

## ICU, Health Sciences Centre

### Medical Expert

See Objectives: Medical Expert

The terminal objective of Critical Care training is to provide the candidate a learning opportunity aimed at improving the trainee's function as an effective consultant in either a University-based or community setting. This shall include a capacity to stabilize and, where possible, to care for critically-ill patients.

As the techniques and knowledge necessary to practice Critical Care becomes more defined and sophisticated, residents rotating through specialty training programs of the Royal College of Physicians and Surgeons of Canada ought to have direct clinical experience within Canadian teaching I.C.U.s.

To participate in a training program of Critical Care for rotating residents, it is preferable that the trainee have completed a minimum of one year in her or his primary specialty. The period of training deemed necessary for sufficient clinical exposure and development of core knowledge and technical skills necessary for the care of critically-ill patients is recommended as not being less than three months.

#### *Skills*

1. History and physical examination
2. Establishment and maintenance of the airway
3. Techniques used in advanced cardiac and trauma life support
4. Techniques of arterial and venous access
5. Insertion of venous flow-directed catheters
6. Thoracentesis
7. Tube thoracostomy
8. Peritoneal tap
9. Lumbar puncture
10. Physiologic monitoring techniques
11. Other – e.g., Foley Catheter insertion, Nasogastric tube insertion, Silastic feeding tube insertion

#### *Knowledge Base*

The candidate rotating through the Intensive Care Unit is not expected to attain the depth of knowledge required of the Critical Care fellow. Nonetheless, it is expected that the trainee shall develop the capacity to make sound decisions and the ability to recognize potentially dangerous and manifestly life-threatening conditions. The rotating residents shall be expected to develop a

fundamental understanding of the prevention, diagnosis, incidence, etiology, pathophysiology, signs, symptoms, therapies, prognosis and complications of:

1. Cardiac arrest
2. Cardiac crises – e.g., arrhythmias, diminished organ perfusion, pulmonary edema, myocardial infarction, and severe hypertension
3. Shock
4. Respiratory failure
5. Multisystem organ failure syndrome
6. Coma, status epileptics, acute neuromuscular diseases and brain-stem death
7. Sepsis
8. Acid-base disorders
9. Fluid and electrolyte disorders
10. Renal preservation and support
11. The acute abdomen, gastrointestinal hemorrhage, hollow viscus dysfunction and hepatobiliary disease
12. Vascular crisis
13. Endocrine disturbances in the critically-ill related to water and/or glucose metabolism and adrenal, parathyroid, thyroid and pituitary dysfunction
14. Coagulation disturbances and blood replacement therapy
15. Nutrition: enteral and parenteral
16. Drugs: general pharmacology of commonly-used drugs in the critically-ill
17. Hypo- and hyperthermia syndromes
18. Trauma
19. Burns
20. Perioperative high-risk conditions
21. Pain, anxiety and sleep
22. Intoxications
23. Transportation of the critically-ill
24. Severity-of-illness evaluative scoring
25. Ethical, legal and philosophical considerations (see Professional)
26. Development of an attitude of cooperative professional interaction between critical care and the primary specialties (see Collaborator)
27. Development of ability to critically appraise the literature (see Scholar)

## **Communicator**

See Objectives: Communicator

To provide humane, high-quality care, specialists establish effective relationships with patients, other physicians, and other health professionals. Communication skills are essential for the functioning of a specialist, and are necessary for obtaining information from, and conveying information to patients and their families. Furthermore, these abilities are critical in eliciting patients' beliefs, concerns, and expectations about their illnesses, and for assessing key factors impacting on patients' health.

### *General Requirements*

1. Establish therapeutic relationships with patients'/families.
2. Obtain and synthesize relevant history from patients/families/communities.
3. Listen effectively.
4. Discuss appropriate information with patients/families and the health care team, particularly limitation of therapy and institution of comfort care in the ICU.

## **Collaborator**

See Objectives: Collaborator

Specialists work in partnership with others who are appropriately involved in the care of individuals or specific groups of patients. It is therefore essential for specialists to be able to collaborate effectively with patients and a multidisciplinary team of expert health professionals for provision of optimal patient care, education, and research.

During this rotation, residents will be required to collaborate with other house staff, nurses, allied health care providers, family physicians, and other specialists on a daily basis.

### *General Requirements*

Vital for a successful ICU experience:

1. Consult effectively with other physicians and health care professions.
2. Contribute effectively to other interdisciplinary team activities.

## **Manager**

See Objectives: Manager

Specialists function as managers when they make everyday practice decisions involving resources, co-workers, tasks, policies, and their personal lives. They do this in the settings of individual patient care, practice organizations, and in the broader context of the health care system. Thus, specialists require the abilities to prioritize and effectively execute tasks through

teamwork with colleagues, and make systematic decisions when allocating finite health care resources. As managers, specialists take on positions of leadership within the context of professional organizations and the dynamic Canadian health care system.

*General Requirements*

1. Utilize resources effectively to balance patient care, learning needs, and outside activities.
2. Allocate finite health care resources wisely.
3. Work effectively and efficiently in a health care organization.
4. Utilize information technology to optimize patient care, life-long learning and other activities.

**Health Advocate**

See Objectives: Health Advocate

Specialists recognize the importance of advocacy activities in responding to the challenges represented by those social, environmental, and biological factors that determine the health of patients and society. They recognize advocacy as an essential and fundamental component of health promotion that occurs at the level of the individual patient, the practice population, and the broader community. Health advocacy is appropriately expressed both by the individual and collective responses of specialist physicians in influencing public health and safety.

*General Requirements*

1. Identify the important determinants of health affecting patients.
2. Contribute effectively to improved health of patients and communities.
3. Recognize and respond to those issues where advocacy is appropriate.

**Scholar**

See Objectives: Scholar

As scholars, general surgeons demonstrate a lifelong commitment to reflective learning, and creation, dissemination, application and translation of new knowledge and technologies that inform each CanMEDS domain.

During a clinical rotation the resident should:

1. Identify clinical problems in surgical critical care;
2. Recognize and identify gaps in knowledge and expertise around the problem;
  - a. Formulate a management plan;
  - b. conduct an appropriate literature search based on the clinical question
  - c. assimilate and appraise the literature

- d. develop a system to store and retrieve relevant literature
- e. consult others (physicians and other health professionals) in a collegial manner
- f. propose treatment for the clinical problem;
- g. evaluate the outcome; and
- h. identify practice areas for research.

### **Professional**

See Objectives: Professional

Specialists have a unique societal role as professionals with a distinct body of knowledge, skills, and attitudes dedicated to improving the health and well-being of others. Specialists are committed to the highest standards of excellence in clinical care and ethical conduct, and to continually perfecting mastery of their discipline.

#### *General Requirements*

1. Deliver highest quality care with integrity, honesty and compassion.
2. Exhibit appropriate personal and interpersonal professional behaviours.