

**Penn State Milton S. Hershey Medical Center**  
**Division of Trauma, Acute Care & Critical Care Surgery**  
**Residency-Emergency General Surgery**

**Curriculum**

The Section Chief for the Emergency General Surgery section within the Division of Trauma, Acute Care & Critical Care Surgery is Jeffry Kashuk, MD, FACS.

The educational program for all levels includes daily teaching rounds, didactic lectures and psychomotor skills sessions.

**Overall Goals and Objectives for the Service**

**Knowledge:**

- Complete ACLS verification
- Demonstrate knowledge of the anatomy, physiology, and pathophysiology of the following diseases in emergency general surgery, including the ability to manage those problems that are amenable to surgical interventions
  - Bleeding and perforated gastric and duodenal ulcers
  - Acute cholecystitis
  - Choledocholithiasis
  - Perforated viscous
  - Small and large bowel obstruction
  - Lower gastrointestinal bleeding
  - Peritonitis
  - Appendicitis
  - Soft tissue infections
  - Incarcerated and strangulated hernias
- Describe the etiology and pathophysiology of common general surgical emergencies
- Select and interpret appropriate laboratory and radiological evaluations in the work-up of these diseases
- Assist in the perioperative management of selected patients
- Perform uncomplicated surgical procedures under the supervision of an attending or ACS Fellow
- Describe the common complications associated with the surgical management of these diseases

**Patient Care:**

- Participate in the evaluation, resuscitation, operative management of emergency general surgery patients
- Perform the following procedures:
  - Appendectomy
  - Cholecystectomy
- Apply and remove all types of dressings
- Demonstrate proficiency in fundamental surgical techniques including, but not limited to, knot tying and suturing, I&D, camera navigation, basic laparoscopy skills
- Assess nutritional needs and plan for support
- Demonstrate accuracy and proficiency in documenting patient care
- Evaluate critically ill patients and make supervised decisions regarding patient care

### **Interpersonal Skills and Communication**

- Educate patients and families in post operative and rehabilitative strategies
- Interact and communicate with other Trauma Team members in an effective, professional manner to facilitate the rapid throughput
- Provide adequate counseling and informed consent to the EGS patient and their families

### **System Based Practice**

- Understand the principles of operating room set-up for emergency general surgery
- Participate in the coordination of the rehabilitation of the EGS patient
- Demonstrate knowledge of cost-effective EGS care
- Advocate for EGS patients within the health care system
- Refer EGS patients to appropriate practitioners and agencies
- Facilitate the timely discharge of EGS patients

### **Professionalism**

- Develop a sensitivity of the unique stresses placed on families under care for emergency general surgery
- Demonstrate an unselfish regard for the welfare of EGS patients
- Demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population
- Demonstrate firm adherence to a code of moral and ethical values
- Provide appropriately prompt consultations when requested
- Demonstrate sensitivity to the individual patient's profession, life goals and cultural background as they apply to their diagnosis
- Be reliable, punctual and accountable for own actions
- Effectively deal with dissatisfied patients and their families
- Effectively deal with impaired patients and their families

- Understand the benefits and functionality of multidisciplinary health care teams.
- Refer patients to appropriate practitioners and agencies

## Specific Goals by PGY

### PGY 1

#### A. Medical Knowledge

1. The resident should learn in-depth the fundamentals of basic science as they apply to patients with acute surgical problems. *Examples include the pathophysiology of peritonitis, etiology of abscess formation, management of fluid and electrolyte balance in the emergency patient, and surgical anatomy and surgical pathology of the intra-abdominal organs and anal canal.*
2. The resident should be able to demonstrate preoperative assessment of patients with acute surgical diseases. *Examples include rapid assessment of comorbid conditions, assessment of operative risk, knowledge of anesthetic options for emergency procedures, and principles of stabilization.*
3. The resident should understand the appropriate use of antibiotics. *Examples include appropriate agents, timing, and duration of perioperative antibiotics.*
4. The resident should understand the pathophysiology of sepsis.
5. The resident should understand the pathophysiology of appendicitis.

#### B. Patient Care

1. The resident should perform appropriate resuscitation in patients with acute surgical problems.
2. The resident should perform advanced history and physical examination in the patient with acute surgical problems, including such conditions as the acute surgical abdomen, upper and lower gastrointestinal bleeding, and jaundice.
3. The resident should assume responsibility for care of all patients on the hospital ward, including initial assessment, evaluation of daily progress, and implementing discharge plans.
4. Under appropriate supervision, perform basic surgical procedures such as:
  - Open appendectomy*
  - Drainage of breast abscess*
  - Incision and drainage of perirectal abscess*
  - Lower extremity amputations*
  - Basic wound and drain care*

#### C. Interpersonal and Communications Skills

See general goals and objectives

#### **D. Practice-Based Learning and Improvement**

1. The resident should use books, journal articles, internet access, and other tools available to learn about diseases and treatment of patients with acute surgical illness.
2. The residents should attend the Turn over rounds from 0700-0710 daily.
3. The residents must attend and participate in the weekly clinics for their service. Activities will include perioperative and postoperative care of established patients under the supervision of attending surgeons.

#### **E. Systems-Based Practice**

The resident should be able to use appropriate consult services in the hospital to improve his or her patients.

#### **F. Professionalism**

See general goals and objectives

### **PGY 2**

#### **A. Medical Knowledge**

1. The resident should be able to efficiently utilize and interpret diagnostic laboratory testing in patients with acute surgical conditions. *Examples of appropriate tests include serum chemistries, liver function tests, arterial blood gas analysis, hematological profiles and coagulation tests.*
2. The resident should be able to efficiently utilize and interpret diagnostic radiological tests. *Examples of the types of studies include mammography, computed tomography, radionuclide scintigraphy, ultrasonography, arteriography and gastrointestinal studies.*
3. The resident should be able to correctly use invasive monitoring and non-surgical invasive procedures to diagnose and treat surgical complication. *Examples include interpretation of data from arterial lines, central lines, pulmonary artery catheters and radiology-directed percutaneous aspirations of fluid collection, abscess cavities and solid lesions. In addition, residents should understand the use and limitations of percutaneous drainage of fluid collections/abscesses.*
4. The resident should be able to recognize diagnose and understand principles of treatment of common surgical problems in patients with surgical emergencies. *Examples include electrolyte imbalance, failure of hemostasis, renal failure, pulmonary insufficiency, cardiac abnormalities, shock, limb ischemia and gastrointestinal hemorrhage.*
5. The resident should understand the pathophysiology of cholecystitis and bowel obstruction.

## **B. Patient Care**

1. The resident should perform the initial assessment and formulate a plan on every new consultation to the service, including patients in the hospital and those presenting to the emergency department.
2. The resident should perform a detailed history and physical examination on every new admission or transfer to the service.
3. The resident should assume the overall care of patients in the intensive care unit.
4. Under appropriate supervision, perform basic surgical procedures such as:  
*Repair of strangulated incisional or inguinal hernia*  
*Laparoscopic appendectomy Laparoscopic cholecystectomy*  
*Lysis of adhesions Colostomy*

## **C. Interpersonal and Communications Skills**

See general goals and objectives

## **D. Practice-Based Learning and Improvement**

1. The resident should use books, journal articles, internet access, and other tools available to learn about diseases and treatment of patients with acute surgical illness.
2. The residents should attend Turn over rounds from 0700-0710 daily.
3. The residents must attend and participate in the weekly clinics for their service. Activities will include perioperative and postoperative care of established patients under the supervision of attending surgeons.

## **E. Systems-Based Practice**

1. The resident should be able to communicate with patients, families, nurses, paramedics, and other allied health care personnel.
2. The resident should take responsibility for posting emergency cases in the operating room.

## **F. Professionalism**

See general goals and objectives

## PGY 3

### **A. Medical Knowledge**

1. The resident should understand the pathophysiology, presentation, and treatment of acute surgical illness. *Examples include peritonitis, acute bowel ischemia, small and large bowel obstruction, esophageal perforation, gastric ulcers, duodenal ulcers, ascending cholangitis, and pylephlebitis.*
2. The resident should be able to differentiate acute and subacute clinical conditions in the spectrum of disease. *Examples include biliary tract disease, Crohn's disease, ulcerative colitis, duodenal ulcer disease, and diverticulitis.*
3. The resident should be able to recognize and treat comorbid conditions in the patient with acute surgical illness.
4. The resident should be able to discuss management options for patients with acute surgical illness. *Examples include medical management of complications of inflammatory bowel disease, use of percutaneous cholecystostomy, and creation of colostomy vs. primary anastomosis to treat colon perforation.*

### **B. Patient Care**

1. The resident should assume supervisory responsibility for the overall care of patients on the service, including personally examining every new admission, knowing the daily progress and new complications of every patient, and making discharge plans.
2. The resident should demonstrate an understanding of the principles of surgical decision-making, including making therapeutic plans for every patient and determining timing of operative intervention.
3. Under appropriate supervision, perform intermediate surgical procedures such as:

*Laparoscopic cholecystectomy for acute cholecystitis*

*Gastric resections    Truncal vagotomy*

*Colectomy    Entrectomy/enterolysis*

### **C. Interpersonal and Communications Skills**

See general goals and objectives

### **D. Practice-Based Learning and Improvement**

1. The resident should use books, journal articles, internet access, and other tools available to learn about diseases and treatment of patients with acute surgical illness.

2. The residents should attend Turn over rounds from 0700-0710 daily.
3. The residents must attend and participate in the weekly clinics for their service.

#### **E. Systems-Based Practice**

1. The resident should be able to communicate with referring physicians from other hospitals and emergency departments.
2. The resident should communicate with his or her peer from the trauma service to determine the optimal use of resources for the hospital, including timing of procedures in the operating room and recommendation for placing the hospital on divert status.

#### **F. Professionalism**

See general goals and objectives.

### **CHIEF RESIDENT**

#### **A. Medical Knowledge**

1. The chief resident should be able to correctly explain the operative approaches for acute surgical conditions of the abdominal cavity and retroperitoneal organs.
2. The chief resident should be able to accurately explain the physiologic rationale for vagotomy, pyloroplasty, gastric resection and reconstructive techniques for ulcer disease, and stoma formation.
3. The chief resident should be able to correctly explain the indications and contraindications for diagnostic and therapeutic endoscopy in the acute setting.
4. The chief resident should be able to discuss the management alternatives for common bile duct stones.
5. The chief resident should learn the pathophysiology, presentation, and specific treatment options for hepatic cirrhosis and portal hypertension
6. The chief resident should be able to describe in detail the diagnosis and management of variceal hemorrhage. *Examples include correct use of the Sengstaken-Blakemore tube, selective portacaval shunts, nonselective portacaval shunts, and TIPS.*
7. The chief resident should be able to describe the operative details of portacaval shunts.

## **B. Patient Care**

1. The chief resident should assume the overall responsibility for all patients on the service, including supervision of the residents assuming direct care responsibilities.
2. The chief resident should serve as teaching assistant for PGY 1-3 residents as they perform operations appropriate to their level.
3. The chief resident must attend weekly outpatient clinics.
4. Under appropriate supervision, the chief resident should perform advanced operative procedures such as

*Subtotal gastrectomy   Highly selective vagotomy  
Total gastrectomy   Pancreatectomy  
Austin-Jones sphincteroplasty   Hepaticojejunostomy  
Peustow procedure*

## **C. Interpersonal and Communications Skills**

See general goals and objectives

## **D. Practice-Based Learning and Improvement**

1. The resident should use books, journal articles, internet access, and other tools available to learn about diseases and treatment of patients with acute surgical illness.
2. The residents should attend Turnover Rounds from 0700-0710 daily.
3. The residents must attend and participate in the weekly clinics for their service.

## **E. Systems-Based Practice**

1. The resident should have an understanding about the resources of the county medical system, including the satellite outpatient clinics, hospital based outpatient clinics, and the number of available hospital beds for inpatients.
2. The resident should be able to discuss the impact of the Health Insurance Portability and Accountability Act (HIPAA) on the resources of the county medical system.
3. The resident should understand the rules for transfer of patients to the hospital under the HIPAA regulations.

## **F. Professionalism**

See general goals and objectives