

These training requirements apply to those who begin training on or after July 1, 2019.

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

TRANSITION TO DISCIPLINE (TTD)

This stage focuses on introducing residents to the specialty of Radiation Oncology, providing a comprehensive orientation to the setting in which they will work, and assessing their incoming knowledge and skills. Residents will develop a familiarity with the tools, techniques, and principles that underlie radiation oncology practice, preparing them for providing basic elements of care under supervision, including performing and documenting a history and physical exam and completing a patient handover.

Required training experiences (TTD stage):

1. Clinical training experiences:

1.1. Radiation Oncology

- 1.1.1. Outpatient clinic
- 1.1.2. Inpatient service: consultation or ward
- 1.1.3. After-hours coverage and/or emergency room consultations, including handover

1.2. Radiotherapy department

- 1.2.1. Observation of radiotherapy treatment planning and delivery

2. Other training experiences:

2.1. Orientation program to include:

- 2.1.1. Safety principles
 - 2.1.1.1. Patient safety
 - 2.1.1.1.1. Infection control
 - 2.1.1.1.2. Patient safety module (e.g., Canadian Medical Protective Association (CMPA) *Good Practices Guide* training)

RADIATION ONCOLOGY TRAINING EXPERIENCES (2018)

- 2.1.1.2. Radiation safety
- 2.1.1.3. Personal safety
 - 2.1.1.3.1. Institutional health and safety policies
- 2.1.2. Introduction to the practice of medicine
 - 2.1.2.1. Computer access for laboratory results, medical imaging results, patient records
 - 2.1.2.2. Policies regarding
 - 2.1.2.2.1. Privacy and confidentiality
 - 2.1.2.2.2. Code of conduct
 - 2.1.2.2.3. Medical documentation
 - 2.1.2.2.4. Informed consent
 - 2.1.2.2.5. Completion of death certificates
- 2.1.3. Introduction to knowledge resource centre (e.g., library) for point-of-care access, text, and online resources
- 2.1.4. Introduction to training in Radiation Oncology
 - 2.1.4.1. Structure of training program
 - 2.1.4.2. Resident wellness resources
 - 2.1.4.3. Provincial resident organizations
 - 2.1.4.4. Introduction to the Competence by Design (CBD) portfolio of entrustable professional activities (EPAs), the stages of CBD, and assessment milestones
 - 2.1.4.5. Orientation to research, including introduction to the research coordinator
- 2.2. Advanced cardiac life support (ACLS), or equivalent
- 2.3. Formal instruction in:
 - 2.3.1. Difficult conversations, including breaking bad news
 - 2.3.2. Principles and best practices for handover
- 2.4. Attendance at multidisciplinary case conference (e.g., tumour board)
- 2.5. Attendance at radiotherapy treatment planning peer review rounds

FOUNDATIONS OF DISCIPLINE (F)

This stage focuses on the knowledge and skills for providing care for patients in various settings. Residents will assess and manage patients with a variety of common conditions, with and without a cancer diagnosis. In addition, residents will be introduced to concepts and skills that are necessary for radiation oncology practice, such as diagnostic imaging and pathology.

Required training experiences (Foundations stage):

1. Clinical training experiences:
 - 1.1. Medical specialty/subspecialty
 - 1.1.1. Inpatient ward
 - 1.1.2. Outpatient clinic
 - 1.2. Surgical specialty/subspecialty
 - 1.2.1. Inpatient ward
 - 1.2.2. Outpatient clinic
 - 1.2.3. Operating room
 - 1.3. Medical oncology
 - 1.3.1. Inpatient ward
 - 1.3.2. Outpatient clinic
 - 1.4. Palliative care
 - 1.4.1. Inpatient ward
 - 1.4.2. Outpatient clinic
 - 1.5. Medical imaging
 - 1.5.1. Computed tomography (CT)
 - 1.5.2. Magnetic resonance imaging (MRI)
 - 1.5.3. Nuclear medicine
 - 1.5.4. General radiology
 - 1.6. Emergency medicine
 - 1.7. After hours coverage in any clinical setting
2. Other training experiences:
 - 2.1. Attendance at multidisciplinary case conference

- 2.2. Formal instruction in
 - 2.2.1. Medical imaging
 - 2.2.2. Pathology
 - 2.2.3. Basic statistics, critical appraisal, and clinical trial design/methodology
 - 2.2.4. Presentation skills
 - 2.2.5. Communication skills – to include teaching specific to: i) medical assistance in dying (MAID); ii) completion of the CMPA *Good Practices Guide* on the topics of communication about disclosure of adverse events, and iii) completion of the World Health Organization (WHO) *Learning from Error* patient safety workshop

Recommended training experiences (Foundations stage):

- 3. Clinical training experiences:
 - 3.1. Observation of endoscopic procedures (gastrointestinal, urinary, and head and neck) for the purpose of understanding how these procedures can be integrated into the management of oncologic complications, particularly bleeding and obstructing masses
 - 3.2. Observation of interventional imaging procedures for the purpose of understanding how these procedures can be integrated into the management of oncologic complications such as malignant effusions and obstructing masses
- 4. Other training experiences:
 - 4.1. Attendance at journal club

Optional training experiences (Foundations stage):

- 5. Clinical training experiences:
 - 5.1. Medical procedures
 - 5.1.1. Urinary catheterization
 - 5.1.2. Venous cannulation
 - 5.1.3. Central line insertion
 - 5.1.4. Paracentesis
 - 5.1.5. Thoracentesis
 - 5.1.6. Lumbar puncture
- 6. Other training experiences:
 - 6.1. Formal instruction in
 - 6.1.1. Medical physics

6.1.2. Radiobiology, cancer biology, and molecular biology

6.2. Initiation of a scholarly project

CORE OF DISCIPLINE (C)

This stage focuses on the application of clinical skills in radiation oncology care for the full spectrum of a patient's treatment from initial consultation to follow-up and surveillance. The resident will acquire the skills to manage basic and complex oncology patient conditions, including all aspects of radiation treatment planning and delivery.

Required training experiences (Core stage):

1. Clinical training experiences:

1.1. Radiation Oncology in the breadth of the discipline, including cancers of the breast, central nervous system (CNS) and eye, gastrointestinal (GI) system, genito-urinary system (GU), gynecologic system, head, neck and thyroid, hematologic system, lung and mediastinum, skin, soft tissue, and bone, and benign conditions, in adults and children

1.1.1. Outpatient clinics

1.1.1.1. New consults

1.1.1.2. On-treatment visits (support area, review of patients on treatment)

1.1.1.3. Follow-up visits

1.1.2. Inpatient consults

1.1.3. Afterhours and/or emergency department consults

1.2. Radiation Oncology in the community setting

1.3. Radiation therapy planning and treatment supervision

1.3.1. Radiation simulation

1.3.2. Radiation planning and/or dosimetry

1.3.2.1. Intensity modulated radiotherapy (IMRT)

1.3.3. Radiation treatment units

1.3.4. Stereotactic body radiation therapy (SBRT)/stereotactic radiosurgery (SRS)

1.3.5. Brachytherapy (operating room)

1.3.6. Review of verification imaging

1.3.7. Case presentation at treatment planning quality assurance rounds

1.4. Case presentation at multidisciplinary case conference

- 1.5. Attendance at family meetings
- 1.6. Attendance at interprofessional team meetings, in the inpatient and/or outpatient setting

2. Other training experiences:
 - 2.1. Formal instruction in
 - 2.1.1. Radiobiology, molecular biology, and cancer biology
 - 2.1.2. Radiation pathology
 - 2.1.3. Medical physics
 - 2.1.4. Radiation safety and patient safety (e.g., International Atomic Energy Agency (IAEA) radiation safety modules)
 - 2.1.5. Management of cancer
 - 2.1.6. Management of relevant benign conditions
 - 2.1.7. Teaching skills

 - 2.2. Opportunities for teaching
 - 2.2.1. Opportunities for teaching and presenting to patient and family groups
 - 2.2.2. Opportunities for teaching and presenting to peers and health professionals
 - 2.2.3. Opportunities for teaching medical learners

 - 2.3. Participation in patient safety activities
 - 2.4. Participation in a scholarly project
 - 2.5. Participation in journal club

Recommended training experiences (Core stage):

3. Clinical training experiences:
 - 3.1. Radiotherapy treatment of benign disease
 - 3.2. Multidisciplinary clinics
 - 3.3. Survivorship care: adult or pediatric
 - 3.4. Additional specialty exposure (inpatient, outpatient, and/or operating room as applicable)
 - 3.4.1. Medical imaging
 - 3.4.2. Medical oncology
 - 3.4.3. Palliative care
 - 3.4.4. Pathology
 - 3.4.5. Surgical oncology

3.4.6. Therapeutic nuclear medicine

4. Other training experiences:

4.1. Formative assessments

- 4.1.1. Drill sessions¹ and/or treatment planning exams
- 4.1.2. Objective structured clinical examinations (OSCEs) (to include CanMEDS Intrinsic Roles, such as communication skills)
- 4.1.3. Written exams
- 4.1.4. Structured Assessment of Treatment Planning Evaluation Reports (STAPLERS)/mini-clinical evaluation exercise (mini-CEX)

4.2. Simulation training for procedures

4.3. Simulation training for team-based care

4.4. Attendance at local and national scientific meetings

Optional training experiences (Core stage):

5. Clinical training experiences:

- 5.1. Cancer rehabilitation
- 5.2. Genetics clinic
- 5.3. Sexual health clinic
- 5.4. Tobacco cessation clinic

6. Other training experiences:

- 6.1. Review courses – examples may include the following resident review courses: Canadian Association of Radiation Oncology (CARO), American Society for Radiation Oncology (ASTRO), European Society for Radiotherapy and Oncology (ESTRO) resident review courses; correlative gross anatomy and radiological anatomy course
- 6.2. Further research training (e.g., Clinician Investigator Program) at the discretion of the program director
- 6.3. Further education training (e.g., Master teacher courses/certificate) at the discretion of program director
- 6.4. Formal instruction in advanced research statistics
- 6.5. Leadership development courses/modules

¹ A drill session is a formative oral assessment of case management or radiation treating planning competence.

TRANSITION TO PRACTICE (TTP)

This stage focuses on refining the skills of a Radiation Oncologist, and preparing for the next stage of their career. The resident will manage a radiation oncology practice at a consultant level across at least four tumour sites while planning for future professional development and creating a personal wellness plan.

Required training experiences (TTP stage):

1. Clinical training experiences:

1.1. Radiation Oncology

1.1.1. Outpatient clinics

1.1.1.1. New patient clinic

1.1.1.2. Follow-up clinic

1.1.1.3. On-treatment visits

1.1.1.4. Urgent consultations

1.1.2. Inpatient service

1.1.2.1. Inpatient consultations

1.1.3. Emergency room consultations

1.1.4. Radiation therapy planning and treatment supervision

1.1.4.1. Dosimetry and planning

1.1.4.2. Treatment units – focus on issues related to image guided therapies

2. Other training experiences:

2.1. Office-based functions

2.1.1. Completion of documents, including clinical charts, insurance forms, out-of-province treatment applications, and return to work letters

2.1.2. Administrative aspects of practice and financial management, such as human resources management and, compensation frameworks

2.1.3. Role of most responsible physician (MRP) in communications with patients/family/colleagues

2.1.4. Patient care triage and handover

2.1.5. Treatment completion summaries

2.2. Additional training in at least one of: leadership development, patient safety, conflict management, quality improvement, teaching skills, medicolegal issues, bioethics

- 2.3. Identification of and regular meetings with a mentor for the transition to practice, with self-reflective exercises on career plan and personal wellness
- 2.4. Completion of a scholarly project
- 2.5. Attendance and contribution to administrative meetings, multidisciplinary case conferences, and peer review quality assurance (QA) rounds

Recommended training experiences (TTP stage):

3. Clinical training experiences:
 - 3.1. Radiation oncology inpatient care
 - 3.2. Leading a family meeting
4. Other training experiences:
 - 4.1. Chairing quality assurance rounds and multidisciplinary case conferences
 - 4.2. Curriculum vitae development
 - 4.3. Training in interviewing skills
 - 4.4. Teaching and/or mentorship of junior trainees
 - 4.5. Participation in a quality improvement initiative

Optional training experiences (TTP stage):

5. Clinical training experiences:
 - 5.1. Radiation Oncology in a community setting
 - 5.2. Global cancer care (e.g., low/middle income countries and underserved areas)
 - 5.3. Operating room experience (i.e., brachytherapy)
6. Other training experiences:
 - 6.1. Clinical practice guideline development
 - 6.2. Further research training (e.g., Clinician Investigator Program)
 - 6.3. Learner-led project: proposal and completion of a project of interest that may not be reflected in the training experiences above but meets the specific learning needs of the trainee

CERTIFICATION REQUIREMENTS

Royal College certification in Radiation Oncology requires all of the following:

1. Successful completion of the Royal College certification examination in Radiation Oncology; and
2. Completion of all elements of the Royal College Radiation Oncology Portfolio.

NOTES

The program must provide the opportunity to participate in ACLS training, but it is recognized that many residents will have completed this certification in earlier training, and upon demonstrating active certification, they will not be required to repeat the experience.

The Radiation Oncology 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. Radiation Oncology is planned as a five 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 but are not limited to 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 Radiation Oncology's suggested course of training, for the purposes of planning learning experiences and schedules, is as follows:

- 1 month in Transition to Discipline
- 9–13 months in Foundations of Discipline
- 36–44 months in Core of Discipline
- 3-9 months in Transition to Practice; a minimum of 3 months is strongly recommended to allow the longitudinal observation of TTP EPA 3

Guidance for postgraduate medical offices

The stages of the Competence Continuum in Radiation Oncology are generally no longer than:

- Transition to Discipline – 1 month
- Foundations of Discipline – 13 months
- Core of Discipline – 44 months
- Transition to Practice – 9 months

This document is to be reviewed by the Specialty Committee in Radiation Oncology by March 2020.

APPROVED – Specialty Standards Review Committee – March 2018