A university wishing to have an accredited program in adult critical care medicine should also sponsor accredited programs in anesthesia, general surgery, and internal medicine.

Critical care medicine is a multidisciplinary field concerned with patients who have sustained, or are at risk of sustaining life threatening, single or multiple organ system failure due to disease or injury. Critical care medicine seeks to provide for the needs of these patients through immediate and continuous observation and intervention so as to restore health and prevent complications. A specialist in adult critical care medicine is a physician or surgeon who is competent in all aspects of recognizing and managing acutely ill adult patients with single or multiple organ system failure requiring ongoing monitoring and support.

The purpose of this document is to provide program directors, surveyors and residents with an interpretation of the general standards of accreditation as they relate to the accreditation of programs in adult critical care medicine. This document should be read in conjunction with the booklet General Standards of Accreditation.

STANDARD B. 1: ADMINISTRATIVE STRUCTURE

There must be an appropriate administrative structure for each residency program.

Please refer to Standard B.1 in the booklet General Standards of Accreditation for the interpretation of this standard.

In addition to the responsibilities of the program director and the residency program committee listed in the General Standards of Accreditation, all critical care medicine programs must submit an annual report to the College providing information on program applicants, individuals in the program, graduates of the program and those who have left the program without completing it. An annual report form will be sent out from the College each fall requesting this information for the current academic year.

STANDARD B. 2: GOALS AND OBJECTIVES

There must be a clearly worded statement outlining the goals of the residency program and the educational objectives of the residents.

General Objectives

The rapidly expanding body of knowledge regarding the treatment of the critically ill, the continuing introduction of new technology for life support, and more complex societal issues (legal, moral, ethical) have created a need for specialists trained in the recognition and management of this patient subset. To develop such specialists individual residency programs must focus on the knowledge, skills, and attitudes pertinent to the expected roles and competencies of the adult critical care medicine specialist.
Residents training within the unique interactive environment in which the critically ill are managed must respect the rights of the patient and family and acknowledge the importance of age, gender, culture, and ethnicity.

Each training program must develop rotation specific objectives based on the objectives of training listed below. The following objectives for the essential roles and key competencies are based on the Royal College CanMEDS objectives, which are life-long learning objectives.

1. **Medical Expert/Clinical Decision-Maker**

   1.1 **General Requirements**

   The adult critical care medicine resident must demonstrate:
   a. diagnostic and therapeutic skills for ethical and effective care of the critically ill patient
   b. the ability to access and apply relevant information to the practice of critical care
   c. effective consultation services with respect to patient care, education and legal opinions

   1.2 **Specific Requirements**

   The adult critical care medicine resident will:

   1.2.1 demonstrate detailed knowledge of the generalist and specialist aspects of critical illness
   1.2.2 demonstrate competencies in safe application of equipment, careful monitoring, judicious use of drugs, and the coordinated provision of multidisciplinary care for effective organ system support
   1.2.3 demonstrate ability to recognize, resuscitate, and stabilize patients sustaining, or at risk of, cardiopulmonary arrest or other life-threatening disturbances
   1.2.4 demonstrate working knowledge of applied clinical physiology and homeostasis and the ability to recognize, prevent, and treat single or multiple organ failure
   1.2.6 demonstrate both basic and applied knowledge of the following:

   a. **Respiratory Dysfunction**
   i. The ability to determine the presence of respiratory failure, provide for its emergency support, and have a plan of action to subsequently investigate and manage problems.
   
   ii. Demonstrate knowledge of:
   - knowledge of normal anatomy of the respiratory system
   - physiology of the gas exchange unit, lung and chest wall mechanics, airway dynamics
   - chest imaging of the ICU patient
   - the control of respiration pathophysiology of disease states leading to respiratory failure
   - principles and theory of mechanical ventilation and other methods of respiratory support
   - respiratory problems and their management following surgical interventions
b. **Cardiovascular Dysfunction**
   i. The ability to recognize the problem, provide emergency life saving support, and embark upon a diagnostic and management program.
   ii. Demonstrate knowledge of:
       - the methods and application of “Advanced Cardiac Life Support” techniques
       - the principles of invasive and non-invasive hemodynamic monitoring
       - the pathophysiology and treatment of cardiac failure, including the pharmacology of drugs used to treat these entities
       - basic and complex cardiac arrhythmias, including pharmacological and electrical management
       - shock syndromes, with emphasis on the pathophysiological events leading to and resulting from the shock state
       - heart-lung interactions
       - surgical interventions in patients with cardiac disease, including perioperative management of the cardiovascular surgery patient
       - acute valvular heart disease
       - acute coronary syndromes
       - acute disease of the walls of large arteries (including dissection) and venous occlusive disorders
       - hypertensive emergencies

c. **Neurological Dysfunction**
   i. The ability to recognize problems in a patient with a central nervous system (CNS) crisis and/or an altered level of consciousness, institute immediate life-sustaining measures, carry out appropriate neurological examination, derive a differential diagnosis, and continue with appropriate diagnostic and supportive measures.
   ii. Demonstrate knowledge of:
       - the toxic, metabolic, structural, and infectious causes of altered consciousness
       - intracranial hypertension (pathophysiology, investigation, monitoring techniques, treatment)
       - status epilepticus (pathophysiology, investigation, systemic metabolic consequences, pharmacological management)
       - the clinical diagnosis of brain death and confirmatory investigations involved
       - the environmental and drug-related psychopathology associated with critical illness (anxiety, sleep disorders hallucinations and withdrawal)
       - the perioperative management of major neurosurgical procedures

d. **Neuromuscular Dysfunction**
   i. The ability to recognize the seriousness of the problem of a patient with an acute or chronic neuromuscular disorder, institute life-sustaining measures, and compose a program of definitive diagnosis, support, and specific therapy.
   ii. Demonstrate knowledge of:
       - specific physiological support (support of vital organs, circulation, respiration, nutrition, bowel, bladder, and skin care)
       - acute neuromuscular disease (disorders of the myoneural junction, myopathy and polyneuropathy of the critically ill, spinal cord syndromes) including investigations and therapeutic options
       - the medical, administrative, and ethical considerations associated with the institution and maintenance of long-term mechanical ventilation
• supportive services integral to the management of patients with neuromuscular diseases (physiotherapy, occupational therapy, orthotics, social services)

e. Renal Dysfunction
i. The ability to recognize the problem of a patient with oliguria or evidence of advancing or established renal failure, institute measures to preserve remaining renal function, and provide for precise diagnosis, adequate supportive measures, and appropriate therapy.

ii. Demonstrate knowledge of:
• the pathophysiology and management, both medical and surgical, of acute renal failure (pre-renal, renal and post-renal failure)
• pharmacodynamics and nephrotoxins
• perioperative issues, pharmacological management, and potential complications in the renal transplant patient*
• other renal and hepatic therapy

f. Gastrointestinal Dysfunction
i. The ability to evaluate the nature of the illness of a patient who presents with gastrointestinal (GI) crisis, institute immediate life-sustaining support, and develop a diagnostic and therapeutic plan.

ii. Demonstrate knowledge of:
• the etiology, diagnosis, and management of the acute abdomen
• the etiology, diagnosis, and management of hollow viscus dysfunction (obstruction, ischemia, perforation, dysmotility)
• the etiology, diagnosis, and management of upper and lower GI bleeding
• the complications of abdominal surgery and trauma

g. Hepatic Dysfunction
i. The ability to recognize the problem of a patient with jaundice and/or manifest hepatic failure, provide for immediate life-sustaining support, and develop a diagnostic and therapeutic plan.

ii. Demonstrate knowledge of:
• the pathophysiology and management of acute and chronic liver disease
• the biosynthetic, immunologic, and detoxification functions of the liver
• the liver transplant patient, including perioperative issues, pharmacological management, potential complications*
• other renal and hepatic therapy

1.2.7 Demonstrate both basic and applied knowledge of the following disorders, as outlined below.

a. Hematological/Oncologic Disorders
i. The ability to recognize the problem of a patient with a malignancy, a thrombotic or thrombolytic disorder, bleeding, neutropenia, or anemia, provide for any indicated life-sustaining support, and proceed with an orderly course of investigation, management, continued monitoring, and support

ii. Demonstrate knowledge of:
• the pathogenesis and management of thrombocytopenia, anemia, and neutropenia
• the pathogenesis and management of oncologic diseases and complications
• the pathogenesis and management of hemolytic and vaso-occlusive diseases

* Knowledge only, not actual patient experience, if specialized training not available at the program site.
the coagulation sequence, fibrinolytic pathway, and their associated disorders
blood component therapy and alternatives available
anticoagulant and fibrinolytic therapies

b. Metabolic - Endocrine Disorders
i. The ability to recognize the nature and severity of the problem of a patient with metabolic, endocrine, or fluid/electrolyte abnormalities, establish a differential diagnosis, and embark on a course of definitive diagnosis, treatment, and continued monitoring and support.

ii. Demonstrate knowledge of:
• the diagnosis and management of fluid and/or electrolyte disturbances
• the pathophysiology, diagnosis, and treatment of acid-base disorders
• the pathophysiology, diagnosis, and treatment of endocrine emergencies
• normal and abnormal body temperature regulation and their associated disorders

c. Trauma
i. The ability to manage the patient who has sustained severe trauma, with or without extensive soft tissue and bony injury, in accordance with practices advocated by “Advanced Trauma Life Support (ATLS)” training.

ii. Demonstrate knowledge of:
• the necessity to evaluate and prioritize the unique needs of the traumatized patient
• the need for continuing care of the traumatized patient with regard to all systems, injured or not
• the secondary insults that enhance the primary pathogenicity of the traumatized organs

d. Septic Illness
i. The ability to recognize the infective nature of the condition of a patient with catastrophic septic illness, institute immediate life-sustaining measures, establish a differential diagnosis (site of origin, etiological pathogens), and embark upon a course of definitive diagnosis, continued life support, and appropriate antimicrobial and/or surgical therapy.

ii. Demonstrate knowledge of:
• available techniques for diagnostic procedures
• the epidemiology of host specific infectious disease
• the immunocompromised host response
• preventative infection control techniques, including antibiotic prophylaxis of contacts, when appropriate
• the pharmacology, indications, complications, interactions, monitoring, and efficacy of usual antimicrobial agents
• the occult indicators of sepsis
• the systemic inflammatory response syndrome
• the multiple organ dysfunction syndrome

e. Intoxication
i. The ability to formulate a differential diagnosis for a patient potentially suffering from a toxic syndrome and undertake a sequential plan to support organ function, prevent further absorption, alter distribution, and if possible, enhance elimination by natural and mechanical means

ii. Demonstrate knowledge of:
• the general support, together with any specific antidotes or supportive therapy pertinent to individual intoxicants
• the pharmacology of common intoxicants
• strategies to reduce absorption and enhance elimination (hemodialysis, hemoperfusion)
• the need of patients and families for emotional and psychiatric support

f. **Burns and/or Electrical Injury**
   i. The ability to institute immediate life-supportive measures for a patient who has sustained primary, secondary, or tertiary life threatening burns and develop a plan of ongoing support (adequate fluid resuscitation, maintenance of vital organ systems’ integrity, prevention and management of burn wound sepsis, minimization of metabolic complications).
   ii. Demonstrate knowledge of:
       • the pathophysiology and medical/surgical management of the phases of the burn injury
       • the respiratory complications of burn injuries (smoke inhalation, airway burns)
       • the environmental control necessary for optimal care

1.2.8 Demonstrate both basic and applied knowledge of the following health issues, as outlined below.

a. **Nutritional Support**
   i. Evaluate the nutritional status of the critically ill patient, identify current deficiencies, ongoing losses, and extra needs induced by the illness, including the ability to devise a management strategy for the provision of either enteral and/or parenteral nutrition to sustain the patient throughout the period of critical illness.
   ii. Demonstrate knowledge of:
       • fluid compartments and fluid/caloric requirements in the critically ill patient
       • the techniques and laboratory tests used to evaluate nutritional status
       • the methods of assessing basal energy expenditure and monitoring effectiveness
       • indications, limitations, methods, and complications of enteral and parenteral nutritional techniques

b. **Pharmacotherapy**
   i. Have a thorough knowledge of indications, risks, and side effects of relevant pharmacotherapy.
   ii. Demonstrate knowledge of:
       • the principles of clinical pharmacology
       • the pharmacologic and therapeutic applications of drugs
       • side effects, drug interactions associated with medications
       • the indications for, and management of, sedation, analgesia, and neuromuscular blockade

c. **Transportation**
   i. Demonstrate a basic understanding of the problems peculiar to the transportation of the critically ill patient.
   ii. Demonstrate knowledge of
       • communication, triage and preparation prior to and during transport
       • altitude physiology associated with air transport
       • the unique monitoring and management problems associated with transport
       • the role of paramedical personnel
       • the determination of need for physician accompaniment
d. Transplantation
   i. Demonstrate an awareness of common problems peculiar to transplantation.
   ii. Demonstrate knowledge of:
       • organ donation and donor management
       • the medical, ethical and medico-legal issues of brain death
       • immunosuppression and rejection
       • opportunistic and nosocomial infectious risk and disease
       • the postoperative care of the transplant patient

e. End of Life Issues
   i. In a patient where death is inevitable the resident will help facilitate a dignified process of life sustaining support withdrawal, without the withdrawal of care.
   ii. Demonstrate knowledge of:
       • withholding and withdrawing life sustaining therapies
       • clear decision-making and communication
       • pain and symptom management
       • psychological, social and spiritual support
       • bereavement
       • terminal care

f. Critical Illness in Pregnancy
   i. In a pregnant woman presenting with acute respiratory failure or shock the resident must be able to institute immediate life-supportive measures and develop a plan of ongoing support that includes adequate fluid resuscitation and maintenance of vital organ systems' integrity for both the mother and fetus.
   ii. Demonstrate knowledge of:
       • maternal cardiovascular, respiratory, and renal physiology during pregnancy
       • critical illness of pregnancy due to circulatory disorders, hypoperfused states
       • preeclampsia/eclampsia-, pulmonary disorders, acute renal and hepatic failure
       • cardiopulmonary resuscitation of the pregnant patient

1.2.9 Demonstrate proficiency in the following technical skills: (a core skill requires mastery of the technique; an advanced skill requires an appreciation and understanding of the technique, not the actual performance).

I. Airway
   Core Competencies
   • assessment and maintenance of the airway
   • orotracheal intubation
   • indication for tracheostomy tube insertion
   • replacement of a preexisting tracheostomy tube
   • cricothyrotomy and indication for other urgent surgical airways

Advanced Skills
   • airway management during an unexpected difficult intubation
   • anaesthesia and airway management during initial tracheostomy tube insertion in the intensive care unit (ICU)
   • fiberoptic intubation
   • laryngeal mask airway

* Knowledge only, not actual patient experience, if specialized training not available at the program site.
• retrograde intubation
• transcricoid jet ventilation

II. Breathing
Core Competencies
• ventilation by bag and mask
• application of conventional positive pressure mechanical ventilation
• application of non-invasive ventilation
• advanced ventilation strategies
• measurement and interpretation of pulmonary mechanics during mechanical ventilation
• application of an end-tidal CO2 detector post-intubation
• application of capnography
• application of pulse oximetry
• ventilation weaning techniques
• special gas admixture administration (heliox, NO)
• fiberoptic bronchoscopy in the intubated patient
• thoracocentesis
• thoracostomy tube insertion

Advanced Skills
• fiberoptic bronchoscopy in the non-intubated patient
• bronchoalveolar lavage
• protected brush specimen sampling
• intrathoracic pressure (oesophageal pressure) measurements
• hyperbaric oxygenation

III. Circulation
Core Competencies
• knowledge and maintenance of intra-aortic devices
• arterial lines
• central venous lines
• utilization, zeroing, and calibration of transducers
• application and maintenance of pulmonary artery catheter
• cardiac output measurements and other derived calculations from pulmonary artery catheter
• electrocardiogram (ECG) interpretation
• defibrillation
• elective cardioversion
• cardiac overdrive pacing
• temporary transvenous pacemaker
• temporary transcutaneous pacemaker
• Level 1 Infuser
• pericardiocentesis
• prevention and management of air embolism

Advanced Skills
• application of intra-aortic devices
IV. Central Nervous System (CNS)
   Core Competencies
   • supervision of intracranial pressure (ICP) monitoring
   • trouble shooting ICP monitoring
   • cerebral spinal fluid (CSF) drainage for raised ICP
   • declaration of brain death
   • lumbar puncture
   • therapy aimed at maintenance of cerebral perfusion pressure
   • monitoring the degree of neuromuscular blockade with peripheral nerve stimulation

   Advanced Skills
   • advanced ICP monitoring techniques
   • application of electroencephalogram (EEG) monitoring / cerebral doppler
   • jugular bulb oximetry

V. Renal
   Core Competencies
   • insertion of a temporary hemodialysis catheter
   • indication for continuous renal replacement therapy

   Advanced Skills
   • supervision of continuous renal replacement therapy
   • management of continuous ambulatory peritoneal dialysis (CAPD) in the ICU

VI. Gastrointestinal
   Core Competencies
   • post-pyloric feeding tube placement
   • intra-abdominal pressure monitoring
   • peritoneal tap

   Advanced Skills
   • peritoneal lavage
   • gastro-esophageal balloon tamponade

VII. Nutrition
   Core Competencies
   • determination of a nutritional plan

   Advanced Skills
   • indirect calorimetry

VIII. Transport
   Core Competencies
   • organization and supervision of inter- and intra-city transfers

IX. Other
   Core Competencies
   • use of special beds
   • application of techniques to treat or induce for hypo/hyperthermia

   Advanced Skills
   • safe use of fluoroscopy in the ICU
2. **Communicator**

2.1. **General Requirements**

The adult critical care medicine resident must be able to:

a. establish relationships with patients/families
b. listen effectively
c. obtain and synthesize relevant history from patients/families/communities
d. discuss appropriate information with patients/families and the health care team

2.2. **Specific Requirements**

a. Assess, communicate with, and support patients and families confronted with critical illness.
b. Explain life sustaining therapies, in clear language, and describe the expected outcome of such therapies in view of the patient’s goals and wishes.
c. Know and understand the consequences of the language used to impart information.
d. Be acquainted with the unique stressful environment of the critical care milieu for patients and their families.
e. Demonstrate respect and understanding for the role of other team members in communicating and facilitating decision-making with critically ill patients and their families.
f. Communicate effectively with families who may be dysfunctional, angry, confused, or litigious.
g. Explain the concept of brain death and organ donation, in clear language.

3. **Collaborator**

3.1. **General Requirements**

The adult critical care medicine resident must be able to:

a. consult effectively with other physicians and health care professionals
b. contribute effectively to interdisciplinary team activities

3.2. **Specific Requirements**

a. Contribute to productive communication and cooperation among colleagues in all aspects of education, service, and research, as they impact on the critical care environment, recognizing the multi-disciplinary nature of the specialty.
b. Demonstrate knowledge and skill in preventing and resolving conflict.
c. Demonstrate leadership in the continuing education of members of the multi-disciplinary health care team.

4. **Manager**

4.1. **General Requirements**

The adult critical care medicine resident should be able to:

a. allocate finite health care resources wisely
b. work effectively and efficiently in a health care organization
c. utilize information technology to optimize patient care, life-long learning, and other activities
d. utilize personal resources effectively to balance patient care, learning needs, and outside activities
4.2. Specific Requirements

a. Be familiar with the administrative organization required to operate an Intensive Care Unit within an acute urban or rural hospital.
b. Be knowledgeable regarding unit staffing requirements, skills, education, and organization.
c. Be able to evaluate and cooperatively determine unit equipment requirements.
d. Be able to manage the clinical, academic, and administrative affairs of an Intensive Care Unit.
e. Demonstrate the ability to acquire, interpret, synthesize, record, and communicate (written and verbal) clinical information in managing health problems in the critical care setting.

5. Health Advocate

5.1. General Requirements

The adult critical care medicine resident should be able to:

a. identify the important determinants of health affecting patients
b. contribute effectively to the improved health of patients and communities

5.2. Specific Requirements

a. Understand, in general, the diverse determinants of health, disease, and illness, and relate occupational and environmental exposures, socio-economic factors, and life style factors to critical illness.
b. Understand, in general, the health care system and more specifically the structure, function, and financing of critical care units.
c. Understand the importance of medico-legal considerations for the critically ill.
d. Be able to communicate to the general population critical care issues and their impact on the maintenance and improvement of health care.

6. Scholar

6.1. General Requirements

The adult critical care medicine resident should be able to:

a. facilitate the learning of patients/families, house staff/students and other health professionals
b. contribute to the development of new knowledge
c. develop, implement, and monitor a personal continuing education strategy

6.2. Specific Requirements

a. Demonstrate the expertise necessary for rational use of the principles of “evidence based medicine” in both clinical and research settings.
b. Demonstrate the expertise to competently appraise:
   i. levels of evidence
   ii. interventions
   iii. diagnostic tests
   iv. prognosis
   v. integrative literature (meta-analyses, practice guidelines, decision and economic analyses)
c. Demonstrate a basic understanding of biostatistics, study design, protocol writing, and manuscript preparation.
d. Demonstrate the ability to efficiently access information from the medical
literature using current information retrieval tools.

e. Practice the principles of adult learning and help others learn by providing
guidance constructive feedback.

f. Be familiar with the concepts of basic applied research and epidemiology in order
to capably evaluate newer forms of therapy.

7. Professional

7.1. General Requirements

The adult critical care medicine resident should be able to:

a. deliver the highest quality care with integrity, honesty, and compassion

b. exhibit appropriate personal and interpersonal professional behaviours

c. practice medicine ethically consistent with the obligations of a physician

7.2. Specific Requirements

a. Be aware of, and understand, moral and ethical issues as they impact on
patients, their families, and critical care providers.

b. Understand the role and responsibilities of the critical care physician at the local,
regional, and national levels.

c. Develop and demonstrate use of a framework for recognizing and dealing with
ethical issues in clinical and/or research practice including truth-telling, consent,
conflict of interest, resource allocation, and end-of-life care.

STANDARD B.3: STRUCTURE AND ORGANIZATION OF THE PROGRAM

There must be an organized program of rotations and other educational experiences,
both mandatory and elective, designed to provide each resident with the opportunity to
fulfill the educational requirements and achieve competence in the specialty or
subspecialty.

The following are the minimum educational requirements in adult critical care medicine.
Additional experience may be required by the program director.

1. Pre-requisite:

Three years of anesthesia, emergency medicine, general surgery, internal medicine, or
pediatrics that must be completed prior to entry into the critical care medicine program.

2. Program requirements:

Two years of adult critical care medicine, one year of which may be undertaken in one of the
specialties listed above with the joint approval of the program director in the base specialty
and the program director of the critical care medicine program. This period must include:

a. one year of adult critical care medicine, including direct patient care, consultation, and
administration at an appropriate level of seniority

b. one year which may include one or both of the following:

i) additional clinical residency relevant to critical care medicine

ii) research relevant to the educational objectives in critical care medicine and
acceptable to the residency program director
During the two-year program residents must be provided with increasing individual professional responsibility, under appropriate supervision, according to their level of training, ability, and experience.

For satisfactory completion of the College requirements in adult critical care medicine a resident must:

1. have successfully completed a two-year program in adult critical care medicine in a Royal College accredited program in which the resident has been enrolled for the full two years

2. have attained Royal College certification in a relevant clinical specialty.

STANDARD B.4: RESOURCES

There must be sufficient resources including teaching faculty, the number and variety of patients, physical and technical resources, as well as the supporting facilities and services necessary to provide the opportunity for all residents in the program to achieve the educational objectives and receive full training as defined by the specialty training requirements in critical care medicine.

In those cases where a university has sufficient resources to provide most of the training in adult critical care medicine but lacks one or more essential elements, the program may still be accredited provided that formal arrangements have been made to send residents to another accredited residency program for periods of appropriate prescribed training.

1. Teaching Faculty

There must be a sufficient number of qualified critical care medicine specialists involved in the program to ensure the continuous availability of supervision and to provide teaching in the basic and clinical sciences related to the subspecialty. The critical care unit must be under the direction of a qualified, critical care medicine specialist with a major university or full time appointment.

2. Number and Variety of Patients

There must be a sufficient number and variety of patients available to the program to meet the following specific objectives:

a. to become competent in the recognition and management of single or multiple organ failure resulting from trauma, infection, malignancy, surgery or other disorders

b. to provide resuscitative, transport, and consultative services for the critically ill patient and be knowledgeable in the development and supervision of regional transport programs for the critically ill

c. to become skilled in the use of technology in critical care, especially in regard to the resuscitation, investigation, and management of disorders that threaten vital organ function

3. Clinical Services Specific to Critical Care Medicine

ICU design and facilities should be in accordance with federal government standards for intensive care services and should be in a desirable physical relationship with other hospital areas including the operating room, post-anesthesia recovery room, emergency, diagnostic imaging, and laboratories.
4. Supporting Services - Clinical, Diagnostic, Technical

There must be appropriate liaison with teaching services in specialized areas relevant to the practice of critical care. A full range of diagnostic services should be available including pathology, biochemistry, hematology, microbiology, radiology, neurophysiology, pulmonary function, and cardiac investigation.

STANDARD B.5: CLINICAL, ACADEMIC AND SCHOLARLY CONTENTS OF THE PROGRAM

The academic and scholarly contents of the program must be appropriate for university postgraduate education and adequately prepare residents to fulfil all of the roles of the specialist. The quality of scholarship in the program will, in part, be demonstrated by a spirit of enquiry during clinical discussions, and at the bedside and in clinics, and in seminars, rounds, and conferences. Scholarship implies an in-depth understanding of basic mechanisms of normal and abnormal states and the application of current knowledge to practice.

Please refer to Standard B.5 in the booklet General Standards of Accreditation for the interpretation of this standard. Specific additional requirements are listed below:

1. Basic and Clinical Sciences Relevant to Adult Critical Care Medicine

   The program must include organized teaching in the relevant basic sciences and in the advanced clinical and scientific knowledge essential to the understanding of those areas of the discipline outlined in previous sections.

   The program must provide opportunities for residents to gain experience in epidemiology, specifically in tabulation and evaluation of institutional and regional morbidity and mortality, high risk scoring systems, patient evaluation systems (e.g., SAPS, APACHE, TISS).

2. Teaching Skills

   Residents must be given opportunities to gain experience in developing and practising teaching. Opportunity should also be available to participate in educational programs for the personnel of regional and community hospitals.

3. Research Opportunities for Residents

   Residents are expected to participate in a basic or clinical research project (e.g., collaborative research, quality assurance, guidelines development, research in teaching). Such programs must be under the direction of a scientist or critical care medicine specialist of university rank. The role of the resident in the research program should be clearly defined. If the research is in basic science, allowance must be made for concurrent maintenance of clinical expertise.

STANDARD B.6: EVALUATION OF RESIDENT PERFORMANCE

There must be mechanisms in place to ensure the systematic collection and interpretation of evaluation data on each resident enrolled in the program.

Please refer to Standard B.6 in the booklet General Standards of Accreditation for the interpretation of this standard.
As there is no summative evaluation at a national level, it is particularly important that the evaluation of residents in the program be rigorous and well documented. Programs must have a comprehensive assessment plan, including assessment criteria and methods based on the objectives of the program.

Each program will provide the following documentation:

1. An evaluation at the end of each rotation or at a minimum at the end of every four months, using a critical care specific in-training evaluation report (ITER). This formative evaluation must include reports describing witnessed communication skills and witnessed management/leadership skills. All ITERs must be reviewed with the resident in a timely fashion. Residents with an unsatisfactory performance on an ITER must have a prompt and appropriate review, with implementation of a remediation program if deemed necessary.

2. Twice yearly structured evaluations (e.g., oral examinations, short answer questions, OSCE, MCQs) of the resident’s knowledge, skills, and attitudes using evaluation measures appropriate to the attribute being assessed.

3. Yearly documentation of the resident’s global proficiency in specific core technical skills.

4. Yearly writing of the Society of Critical Care Medicine multiple-choice question (MCQ) examination, as a formative assessment.

5. An up-to-date, readily available, dossier on each resident. This dossier should include progress with the program’s expected roles and competencies, all evaluations (including off-service and research evaluations), and any corrective actions.

6. Twice yearly performance review by the Residency Program Director.

Assessments of the performance of individual residents in the program must be on file in the office of the program director for review at the time of on-site surveys.

For each resident deemed by the program director to have completed the program the Final In-Training Evaluation Report (FITER) must be filed with the College. The FITER is a summative report and attests that the resident has completed the required two years in the program and has acquired the full range of competencies expected of a critical care specialist in independent practice. Completion of the FITER is the responsibility of the Residency Program Committee and must be signed by the Residency Program Director, the Associate Dean for Postgraduate Medical Education, and by the resident.

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