University of Vermont Medical Center
Department of Radiology

Educational Goals and Objectives for the Diagnostic Radiology Residency Program:

Radiology Residency Mission Statement: To become and remain the best rural academic radiology residency program in the United States, maintaining the highest academic, scholarly, and professional standards in a comprehensive curriculum of excellence. To graduate radiologists who are competent in all six of the ACGME core competencies, who are highly qualified to practice as independent radiologists, who are committed to a practice of lifelong learning, and who demonstrate a keen awareness of service to the profession, their patients, and the health care community.

Residency Program Values:

Excellence:

In compassionate, safe, and timely expert diagnostic and therapeutic radiology/imaging care and service, exceeding the expectations of radiology faculty, patients, referring health care providers and community;

In radiology resident leadership, management, and decision making;

In promoting an environment of teamwork within the radiology department, and with our clinical colleagues;

In developing competency in all imaging subspecialties;

In seeking practice quality improvement

In providing first-rate radiology education to medical students and fellow residents, as well as to patients, staff, and other health care providers (both internal and external to the institution), and to the public;

In participating in and promoting the quality and quantity of research and academia in the department through all venues, including participation in all departmental conferences, journal club, rad-path conferences, etc., and fulfilling the requirement for producing scientific peer-reviewed publications and/or presentations at departmental, regional and national meetings.

Innovation:

In developing, evaluating, and disseminating knowledge pertaining to diagnostic imaging and intervention;

In developing and implementing innovative and sound approaches to radiological research and education;
In understanding and responding to the unique and changing imaging care needs of our health care community;

**Collaboration:**

Together with collegiality and cooperation in ALL of our relationships;

With attending faculty, radiology staff, patients and referring providers, through each imaging care experience at our institution, from beginning to end;

Through understanding strategic relationships with industry, in collaboration with clinical and administrative colleagues;

By expanding knowledge, innovative imaging, and technology across the UVM health care system;

**Integrity:**

In our commitment to accountability and transparency;

In diversity and respect for all;

In effective communication;

In sound ethical practices;

**Radiology Residency (ACGME) Core Competencies:**

1. Patient Care: residents/fellows are expected to provide patient care that is compassionate, appropriate, and effective for the promotion of health. We evaluate:
   
   a) clinical and interpretation skills  
   b) procedure skills  
   c) clinical judgment, diagnostic skills, development of diagnostic/management plans  
   d) respect for patient preference and confidentiality  
   e) commitment to compassionate, appropriate and effective patient care  
   f) understanding and practice of radiation safety

2. Medical Knowledge: residents are expected to demonstrate knowledge of established and evolving imaging, biomedical, and clinical practices, and the application of this knowledge to patient care and education. We evaluate:
   
   a) Commitment to and enthusiasm for continuous learning  
   b) applying knowledge to clinical problem solving, diagnosis, and critical thinking  
   c) knowledge base appropriate to year of training  
   d) performance on clinical rotations, first year course examination, in-service exams, Raphex exams, ABR written and oral examinations
3. Practice-Based Learning and Improvement: residents are expected to be able to use scientific evidence and methods to investigate, evaluate, and improve patient care. We evaluate:

   a) self-assessment, insight and initiative
   b) use of information technology to enhance education and decision making
   c) learning from errors

4. Communication Skills: residents are expected to demonstrate interpersonal communication skills that enable them to establish and maintain professional relationships with patients, families, and members of the healthcare community. We evaluate:

   a) radiology reports, review of images with clinical services and patients, written documentation of patient care, phone communications with referring physicians, reporting of "critical results"
   b) education and counseling of patients
   c) effectiveness in obtaining consents for procedures
   d) effectiveness and interest in teaching others

5. Professionalism: residents are expected to demonstrate behaviors that reflect a commitment to continuous professional development, ethical practice, an understanding of and sensitivity to diversity, and a responsible attitude toward their patients, their professionalism, and society. We evaluate:

   a) respect, compassion, integrity, altruism
   b) acceptance of responsibility for errors
   c) sensitivity to diversity
   d) adherence to medical ethics principles and patient confidentiality
   e) professional appearance and behavior

6. Systems-Based Practice: residents are expected to demonstrate both an understanding of the contexts and systems in which healthcare is provided, and the ability to apply this knowledge to optimize healthcare. We evaluate:

   a) effective use of resources
   b) attention to improving systems of care and the field of radiology
   c) collaboration with other members of the healthcare team to assure comprehensive patient care
   d) proficiency in the use of picture archiving computer systems (PACS), voice recognition dictation system, and all computer based imaging
   e) understanding of the overall healthcare system, including hospital and departmental administration, accreditation processes, coding and billing issues, reimbursement, practice management, and medical-legal issues.

**Radiology Residency Goals and Objectives:**

Key for Core Competencies Associated with Goals and Objectives:
MK = medical Knowledge
PC = Patient Care
IC = Interpersonal Communication
PR = Professionalism
SBP = Systems Based Practice and Learning
PBL = Practice Based Learning and Improvement

**Goals and Objectives**

1. **Prepare radiology residents for the independent practice of radiology** (MK, PC, IC, PR, PBL, SBP)
   a. Provide graduated resident responsibility through close faculty supervision
   b. Give more senior residents expanded responsibilities commensurate with their competence, knowledge, and experience.
   c. Prepare residents for continuous professional development through independent learning, problem solving, and assessment of skills and knowledge.
   d. Assure procedure proficiencies
   e. Residents train on the most sophisticated equipment/technology in the world
   f. Specialized conferences

2. **Promote scholarly activities by radiology residents and faculty** (MK, PC, IC, PR, PBL, SBP)
   a. Individual resident research projects mentored by faculty
   b. Presentation of projects at national meetings
   c. Grand Rounds, Journal Club, and Rad-Path presentations by residents
   d. Encourage membership in national organizations, and facilitate/fund memberships in the RSNA, ARRS, NERRS, and AUR
   e. Support for attendance at local or regional meetings, and provide regional conferences (NERRS) via videoconferencing
   f. On-site resident educational resources, full time electronic library resources, including on-line books and journals, library departmental liaison for literature searches, and the most up-to-date radiology library in the country, housed at the attached UVM COM library
   g. Opportunities to present at interdepartmental conferences, teach medical students
   h. Funding to attend national RSNA meeting once during residency
   i. Departmental research awards

3. **Provide a structured educational program that encompasses all aspects of Diagnostic Radiology** (MK, PC, IC, PR, PBL, SBP)
a. Organized schedule of didactic conferences and specialized conferences including review of quality assurance, dedicated physics and radiobiology lecture series, case conferences, dedicated subspecialty teaching by other departments, Visiting Professor Grand Rounds series for added subspecialty teaching; state-of-the-art Radiology Learning Center

b. Subspecialty radiology instruction by expert radiologists who demonstrate exemplary teaching skills and leadership

c. Quality subspecialty teaching resources

d. Formal textbook review for understanding of the fundamentals of diagnostic radiology (weekly “Brant and Helms conference”)

e. Journal club for review of new literature and investigational procedures

f. Participation in interdepartmental conferences and learning opportunities

g. Night Float Radiology rotation that is well supervised and of educational benefit to the resident, while observing duty hours limits

h. Radiology-pathology correlation through a 4-week course at the AFIP

i. Require resident preparation of formal didactic lectures in the first year, as well as Grand Rounds

j. Require In-service and Raphex examinations for self-assessment and demonstration that goals and objectives of subspecialty rotations are being met

k. Regular evaluation of resident procedure logs and ACGME case logs (twice annually)

l. Specialized conferences dedicated to addressing topics in the General Competencies (Business of Medicine Course, Medical Legal Issues, Coding and Billing Course, Radiology Informatics, Debates, Vignettes, etc.)

m. Expansive resident library, teaching file, ACR discs, videotape lecture collections, videoconferencing/distance learning, MyPACS teaching file

n. Require a Practice Quality Improvement Project, completed and presented during the four year residency

o. Comprehensive “First Year Course”, including an Emergency Radiology Lecture series, dedicated lectures by faculty, preparation of didactic conferences, introduction to call via a “buddy call” system, and a pre-call objective case-based examination

p. Extensive Imaging Physics preparation, including a dedicated lecture series by on-site physicists, supplemental lecture series by UVM physics faculty, textbooks for each resident, practice exams, individual tutoring, and a funded one-week physics course prior to the ABR exam

q. Mock ABR Oral Boards preparation with examination in all sections by expert faculty members, including cardiac imaging (Dartmouth and Maine Med residents invited to participate)

r. Timely feedback to residents with rotation evaluations, random daily evaluations, and 360 degree evaluations

s. Maintenance of a complete resident general portfolio and learning portfolio

4. Develop skills in consultative service and communication (PC, IC, PR, SBP, PBL)
a. Yearly dedicated “Radiology Reporting” lecture
b. Section Head evaluation of resident reports on each 4-week rotation (residents dictate radiology reports under supervision, beginning in the first year)
c. QA system for on-call interpretations
d. Reporting of critical values
e. Resident call sign-out process
f. Observing faculty interactions with referring clinicians
g. Use of Voice Recognition and PACS for improvement in communication of radiologic interpretations
h. Providing nighttime consultative services for residents and other members of the healthcare team on other services
i. Obtaining informed consent
j. Participation in medical student teaching
k. Resident teaching awards

5. Provide a nurturing environment for the attainment of radiology resident’s goals (IC, PR, PBL)

a. Faculty mentor program, with a mentor assigned to each resident
b. Access to Program Director during or outside of office hours (“open door policy”)
c. Individual meetings with Program Director to assess progress, three times annually
d. Monthly meetings with Program Director and residents
e. Access to Program Coordinator during or outside of office hours
f. Resident Oversight Committee
g. Graduate Medical Education support services
h. Financial support and elective time for research projects, as needed
i. Strict adherence to duty hours requirements with work hours well below the national maximum
j. Fatigue management policy and procedures
k. Sensitivity for special resident needs to provide safe work environment (e.g. pregnancy)
l. Sensitivity to Family Medical Leave issues
m. Institutional Employee and Family Assistance Program
n. Flexibility to allow for unexpected learning opportunities
o. Specialized assessment and counseling in test-taking skills for qualified residents
p. Optional resident moonlighting for qualified senior residents
q. Departmental social activities outside of the hospital

6. Promote cost-effective care (PC, PBL, IC, PR, SBP)

a. Two day Business of Medicine Course, with emphasis in radiology issues
b. Special topics and outside lecturers
c. Discussions with Chair and faculty on rotations

7. Professionalism (PR, PBL, SBP)
a. Radiology residency dress code
b. Attendance expectations
c. Special topics addressed in departmental and institutional conferences
d. 360-degree evaluations on all rotations
e. adhere to program competency for professionalism (see above)
f. maintain resident “Learning Portfolio” (“Yeah me portfolio”)
g. fulfill requirements for credentialing, licensure, and accreditation, as needed

8. Prepare radiology residents for self-assessment, participation in health care issues, and lifelong learning (PBL, PR, IC, SBP)
   a. Bi-annual completion of an “Individualized Learning Plan”
   b. Counseling for senior residents in the ABR “maintenance of certification” process
   c. Completion of a residency PQI project
   d. Institutional and departmental committee participation requirement

Radiology Department Subspecialty Areas:

   a) Ultrasound
   b) GI/GU Radiology
   c) Neuroradiology
   d) Thoracic Radiology
   e) Cardiac Imaging
   f) Musculoskeletal Imaging
   g) Breast Imaging
   h) Body Computed Axial Tomography
   i) Nuclear Medicine
   j) Pediatric Radiology
   k) Vascular and Interventional radiology
   l) Magnetic Resonance Imaging
   m) Informatics