

**2021**  
**VERSION 2.0**

*These training requirements apply to those who begin training on or after July 1, 2021.*

## **ELIGIBILITY REQUIREMENTS TO BEGIN TRAINING**

### **Adult Critical Care Medicine:**

There are two routes of entry into adult Critical Care Medicine:

1. Royal College Certification in Anesthesiology, Cardiac Surgery, Emergency Medicine, General Surgery, or Internal Medicine, or enrolment in a Royal College approved training program in one of these areas (see requirements for these qualifications). Three years of one of these primary specialties must be completed prior to entry into the Critical Care Medicine program.

**OR**

2. Entrance from other specialties may occur but must follow completion of the primary specialty training, which must have included a minimum of:
  - 2.1 Three months in a general medical/surgical intensive care unit (ICU)
  - 2.2 Fifteen months of clinical rotations in Internal Medicine and/or General Surgery

### **Pediatric Critical Care Medicine:**

There are two routes of entry into pediatric Critical Care Medicine:

1. Royal College certification in Anesthesiology, Cardiac Surgery, Emergency Medicine, General Surgery, Pediatrics, or enrolment in a Royal College approved training program in one of these areas (see requirements for these qualifications). Three years of one of these primary specialties must be completed prior to entry into the Critical Care Medicine program.

**OR**

2. Entrance from other specialties may occur, but must follow completion of the primary specialty training, which must have included a minimum of:
  - 2.1 Three months in a general medical/surgical intensive care unit (ICU)

2.2 Three months of pediatric clinical rotations

**ELIGIBILITY REQUIREMENTS FOR EXAMINATION<sup>1</sup>**

All candidates must be Royal College certified in their primary specialty in order to be eligible to write the Royal College examination in Critical Care Medicine.

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

**TRANSITION TO DISCIPLINE (TTD)**

*The purpose of this stage is to verify achievement of the competencies of primary specialty training, particularly pertaining to confirmation of basic procedural skills, provision of advanced life support, and initiation of resuscitation. This stage also provides an orientation to the Critical Care Medicine (CCM) residency program, including the hospital system, and specifically the intensive care unit (ICU). In this stage, residents begin a longitudinal wellness curriculum aimed to make them aware of the expectations and stresses associated with CCM practice, in recognition that burnout and psychological distress are common within Critical Care Medicine Care learners and faculty.*

**Required training experiences (TTD stage):**

1. Clinical training experiences:
  - 1.1. Intensive care unit(s), including daytime and after hours coverage (see Note)
2. Other training experiences:
  - 2.1. Advanced life support training
    - 2.1.1. Advanced cardiac life support (ACLS) or equivalent (Adult only)
    - 2.1.2. Pediatric advanced life support (PALS) or equivalent (Pediatrics only)
  - 2.2. Orientation sessions to the hospital and the ICU including: policies, resident resources, admitting and discharge processes, and information systems
  - 2.3. Orientation to the program including: policies, resident resources, program portfolios, learning resources, and assessment system
  - 2.4. Formal instruction in patient safety issues (e.g., handover, infection prevention and control)
  - 2.5. Orientation to longitudinal curriculum in physician wellness
  - 2.6. National Acute Critical Event Simulation (ACES) training or equivalent (Adult only)

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<sup>1</sup> These eligibility requirements are not applicable to Subspecialty Examination Affiliate Program (SEAP) candidates. Please contact the Royal College for information about SEAP.

**Recommended training experiences (TTD stage):**

3. Clinical training experiences:
  - 3.1. Shadowing respiratory technicians, nurses and other health care providers to learn about their roles and responsibilities within the interprofessional team
4. Other training experiences:
  - 4.1. Advanced trauma life support (ATLS) training or equivalent
  - 4.2. Simulation based education particularly focused on procedural skills, and communication, and team training (i.e., crisis resource management)
  - 4.3. Join a specialty specific professional organization

**Optional training experiences (TTD stage):**

5. Clinical training experiences:
  - 5.1. Any clinical service related to Critical Care Medicine
6. Other training experiences:
  - 6.1. Initiation of a research, continuous quality improvement or other scholarly activity

**FOUNDATIONS OF DISCIPLINE (F)**

*In this stage residents evaluate and manage common ICU conditions, including patients requiring routine mechanical ventilation/respiratory support, advanced trauma life support and resuscitation. They perform common procedural skills and form an initial diagnosis and management plan for uncomplicated patients, as well as those in shock or organ failure. By the end of this stage, residents have demonstrated the ability to identify and care for patients and their families' needs at the end of life.*

**Required training experiences (Foundations stage):**

1. Clinical training experiences:
    - 1.1. Intensive care unit(s) including daytime and after hours coverage (see Note)
  2. Other training experiences:
    - 2.1. Formal instruction in research methodology and the conduct of scholarly activity
    - 2.2. Initiation of a scholarly project
    - 2.3. Development of a learning plan with an academic advisor or mentor
    - 2.4. Longitudinal curriculum in physician wellness
    - 2.5. Simulation based education particularly focused on procedural skills, communication, and team training (i.e., crisis resource management)
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- 2.6. ATLS or equivalent, if not already achieved (Adult only)
- 2.7. ATLS or equivalent, or Trauma Resuscitation in Kids (TRIK) or equivalent, or pediatric specific trauma course (Pediatrics only)
- 2.8. Ultrasound training to support vascular access (Pediatrics only)

**Recommended training experiences (Foundations stage):**

3. Clinical training experiences:
  - 3.1. Anesthesiology for airway management
  - 3.2. Any clinical service related to defined learning needs based on primary specialty and individual competencies
4. Other training experiences:
  - 4.1. Formal instruction in learning and teaching
  - 4.2. Point-of-care ultrasound training (POCUS) for diagnosis of pericardial effusion, cardiac ventricular size and function, vascular volume status, pleural effusion, pneumothorax, and ascites

**Optional training experiences (Foundations stage):**

5. Other training experiences:
  - 5.1. Participation in continuous quality improvement/patient safety initiatives
  - 5.2. Attendance at Canadian Critical Care Trials Group meeting

**CORE OF DISCIPLINE (C)**

*In this stage, residents build on the CCM approach in patients with greater complexity of illness, including managing critically ill patients who may have respiratory failure, shock or multisystem organ dysfunction. Residents perform advanced ICU procedural skills. They manage end-of-life care and organ donation as well as the transport of critically ill patients. This stage also focuses on communicating with patients and families in complicated situations. Residents participate in scholarly activities including self-directed personal and professional development, as well as teaching and coaching junior learners.*

**Required training experiences (Core stage):**

1. Clinical training experiences:
  - 1.1. Intensive care
    - 1.1.1. Intensive care unit(s) including daytime and after hours coverage (see Note)
    - 1.1.2. ICU in the community setting (Adult only)

- 1.2. Bronchoscopy (Adult only)
  - 1.3. Shadowing dietitians, pharmacists, social workers, and spiritual care workers to learn their roles and responsibilities within the interprofessional team
2. Other training experiences:
- 2.1. Point-of-care ultrasound training for diagnosis of pericardial effusion, cardiac ventricular size and function, vascular volume status, pleural effusion, pneumothorax, and ascites
  - 2.2. Training in continuous renal replacement therapy (clinical or simulation training acceptable)
  - 2.3. Training in management of organ donation, including the perspective of the organ procurement team. This may include completion of the Canadian Clinical Guide to Organ Donation course, or equivalent
  - 2.4. Participation in a quality improvement and/or scholarly project
  - 2.5. Simulation based education, particularly focused on procedural skills, communication, and team training (i.e., crisis resource management)
  - 2.6. Longitudinal curriculum in physician wellness
  - 2.7. Teaching, supervision, and assessment of other learners

**Recommended training experiences (Core stage):**

3. Clinical training experiences:
  - 3.1. Clinical services related to defined learning needs based on primary specialty training and individual competencies
4. Other training experiences:
  - 4.1. Presentation at formal or grand rounds
  - 4.2. Presentation at quality assurance rounds
  - 4.3. Provision of interprofessional teaching of nurses, respiratory therapists, and other health care providers
  - 4.4. Attendance at a specialty-specific conference
  - 4.5. Training in extracorporeal life support – venoarterial and venovenous
  - 4.6. Training in mechanical cardiac support (i.e., balloon pump) (Adult only)

**Optional training experiences (Core stage):**

5. Other training experiences:
  - 5.1. Provision of teaching for the general public, of topics relevant to critical illness (e.g., participate in health advocacy presentation for the general public)
  - 5.2. Participation and/or completion of leadership training
  - 5.3. Completion of Crucial Conversations or similar course/module

**TRANSITION TO PRACTICE (TTP)**

*The focus of this stage is the demonstration of leadership in the ICU; coordinating the triage, management and delivery of care to patients who are critically ill, including collaboration with the interprofessional health care team. Residents lead interprofessional conferences and family meetings, debriefing on resuscitation, ethical dilemmas and other critical events with clinical judgement and discretion. This stage also focuses on preparation for the non-clinical aspects of practice management with formal instruction in areas of administrative and professional responsibility, including certification and the development of plans for lifelong learning and professional development.*

**Required training experiences (TTP stage):**

1. Clinical training experiences:
  - 1.1. Intensive care unit(s) including daytime and after hours coverage (see Note)
    - 1.1.1. ICU associated call coverage aligned with a junior attending model
    - 1.1.2. Leading family meetings and interprofessional patient conferences
2. Other training experiences:
  - 2.1. Formal instruction in practice management. Topics include:
    - 2.1.1. Billing
    - 2.1.2. Contract negotiation
    - 2.1.3. Licensure
    - 2.1.4. Continuing medical education
    - 2.1.5. Longitudinal curriculum in physician wellness
    - 2.1.6. Provincial College standards and policies, if applicable
  - 2.2. Participation in ICU administration and management, e.g., triage of limited resources, participation in resource allocation committees, ICU policy development
  - 2.3. Presentation of a completed scholarly or CQI project

**Recommended training experiences (TTP stage):**

- 3. Clinical training experiences:
  - 3.1. Clinical services related to defined learning needs based on primary specialty training and individual competencies, as well as career goals

**CERTIFICATION REQUIREMENTS**

Royal College certification in Critical Care Medicine requires all of the following:

- 1. Royal College certification in Anesthesiology, Cardiac Surgery, Emergency Medicine, General Surgery, Internal Medicine, Pediatrics or other primary specialty where the entry criteria have been achieved;
- 2. Successful completion of the Royal College examination in Critical Care Medicine; and
- 3. Successful completion of the Critical Care Medicine Portfolio.

**NOTES**

The Critical Care Medicine 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.

The clinical experiences in the intensive care unit are intended to provide experience in the full range and complexity of conditions relevant to Critical Care Medicine during the totality of the residency. Therefore, this must include experience with all of the following patient populations: cardiac patients (surgical and medical), neurological patients (surgical and medical), trauma patients, and general medicine/pediatric and surgical patients who require ICU treatment. An individual resident's sequence of and emphasis on these different patient populations will vary based on the competencies achieved in their primary specialty, as well as their distinct interests and career goals.

**ALTERNATE ROUTES TO CERTIFICATION**

There are three routes to training in Critical Care Medicine: sequential training, integrated training and accelerated training. Please note that individual CCM program may offer one or more of these training routes.

***Sequential training***

Sequential training refers to the scenario in which a resident completes all requirements for certification in the primary specialty before entry into subspecialty residency, and subsequently follows the typical route to certification in the subspecialty.

**Accelerated training in Critical Care Medicine following completion of the certification requirements in a primary specialty**

Individuals who are eligible for certification in a primary specialty, may be eligible for an accelerated course of training leading to certification in Critical Care Medicine, based on the achievement of competencies relevant to Critical Care Medicine in their primary specialty. Assessments of the achievement of relevant competencies will be made on an individual basis by the accepting critical care medicine program and its postgraduate medical education office, following the principles of the Royal College Credentials policy.

Guidance for residents and programs regarding accelerated training in Critical Care Medicine

1. *Relevant professional activities and training experiences during the primary specialty will be reviewed on an individual basis by the accepting critical care medicine program and its postgraduate medical education office and can be credited towards achievement of competence in Critical Care Medicine<sup>2</sup>.*
2. *Transition to Discipline in the critical care medicine program may be used to verify and document achievement of Foundations and selected Core EPAs of Critical Care Medicine and to create an individualized curriculum.*

**Integrated training in Anesthesiology and Critical Care Medicine, applying either the conjoint or discretionary model of overlap training<sup>3</sup> in Competence by Design**

Residents who are “progressing as expected” or whose “progress is accelerated” in the Core stage of Anesthesiology training are eligible to undergo integrated training to complete the Core and Transition to Practice stages in Anesthesiology concurrent with training in Critical Care Medicine.

In this route to certification, both the Anesthesiology and Critical Care Medicine program will have oversight and responsibility for determining the resident’s training experiences and learning plan. In addition, the Competence Committees of the respective program will each be responsible for review of and recommendations about the resident’s progress through the training requirements of that discipline.

Guidance for residents and programs regarding integrated training in Anesthesiology and Critical Care Medicine

1. *It is strongly recommended that early in their Anesthesiology residency, individuals who intend to pursue an integrated training route in Critical Care Medicine contact their program director in Anesthesiology to declare their intention and discuss how to structure their training and application to Critical Care Medicine.*

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<sup>2</sup> *Overlap between Anesthesiology and Critical Care Medicine\_2020-09-16*; document available by request from [specialtycommittees@royalcollege.ca](mailto:specialtycommittees@royalcollege.ca).

<sup>3</sup> See [The application of 'Overlap in Training' in Competence by Design](#).

## CRITICAL CARE MEDICINE TRAINING EXPERIENCES (2021)

- 2. It is expected that the period of integrated training will occur during the PGY4 and PGY5 years, with completion of the requirements of certification (including examination) in Anesthesiology by the end of PGY5. The PGY6 year will be focused on completion of Critical Care Medicine training experiences and certification requirements.*
- 3. The Specialty Committees in Anesthesiology and Critical Care Medicine have identified that there are entrustable professional activities (EPAs) of Critical Care Medicine at the Transition to Discipline stage that will have been achieved in Anesthesiology training prior to the resident's entry into the Critical Care Medicine program<sup>2</sup>.*
- 4. The Specialty Committees in Anesthesiology and Critical Care Medicine have identified that there are entrustable professional activities (EPA) in both disciplines which are substantively equivalent, and that achievement of that EPA in one discipline may be applied by the other discipline's Competence Committee in their review of the resident's progress.*
- 5. The Specialty Committees in Anesthesiology and Critical Care Medicine have identified that there is significant overlap, but not full equivalency, in a number of other training experiences and EPAs. Observations documented for the EPAs of one discipline may be reviewed by the Competence Committee of the other discipline and applied towards the case mix and performance requirements of that discipline.*
- 6. It is required that the Competence Committees in Anesthesiology and Critical Care Medicine both have access to the resident's assessment data, in order to make individual determinations of progress on a shared data set.*

### MODEL DURATION OF TRAINING

*Progress in training occurs through demonstration of competence and advancement through the stages of the Competence Continuum. Critical Care Medicine is planned as a two-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 student's singular progression through the stages and overlap training, 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 Critical Care Medicine's suggested course of training, for the purposes of planning learning experiences and schedules, is as follows:

- Two months in Transition to Discipline
- Six months in Foundations of Discipline
- Twelve months in Core of Discipline
- Four months in Transition to Practice

*CRITICAL CARE MEDICINE TRAINING EXPERIENCES (2021)*

This should include at least twelve months of clinical Critical Care Medicine, no more than six months of other clinical care experiences related to Critical Care Medicine and no more than six months of research/scholarship.

*This document is to be reviewed by the Specialty Committee in Critical Care Medicine by December 2023.*

**APPROVED** – Specialty Standards Review Committee – July 2018

**EDITORIAL REVISION** – June 2019

**APPROVED** – Office of Specialty Education – June 2021