Pediatric Radiology
Training Experiences

2024
VERSION 1.0

These training requirements apply to those who begin training on or after July 1, 2024.

ELIGIBILITY REQUIREMENTS TO BEGIN TRAINING[1]

Royal College certification in Diagnostic Radiology

OR

Completion of training in a Royal College accredited residency program in Diagnostic Radiology

ELIGIBILITY REQUIREMENTS FOR EXAMINATION[2]

All candidates must be Royal College certified in Diagnostic Radiology in order to be eligible for the Royal College examination in Pediatric Radiology.

The following training experiences are required, recommended, or optional, as indicated.

TRANSITION TO DISCIPLINE (TTD)

This stage focuses on introducing residents to the subspecialty of Pediatric Radiology, providing a comprehensive orientation to the setting in which they will work and the goals of the educational program. Residents will learn to use the equipment and technology of the pediatric radiology service to retrieve and manipulate images, access clinical information, and record a medical imaging report.

Required training experiences (TTD stage):

1. Clinical training experiences
    1.1. Pediatric radiology service in any modality or body regions and systems

[1] These eligibility requirements do not apply to Subspecialty Examination Affiliate Program (SEAP) candidates. Please contact the Royal College for information about SEAP.

[2] These eligibility requirements do not apply to SEAP candidates.

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2. Other training experiences
   2.1. Orientation to the residency program, including Competence by Design (CBD), the curriculum, and the assessment system
   2.2. Orientation to the university, including policies and procedures, university resources, and wellness resources
      2.2.1. Resident safety policy review

   2.3. Orientation to the medical imaging department, hospital, and institution
      2.3.1. Information technology and systems, picture archiving and communication systems (PACS), and electronic medical records
      2.3.2. Medical imaging equipment
      2.3.3. Hospital policies, including patient privacy

Recommended training experiences (TTD stage):

3. Other training experiences
   3.1. Orientation to research opportunities and requirements
   3.2. Focused experience providing early clinical and technical skills training (e.g., boot camp)
   3.3. Identification of a faculty mentor or academic advisor

Optional training experiences (TTD stage):

4. Clinical training experiences
   4.1. After-hours coverage of the pediatric radiology service

FOUNDATIONS OF DISCIPLINE (F)

The focus of this stage is the development of the knowledge and skills required to integrate clinical and medical imaging information in the evaluation of common presentations in children. Clinical experiences focus on pediatric anatomy throughout child development, interpretation and reporting of routine studies, and safe acquisition of images from a variety of body regions and systems using a variety of medical imaging modalities.

Required training experiences (Foundations stage):

1. Clinical training experiences
   1.1. Pediatric radiology services, including emergent, urgent, and non-urgent
      1.1.1. Body regions and systems
         1.1.1.1. Head and neck
         1.1.1.2. Chest, including cardiac
         1.1.1.3. Abdomen and pelvis
         1.1.1.4. Musculoskeletal (MSK)
         1.1.1.5. Vascular

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1.1.2. Medical imaging modalities
1.1.2.1. Plain film radiography
1.1.2.2. Fluoroscopy
1.1.2.3. Ultrasonography (US)
1.1.2.4. Computed tomography (CT)
1.1.2.5. Magnetic resonance imaging (MRI)

1.1.3. After-hours coverage

2. Other training experiences
2.1. Attendance at teaching and clinical rounds
2.2. Critical appraisal activities, such as journal club
2.3. Physician wellness and well-being activities

Recommended training experiences (Foundations stage):

3. Other training experiences
3.1. Formal instruction in
3.1.1. The basic and clinical sciences of Pediatric Radiology
3.1.2. Procedural skills
3.1.3. Institutional protocols for non-accidental injury and trauma
3.1.4. Pediatric radiation safety and imaging appropriateness (e.g., Choosing Wisely recommendations)
3.1.5. MRI safety (if not previously completed)
3.1.6. Conflict resolution and professionalism skills
3.1.7. Equity, diversity, inclusivity, anti-racism, Indigenous health and well-being, allyship, implicit bias, and cultural safety and sensitivity
3.1.8. Research ethics

3.2. Completion of a Basic Life Support (BLS) course, or equivalent
3.3. Completion of an Advanced Radiology Life Support (ARLS) or Advanced Cardiac Life Support-radiology (ACLS-r) course, or equivalent

Optional training experiences (Foundations stage):

4. Other training experiences
4.1. Formal instruction in presentation skills

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CORE OF DISCIPLINE (C)

In this stage, residents build on the skills and knowledge of the previous stages to protocol, perform, supervise, interpret, and report medical imaging studies. They perform and report pediatric radiology image-guided procedures. They discuss medical imaging studies and image-guided procedures with patients and families. At this stage residents are advisors to other physicians on all pediatric radiology studies and image-guided procedures. They also apply their expertise and collaboration skills to participate in multidisciplinary rounds.

Required training experiences (Core stage):

1. Clinical training experiences
    1.1. Pediatric Radiology, across the breadth of the discipline, including the full spectrum of patient age, acuity, body regions and systems, and medical imaging modalities
        1.1.1. Body regions and systems
            1.1.1.1. Head, neck, and spine
            1.1.1.2. Chest, including cardiac
            1.1.1.3. Abdomen and pelvis
            1.1.1.4. MSK
            1.1.1.5. Vascular

        1.1.2. Modalities
            1.1.2.1. Plain film radiography
            1.1.2.2. Fluoroscopy, including reduction of intussusception
            1.1.2.3. US
            1.1.2.4. CT
            1.1.2.5. MRI

        1.1.3. After-hours coverage

    1.2. Participation in multidisciplinary case rounds

2. Other training experiences
    2.1. Formal instruction in
        2.1.1. The topics listed as recommended for formal instruction at the Foundations stage (if not already completed)
        2.1.2. Recognition and management of acute adverse events
        2.1.3. Basic protocols for advanced medical imaging modalities

    2.2. Attendance and active participation in teaching and clinical rounds
    2.3. Attendance at quality assurance and improvement activities, including morbidity and mortality rounds
    2.4. Critical appraisal activities, such as journal club
    2.5. Physician wellness and well-being activities
    2.6. Provision of formal and informal teaching for other residents, students, or other

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health care professionals
2.7. Career counselling

Recommended training experiences (Core stage):

3. Clinical training experiences
   3.1. Pediatric Radiology
      3.1.1. Observation and participation in interventional image-guided procedures
         3.1.1.1. Fluoroscopy for feeding tube (nasogastric (NG), gastrojejunal (GJ) and nasojejunal (NJ)) placement
      3.1.2. Radionuclide imaging, including positron emission tomography-CT (PET-CT)
      3.1.3. Fetal imaging

4. Other training experiences
   4.1. Formal instruction in research methods and critical appraisal
   4.2. Participation in a scholarly research, quality improvement, or educational project

Optional training experiences (Core stage):

5. Clinical training experiences
   5.1. Pediatric Radiology
      5.1.1. Observation of and participation in ultrasound-guided procedures
      5.1.2. Observation of and participation in
         5.1.2.1. Cardiac imaging, including echocardiography, angiography, and CT-angiography (CTA) or MRI
         5.1.2.2. Orthopedic and sports medicine ultrasound
         5.1.2.3. Obstetric ultrasound
   5.2. Clinical services
      5.2.1. Child maltreatment pediatrics
      5.2.2. Forensic radiology
      5.2.3. Genetics
      5.2.4. Interventional radiology
      5.2.5. Maternal-fetal medicine

6. Other training experiences
   6.1. Completion of a resident as teacher course

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TRANSITION TO PRACTICE (TTP)

In this stage, residents consolidate and integrate their knowledge and skills to provide pediatric radiology services. They demonstrate autonomy with the full range of medical imaging modalities and body regions and systems. The resident contributes expertise at multidisciplinary rounds and supports clinical colleagues in the development of management plans. This stage also focuses on preparation for independent practice, with instruction and experience in areas of administrative and professional responsibility, including leadership of the pediatric radiology service.

Required training experiences (TTP stage):

1. Clinical training experiences
   - 1.1. Pediatric Radiology in the role of junior attending[3]
     - 1.1.1. Any modality or body region or system
     - 1.1.2. After-hours coverage
     - 1.1.3. Participation in multidisciplinary case rounds

2. Other training experiences
   - 2.1. Participation in quality assurance, quality improvement, or patient safety initiatives
   - 2.2. Provision of formal and informal teaching for junior learners
   - 2.3. Physician wellness and well-being activities

Recommended training experiences (TTP stage):

3. Other training experiences
   - 3.1. Formal instruction in practice management topics, including
     - 3.1.1. Continuing professional development requirements
     - 3.1.2. Development of a curriculum vitae (CV)
     - 3.1.3. Financial planning
     - 3.1.4. Human resource management
     - 3.1.5. Interview skills
     - 3.1.6. Medical ethics
     - 3.1.7. Medicolegal requirements, including the role of the Canadian Medical Protective Association
     - 3.1.8. Wellness and work-life balance as a practising radiologist
   - 3.2. Participation in pediatric radiology service administrative activities, including triage
   - 3.3. Development of a plan for continuing professional development
   - 3.4. Completion of a scholarly research, quality improvement, or educational project

[3] "Junior attending" means that the resident assumes responsibility for patient care, and leadership in the education and clinical supervision of junior colleagues, with as much independence as permitted by ability, law, and hospital policy

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Optional training experiences (TTP stage):

4. Other training experiences
   4.1. Training in physician leadership development

CERTIFICATION REQUIREMENTS

Royal College certification in Pediatric Radiology requires all of the following:

1. Royal College certification in Diagnostic Radiology
2. Successful completion of the Royal College examination in Pediatric Radiology
3. Successful completion of the Royal College Pediatric Radiology Portfolio

NOTES:

The Pediatric Radiology Portfolio refers to the list of entrustable professional activities across all four stages of the residency Competence Continuum, and associated national standards for assessment and achievement.

MODEL DURATION OF TRAINING

Progress in training occurs through demonstration of competence and advancement through the stages of the Competence Continuum. Pediatric Radiology is planned as a 1-year residency program. There is no mandated period of training in each stage. Individual duration of training may be influenced by many factors, which may include the resident's singular progression through the stages, the availability of teaching and learning resources, and/or differences in program implementation. Duration of training in each stage is therefore at the discretion of the faculty of medicine, the competence committee, and the program director.

Guidance for programs

The Royal College Specialty Committee in Pediatric Radiology's suggested course of training, for the purposes of planning learning experiences and schedules, is as follows:

4 weeks in Transition to Discipline
12 weeks in Foundations of Discipline
28 weeks in Core of Discipline
8 weeks in Transition to Practice

Guidance for postgraduate medical education offices

The stages of the Competence Continuum in Pediatric Radiology are generally no longer than

4 weeks for Transition to Discipline
12 weeks for Foundations of Discipline
28 weeks for Core of Discipline
8 weeks for Transition to Practice
Total duration of training – 52 weeks

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This document is to be reviewed by the Specialty Committee in Pediatric Radiology by December 31, 2025.

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