includes respect for patient privacy and confidentiality in compliance with hospital policies

Rotation Evaluation

- Evaluation will be based on all above objectives and the completed submission of two electronic teaching file cases/month
- Evaluation may include an Objective Structured Clinical Examination (OSCE)
- In-Training Resident Evaluation (ITRE) will consist of a composite evaluation by all supervisors at the end of rotation
- The level of expertise should increase over the course of the rotation(s) and will be evaluated based on appropriate resident year
- Expectation for residents to achieve an average or above average evaluation on ITRE for the rotation
The Practice of Radiology Education
Challenges and Trends
(Eds.) T. van Deven, K. M. Hibbert, R. K. Chhem
2010, XXVIII, 264 p. 18 illus., 7 in color., Hardcover
ISBN: 978-3-642-03147-2