

General Goals & Objectives

During the ACS training program, the fellow will be exposed to a wide variety of clinical experiences and specialty patient care. The central goal is to train clinicians with knowledge in all aspects of acute care surgery. Goals and objectives for surgical critical care are outlined in the ACGME surgical critical care program description.

Core Competency #1: Patient Care

ACS Fellows are expected to render patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health. They should be able to develop, describe, and execute patient care plans as well as demonstrate surgical skills and manual dexterity appropriate for their training level.

Trauma Surgery

- Develop patient centered expertise in the management of the trauma patient from the initial resuscitation through patient discharge. This includes, but is not limited to, appropriate, timely decision making, use of appropriate investigations, operative and non-operative management of neck, torso and extremity injuries, nutrition, pre- and post-operative care, and in-hospital rehabilitation.
- Direct the entire team through the trauma resuscitation.
- Prioritize the diagnostic evaluation of the patient with multiple injuries.
- Perform advanced surgical procedures to manage injuries in the neck, torso and extremities including the use of REBOA.
- Manage patients with multiple injuries appropriately using operative and non-operative techniques
- Discuss the common injury patterns with various mechanisms of injury (front, side, and rear impact MVC with and without restraints, MCC, falls, and penetrating injuries).
- Clinically recognize, perform appropriate diagnostic maneuvers, and formulate a management plan for all systems in the injured patient.
- Initiate transfusion of blood and blood products, massive transfusion protocols, use of thromboelastography and understand potential complications.
- Demonstrate successful treatment of all types of shock.

Emergency General Surgery

- Develop expertise in the surgical and non-surgical management of acute, time sensitive illnesses that fall within the realm of general surgery as defined by the American Board of Surgery.
- Manage emergent presentation of inguinal and abdominal wall hernias.
- Manage enteric fistulas including techniques for complex fistula management.
- Demonstrate an understanding of available options for nutritional support in complex, critically ill surgical patients.
- Demonstrate an understanding of the management of acute, severe pancreatitis as well as complex biliary tract disease including the role of medical management, percutaneous procedures and operative interventions in complex, critically ill surgical patients.

- Manage emergent processes leading to infectious complications, acute necrosis, perforation, or bleeding of the gastrointestinal tract including esophagus, stomach, duodenum, small and large intestine, appendix, and rectum.
- Manage acute bowel obstruction including the indications for surgery, non-operative management, the role of contrast studies, and the use of guidelines to optimize patient care.
- Understand and manage the presentations of acute ano-rectal disease.
- Recognize and treat necrotizing soft tissue infections including radical resection, serial excision, and reconstruction.

Core Competency #2: Medical Knowledge

ACS fellows are expected to understand the physiology, pathophysiology, diagnostic techniques, principles of management, including outcomes and potential complications of various patient illnesses and management strategies. The fellow should be able to critically evaluate and demonstrate knowledge of pertinent scientific information.

Trauma Surgery

- Discuss resuscitation and management strategies in the ED including indications for FAST, REBOA, resuscitative thoracotomy, blood transfusion (damage control resuscitation, massive transfusion and thromboelastography)
- Discuss in detail the management of complex traumatic injuries. This includes diagnosis, timing of intervention, and therapeutic options. Examples include traumatic disruption of the thoracic aorta, renovascular injuries, injuries of the portal triad, retrohepatic caval injuries, complex cervical spine fractures, facial fractures, and complex pelvis fractures.
- Discuss advanced surgical procedures for management of injuries in the neck, torso and extremities. Examples include management of tracheal injuries, stabilization and management of complex injuries to the face, management of flail chest, control of major thoracic vascular injuries, concepts and techniques related to control of intraabdominal hemorrhage, management of the mangled extremity.
- Understand the areas of trauma surgery in which patient management is controversial or evolving. Examples include management of penetrating neck injuries, management of colon injuries, and management of minimal vascular injuries.
- Maintain an updated ATLS certification and seek ATLS instructor status.
- Maintain an updated ACLS certification.
- Complete ASSET and ATOM training if available.

Emergency General Surgery

- Understand and discuss the management of acute presentation of hernias and the complex abdominal wall, including operative and non-operative management, use of tissue repairs, enteric fistula management, and the advantages and limitations of different abdominal wall reconstruction techniques.
- Discuss the management complex biliary tract disease including medical management, operative management, and utilization of endoscopic and interventional techniques in critically ill patients.
- Understand and discuss the management of acute necrosis, perforation, or bleeding of the gastrointestinal tract including esophagus, stomach, duodenum, small and large

- intestine, appendix, and rectum. Understand the role of endoscopy, operative management, and interventional procedures in the management of these conditions.
- Discuss the management of acute bowel obstruction including the role of contrast studies and indications for surgery.
 - Discuss the management of acute presentations of ano-rectal disease, including management of abscesses, hemorrhoids, bleeding and perforation.
 - Discuss the management of the spectrum of pancreatitis to include severe necrotizing pancreatitis.
 - Discuss the management of necrotizing soft tissue infections, including surgical resection, serial debridement, antibiotic treatment, and reconstruction.
 - Discuss the indications and contraindications for diagnostic and therapeutic endoscopy in the acute setting.

Core Competency #3: Practice Based Learning and Improvement

ACS fellows should apply adult education models to their ongoing learning process. They are expected to critically evaluate their care of the patient through teaching conferences, available literature, as well as expert opinion. Practice-based learning and improvement involves the investigation and evaluation of care for their patients, the appraisal and assimilation of scientific evidence, and improvements in patient care. Fellows are expected to:

- Apply principles of evidence-based medicine to daily patient care.
- Identify best practice patterns to facilitate care of trauma and emergency general surgery patients. Critique personal practice outcomes.
- Interpret, critique, evaluate and apply evidence-based guidelines in the care of acutely ill or injured patients.
- Discuss the principles and techniques of administration and management.
- Develop and maintain a willingness to learn from failures and then improve processes of care.
- Participate in Multidisciplinary Rounds, Morbidity and Mortality Conference, Trauma Quality Meetings, Journal Club and Surgery Grand Rounds.

Core Competency #4: Interpersonal and Communication Skills

ACS fellows should have interpersonal and communication skills that result in the effective exchange of information and collaboration with all members of the care team in the management of patients. Fellows should communicate effectively with patients and their families, including counseling and educating them; the ongoing dialogue with family members should include discussion of patient management and social issues, including discussion of risks, benefits, and expected outcomes of various interventions. Fellows must:

- Demonstrate effective communication with attending physicians, consultants and other health care providers.
- Effectively explain diagnosis, prognosis and treatment plan (including risks, benefits, and side effects) with patients and families using simple, easy to understand language.
- Facilitate transfers of care between services
- Demonstrate effective and collegial daily communication with referring services.
- Develop teaching skills by instructing other learners in medical and procedural aspects

- of emergency general surgery and trauma.
- Demonstrate maintenance of patient confidentiality in communication with family, friends, and other health care workers.

Core Competency #5: Professionalism

Professionalism incorporates a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to patients of diverse backgrounds. As such, ACS fellows are expected to maintain high standards of ethical behavior, demonstrate a commitment to continuity of patient care, and show sensitivity to age, gender and culture of patients and other health care professionals. Fellows should:

- Demonstrate timely completion of medical records.
- Demonstrate proper performance of expected professional responsibilities.
- Demonstrate the use of ethical principles in patient care.
- Demonstrate sensitivity to race, cultural, age, gender and disability issues.
- Treat other members of the care team with respect.
- Serve as a role model for staff and trainees.

Core Competency #6: Systems-Based Practice

Systems-based practice incorporates an awareness of and responsiveness to the larger context and system of health care; this includes appropriately utilizing resources in the system to provide optimal health care. ACS fellows are expected to practice high quality, cost effective patient care and demonstrate knowledge of risk-benefit analysis. They should:

- Demonstrate an understanding of the role of different specialists and other health care professionals in overall patient management.
- Effectively coordinate social work, home health care and rehabilitative services to facilitate care for patients.
- Identify barriers to urgent care in an inpatient setting.
- Identify practices that improve cost-effectiveness in the care of emergency general surgery and injured patients.
- Demonstrate an understanding of their regional/state trauma system and the regional care path of emergency general surgery patients

Specific mechanisms to ensure completion of goals may include:

- A progressively graded curriculum of study and clinical experience that provides stages of responsibility for patient care.
- An opportunity for major operative experience and responsibility commensurate with attained level of skill and training.
- Active patient care.
- Participation and presentations in formal teaching sessions that include attending rounds, departmental conferences, teaching conferences,

- Familiarity with appropriate surgical literature.
- Experience in teaching general surgery residents and medical students.
- The opportunity to prepare and present research, clinical or basic ~~science~~ projects.
- Administrative exposure and responsibilities through hospital and state forums