

**THE UNIVERSITY OF BRITISH COLUMBIA**

**Adult Critical Care Medicine**

**Postgraduate Training Program**

## Goals and Objectives for Critical Care Acute Surgical Service

MEDICAL EXPERT/CLINICAL DECISION MAKER:

# General Requirements

The resident should begin to develop the diagnostic and therapeutic skills for ethical and effective management of patients with emergency and urgent general surgical diseases and be able to access and apply relevant information to the care of these patients.

# Specific Requirements

Whenever possible, all decisions should be made adhering to the principles of evidenced-based medicine.

**1.1 Peri-operative management of the emergency surgical patient**

* + 1. **Shock**
* Recognize varying degrees of compensated and uncompensated shock
* Choose appropriate resuscitation fluids based on current best evidence
* Asses adequacy of resuscitation using valid end-points
* Understand the pathophysiology and management of ischemia and reperfusion injury
* Appropriately use inotropic, chronotropic and vasoactive medications
  + 1. **Sepsis**
* Recognize sepsis, severe sepsis and septic shock
* Choose appropriate resuscitation fluids based on current best evidence
* Asses adequacy of resuscitation using valid end-points
* Recognize the urgency of starting antibiotic therapy and use empiric antibiotics appropriately
* Understand the use of new therapies such as recombinant activated protein C and steroids
  + 1. **Critical Care**
* Identify patients with multi-organ failure, acute respiratory distress syndrome and other conditions requiring admission to the intensive care unit (ICU) and make appropriate referrals to the ICU
* Recognize priorities in the ongoing postoperative management of acute surgical patients in the ICU
  + 1. **Blood transfusion medicine**
* Recognize the need for blood and blood products and transfuse them appropriately
* Understand the use of new therapies such as activated factor VII
  + 1. **Diagnostic testing**
* Use laboratory investigations appropriately
* Interpret arterial blood gases
* Obtain appropriate microbiology cultures and interpret results
* Understand the indications for, limitations of, and be able to perform basic interpretation of diagnostic imaging including: plain x-rays, CT scans, upper and lower GI contrast studies, HIDA scans, MRCP and MRI.
* Identify indications for complementary use of interventional radiology procedures in the management of acute surgical conditions and their complications
  + 1. **Fluids, electrolytes and surgical nutrition**
* Understand and correct fluid and electrolyte imbalances
* Understand the pathophysiology of acute renal failure
* Understand the nutritional needs of surgical patients based on their degree of physiologic stress and influence of medical co-morbidities
* Understand rationale, indications and delivery of enteral and total parenteral nutrition
  + 1. **Co-morbidities**
* Recognize the impact of patients’ co-morbidities on their clinical course
* Perform pre-operative risk assessment and optimize overall medical condition when possible
  + 1. **Post-operative complications**
* Understand the appropriate use of prophylactic antibiotics to prevent surgical site infections (SSI)
* Recognize and treat SSI
* Understand the indications for DVT and stress ulcer prophylaxis and appropriately prescribe DVT and stress ulcer prophylaxis
* Develop an approach to and be able to manage post-operative fever, low urine out-put, ileus, chest pain and respiratory decompensation
  + 1. **Specific disease entities**

The resident should understand the anatomy, physiology and pathophysiology relevant to the following diseases. The resident should also be able to effectively take a history, perform a physical exam, order diagnostic tests, interpret basic diagnostic test and understand management strategies (including operative and non-operative strategies) for the following emergency and urgent general surgical diseases:

* Acute appendicitis
* Acute cholecystitis
* Acute cholangitis
* Obstructive jaundice
* Acute pancreatitis
* Acute diverticulitits
* Perforated viscus (gastric, duodenal, small intestine, colonic or rectal)
* Upper gastrointestinal bleed
* Lower gastrointestinal bleed
* Mesenteric ischemia
* Ischemic colitis
* Small bowel obstruction
* Large bowel obstruction
* Incarerated hernia
* Perirectal and anal abscess, perianal fistulas
* Soft tissue infections
* Surgical site infections
* Abdominal wall fistulas

COMMUNICATOR:

**General Requirements**

The resident should be able to communicate clearly, systematically and thoroughly with members of a multidisciplinary team, patients and patients’ families. Effective communication is paramount in this new acute care paradigm as it takes well-integrated teams of many providers to care for complex patients who often have multisystem diseases around the clock.

**Specific Requirements**

The resident should demonstrate effective communication with patients, families, and all members of the health care team in the following ways:

**2.1: House Staff**

Effective handover to house staff during morning and evening rounds

Updates senior resident about new or acute issues as they arise throughout the day

Maintains accurate patient lists

**2.2: Multidisciplinary Team**

Clearly communicates patients’ care plans with all necessary team members at appropriate times

Listens respectfully and thoughtfully to input from all team members at appropriate times

**2.4: Patients and Patients’ families**

Establishes good rapport with patients and their families even in acute situations

Delivers difficult news to patients and their families in a respectful manner

Helps patients and their families understand patients’ overall care plans, why care providers may change during their hospital stay and the roles that different health care professionals play

**2.5: Documentation**

* Completes clear written documentation on charts in a regular and timely fashion and clearly indicates in the orders and progress notes who the most responsible physician is
* Completes clear, concise and timely dictations
* Maintains accurate patient lists

COLLABORATOR:

1. **Collaborator**

The resident must be able to optimize working relationships with other physicians and health care professionals in all settings to adequately care for complex patients in this new acute care paradigm. The resident must demonstrate good working relationships with dieticians, social workers, occupational therapists (OT), physiotherapists (PT), rehabilitation therapist (RAT), nursing staff, ICU staff, and other consulting services.

MANAGER:

The resident should demonstrate the following:

* Develops effective personal organizational habits and time management skills
* Uses health care resources appropriately in a cost-effective manner
* Learns how health resource issues are addressed in the hospital/community/region
* Takes responsibility and delegates responsibility appropriately
* Appropriately incorporates input from all members of the health care team (dieticians, social workers, OT, PT, RAT, nursing staff, ICU staff, and other consulting services) into patients’ care plans and the overall organization and running of the service

HEALTH ADVOCATE:

The resident should demonstrate the following:

* Recognizes determinants of health as they apply to individual patients and populations
* Understands the role of the general surgeon to intervene on behalf of patients with respect to biological, social and economic factors that may impact on surgical disease, disease prevention and outcome

SCHOLAR:

The resident should demonstrate the following:

* Development of effective habits for personal learning
* Participates in informal teaching activities
* Demonstrates an interest in issues in acute care surgery research issues
* Develop an understanding of evidence based medicine by attending defined lectures of epidemiology and principles of evidence based medicine during Academic Half Day

PROFESSIONAL:

The resident should demonstrate the following:

* Incorporates high ethical and moral standards into daily working and learning activities
* Is punctual and prepared for clinical and academic activities
* Reliably follows up, especially in rapidly changing clinical situations
* Recognizes his or her own limitations and seeks advice or assistance when necessary
* Accepts advice and respond appropriately