

Queen's University
Department of Surgery – Surgical Foundations
Rotation Specific Goals and Objectives

Intensive Care Medicine

The resident is expected to be able to describe the rotation specific objectives prior to or at the commencement of the rotation.

Medical Expert/Clinical Decision-Maker

Knowledge

Basic Science and Anatomy

- The resident will have an advanced knowledge of cardiorespiratory physiology and anatomy pertinent to critical care.
- The resident will understand renal physiology to assist in the management of fluid and electrolytes.

General Clinical

- The resident will learn the differences in history and physical examination in critically ill patients
- The resident should understand the use and limitations of investigations commonly used in the ICU.

Knowledge: Specific Clinical Problems

1. **The resident will learn the management of system failures:**
 - a. **CNS-** non-operative support of the patient with cerebral edema or spinal cord injury trauma or operation, including the use of osmotic diuretics, intracranial pressure monitoring corticosteroids and determination of brain death.
 - b. **Pulmonary-** acute and chronic respiratory failure, need for evaluation of patients in regard to ventilatory support, management of all aspects of ventilatory support; application of monitoring parameters for patients on a ventilator (ABG's arterial venous O2 consumption, oxygen content, compliance) management of blunt and penetrating trauma to the chest.
 - c. **Cardiac-** causes of cardiac failure, and pre and post-operative evaluation of cardiac reserve by measurement of cardiac output (response to fluid challenge and inotropic agents); monitoring of right and left ventricular function, oxygen consumption, CVP, and PWP to evaluate cardiac failure and pulmonary edema in surgical patients.
 - d. **Renal-** causes of failure – acute, chronic, polyuric and anuric states; monitoring, preventing, recognizing and treating renal failure when it occurs.
 - e. **Resuscitation in shock-** knowledge of pathophysiology, types, institution and application of the various monitoring methods available and resuscitation options.
 - f. **Fluid and electrolyte abnormalities and acid base disorders.**
 - g. **Immune system-** infection, sepsis, and septic shock like states, management of the immunocompromised critically ill patient, interpretation of cultures and appropriate antibiotic use.

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- h. **GI diseases**- recognition, investigation, and management of stress bleeding, massive upper GI bleeding, ischemic bowel disease, toxic colitis, GI obstruction and ileus in the critically ill, **management of acute and chronic liver failure**.
- i. **Endocrine**- knowledge of stress states, management of hyper and hypo endocrine states in the critically ill.
- j. **Metabolic**- energy and protein requirements, nutritional support of the critically ill.
- k. Wound management
- 2. **Multiple system failure**
 - a. The resident will develop knowledge surrounding the recognition, management and integration of therapy for the patient with multiple failing organs.
- 3. **Management of end of life issues**
 - a. The resident will develop an appreciation of the ethics of “do not resuscitate” orders; the ethics of managing both a patient and their family when death in the ICU is imminent; the issues surrounding organ donation.

Knowledge: Technical

- The resident should become facile in the insertion of central venous catheters, pulmonary artery catheters, arterial lines, jugular venous monitoring, intubation, chest tube insertion, insertion of feeding tubes, as well as have exposure to bronchoscopy.

Communicator

- The resident will serve as the major link between nurses, attending staff, and other surgical and medical specialties.
- The resident will develop skills to communicate with a patient on a ventilator.
- The resident will be an important communicator to the families of these critically ill patients.

Collaborator

- The resident, in a similar manner, will collaborate and coordinate care of the intensive care unit patient.

Leader

- The resident will participate in bed management issues and enable efficient care of the critically ill patient by using investigations appropriately

Health Advocate

- The resident will educate the families of critically ill patients on the life-style and health issues that have led to the illnesses of their family members.

Scholar

- The resident is expected to read around the cases that he or she sees in the ICU.

Professional

- It is expected that the resident will perform in an ethical and professional manner when dealing with other health care professionals, patients, and their families.