

## **Learning Experience: Surgical Intensive Care Unit**

### **Learning Experience Leader:**

### **Synopsis of Learning Experience:**

### **PGY 2 Core Competencies:**

#### Medical Knowledge:

1. Describe ICU management of patients in the surgical ICU who are immediately postop and those with surgical diseases undergoing nonoperative management.
2. Detail the response to surgical stress in a systems-based fashion including the following systems:
  - a. Neurologic
  - b. Cardiovascular
  - c. Respiratory
  - d. Gastrointestinal
  - e. Renal/Acid-Base/Electrolytes
  - f. Hematologic/Infectious
3. Outline indications and contraindications for stress ulcer prophylaxis and DVT prophylaxis.
4. Describe options for pain control and sedation in the critically ill surgical patient.
5. Demonstrate understanding of infection control policies including ventilator-associated pneumonia prevention bundles, contact isolation, strict hand washing, etc.
6. Describe the pathophysiology, monitoring, and potential pharmacologic and other treatment of
  - a. Neurologic problems present in the SICU including ICU delirium, alcohol and substance withdrawal, and metabolic encephalopathy.
  - b. Respiratory abnormalities such as ARDS, ventilator-associated pneumonia, and empyema.
  - c. Cardiovascular abnormalities including arrhythmia, shock, and myocardial infarction
  - d. Acute renal insufficiency and failure
  - e. Hepatic failure
  - f. Malnutrition secondary to injury
  - g. Sepsis, severe sepsis, and Septic Shock
  - h. Thromboembolic disease and coagulopathy
7. Detail the indications for both pressure- and volume-based modes of mechanical ventilation as well as noninvasive ventilation.
8. Describe types of and indications for noninvasive and invasive hemodynamic monitoring.
9. List potential complications of prolonged ICU stays and describe treatments of these complications.

#### Patient Care:

1. Direct all surgical management of patients in the ICU, including taking direct responsibility for admission and discharge.
2. Manage invasive hemodynamic monitoring, interpret the data obtained, and manipulate the hemodynamic variables toward calculated goals.
3. Demonstrate expertise in airway management including endotracheal intubation and adjuncts for airway control
4. Demonstrate the ability to manage various methods of invasive and non-invasive mechanical ventilation
5. Manage the following situations:
  - a. Multiple organ system failure; providing support for failing, failed, or normal organs
  - b. Life threatening surgical infections (e.g., ascending myonecrosis or gangrene)
  - c. Shock
  - d. Renal failure
  - e. Nutritional failure
  - f. Liver failure
6. Place emergency transvenous/transthoracic access for cardiac pacing.
7. Manage the nutritional and metabolic components of the patient's illness.
8. Demonstrate the ability to evaluate the abdomen in the ICU using physical examination and diagnostic testing modalities
9. Utilize gastrointestinal intubation and endoscopic techniques in the management of the critically ill patient.

#### Practice Based Learning:

1. Develop an understanding of the literature regarding ICU treatment of surgical patients.
2. Seek out peer-reviewed sources when confronted with treatment dilemmas.

#### Interpersonal and Communication Skills:

1. Develop presentation skills in order to convey information about even complex ICU patients in a clear, concise manner.
2. Communicate well with fellow residents and ICU fellow regarding patient events in order to provide continuity of care.
3. Actively invest in medical student education and involve them in patient care as appropriate.
4. Practice effective interactions with physicians from the primary team and other services as well as other members of the healthcare team.

#### Professionalism:

1. Demonstrate a commitment to being a part of the SICU team by delivering excellent patient care.

2. Attend multidisciplinary walking rounds daily as well as weekly Acute Care Surgery conference.

Systems-Based Practice:

1. Understand the limitations and opportunities inherent in various ICUs
2. Collaborate with other members of the health care team (e.g. social workers, physical therapists, occupational therapists) to assist patients and their families in dealing effectively with the health care system and to improve systematic processes of care