

ACGME Program Requirements for Fellowship Education in Surgical Critical Care (Surgery)

Common Program Requirements are in BOLD

Effective: September 16, 2008

Introduction

A. Definition and Scope of the Subspecialty

1. Surgical critical care deals with complex surgical and medical problems in critically ill surgical patients. Institutions sponsoring graduate educational programs in surgical critical care must provide the educational, clinical, and administrative resources to allow fellows to develop advanced proficiency in the management of critically ill surgical patients, to develop the qualifications necessary to supervise surgical critical care units, and to conduct scholarly activities in surgical critical care. The educational program must enhance and be an integral part of an Accreditation Council for Graduate Medical Education (ACGME)-accredited core program in general surgery.
2. Subspecialty educational program requirements in surgical critical care are in addition to the requirements for critical care education set forth in the core program requirements. There should be an institutional policy governing the educational resources committed to critical care programs and ensuring cooperation of all involved disciplines.
3. Residents in general surgery, neurosurgery, urology, or obstetrics and gynecology who enter the program prior to completing a residency must have a categorical residency position in their specialty available to them on satisfactory completion of the critical care fellowship.

B. Duration and Scope of Education

1. The length of the educational program is 12 months, of which two months may be elective rotations. These 12 months must be devoted to advanced educational and clinical activities related to the care of critically ill patients and to the administration of critical care units.
2. In some instances, fellows may devote up to 25% of their time to direct operative care of critically ill patients. During such operative care, the critical care fellow and chief resident in general surgery may not share primary responsibility for the same patient. However, in the nonoperative management of critically ill surgical patients, the surgical critical care fellows and general surgery residents may interact as long as they share primary responsibility in patient management decisions. The final decision and responsibility rests with the supervising attending surgeon.

I. Institutions

A. Sponsoring Institution

One sponsoring institution must assume ultimate responsibility for the program, as described in the Institutional Requirements, and this responsibility extends to fellow assignments at all participating sites.

The sponsoring institution and the program must ensure that the program director has sufficient protected time and financial support for his or her educational and administrative responsibilities to the program.

1. Fellowship education programs in surgical critical care may be accredited only in institutions which either sponsor an ACGME-accredited residency education program in general surgery or pediatric surgery or are integrated by formal agreement into such programs. The critical care program will be approved only as an administratively integrated part of the approved core program in general or pediatric surgery.
2. When more than one critical care program exists in an institution, it is the responsibility of the institution to coordinate interdisciplinary requirements to ensure that fellows meet the specific criteria of their primary specialty, e.g., surgery, medicine, and anesthesiology.
3. A surgical critical care program must include primary educational activities in a surgical critical care unit with pediatric and/or adult patients, located in an institution that has been approved by the Review Committee as an integrated institution with a core general surgery or pediatric surgery residency program. The education may take place in various settings that provide for the care of critically ill adult and/or pediatric surgical patients, including those with general surgical conditions such as trauma, burns, and surgical oncology; with cardiothoracic, neurosurgical, and high-risk pregnancy conditions; and with organ transplantation.
4. It is desirable that the sponsoring institution have accredited residency programs in surgery and the surgical specialties as well as those that relate particularly to surgery such as internal medicine, radiology, pathology, and anesthesiology.

B. Participating Sites

1. **There must be a program letter of agreement (PLA) between the program and each participating site providing a required assignment. The PLA must be renewed at least every five years.**

The PLA should:

- a) **identify the faculty who will assume both educational and supervisory responsibilities for fellows;**
- b) **specify their responsibilities for teaching, supervision, and formal evaluation of fellows, as specified later in this**

- b) **be familiar with and oversee compliance with ACGME and Review Committee policies and procedures as outlined in the ACGME Manual of Policies and Procedures;**
- c) **obtain review and approval of the sponsoring institution's GMEC/DIO before submitting to the ACGME information or requests for the following:**
 - (1) **all applications for ACGME accreditation of new programs;**
 - (2) **changes in fellow complement;**
 - (3) **major changes in program structure or length of training;**
 - (4) **progress reports requested by the Review Committee;**
 - (5) **responses to all proposed adverse actions;**
 - (6) **requests for increases or any change to fellow duty hours;**
 - (7) **voluntary withdrawals of ACGME-accredited programs;**
 - (8) **requests for appeal of an adverse action;**
 - (9) **appeal presentations to a Board of Appeal or the ACGME.**
- d) **obtain DIO review and co-signature on all program information forms, as well as any correspondence or document submitted to the ACGME that addresses:**
 - (1) **program citations, and/or**
 - (2) **request for changes in the program that would have significant impact, including financial, on the program or institution.**
- e) **maintain a collegial relationship with the teaching staff to enhance the educational opportunities for all fellows;**
- f) **be the director or co-director of one or more of the critical care units in which the clinical aspects of the critical care program take place; and, he or she must be personally involved in clinical supervision and teaching of general surgery residents and surgical critical care fellows in that unit;**
- g) **have administrative responsibility for the surgical critical care**

educational program and shall appoint all fellows and teaching staff to the program and determine their duties;

- h) document to the site visitor that fellows in the surgical critical care program have had direct involvement in the management of a broad spectrum of critically ill surgical patients. In addition, each fellow must submit an operative log of the number and type of operative experiences while in the surgical critical care residency;
- i) provide a sufficient breadth of patient exposure to ensure that the program documents an average daily census of at least 10 patients;
- j) ensure that the average daily census for each critical care unit to which fellows are assigned permits a fellow-to-patient ratio of 1:5 fellows to patients.

B. Faculty

- 1. There must be a sufficient number of faculty with documented qualifications to instruct and supervise all fellows.**
- 2. The faculty must devote sufficient time to the educational program to fulfill their supervisory and teaching responsibilities and demonstrate a strong interest in the education of fellows.**
- 3. The physician faculty must have current certification in the specialty by the American Board of Surgery, or possess qualifications acceptable to the Review Committee.**
 - a) At least one surgeon qualified in surgical critical care must be appointed to the teaching staff for every critical care fellow enrolled in the program.
 - b) The surgical critical care faculty-to-fellow ratio must be at least 1:1.
- 4. The physician faculty must possess current medical licensure and appropriate medical staff appointment.**

C. Other Program Personnel

The institution and the program must jointly ensure the availability of all necessary professional, technical, and clerical personnel for the effective administration of the program.

1. Staff must include specially trained nurses and technicians who are skilled in critical care instrumentation, respiratory function, and laboratory medicine.

D. Resources

The institution and the program must jointly ensure the availability of adequate resources for fellow education, as defined in the specialty program requirements.

1. The critical care unit must be located in a designated area within the institution, constructed and designed specifically for the care of critically ill patients.

E. Medical Information Access

Fellows must have ready access to specialty-specific and other appropriate reference material in print or electronic format. Electronic medical literature databases with search capabilities should be available.

III. Fellow Appointments

A. Eligibility Criteria

Each fellow must successfully complete an ACGME-accredited specialty program and/or meet other eligibility criteria as specified by the Review Committee. The program must document that each fellow has met the eligibility criteria.

1. Completion of at least three clinical years in an ACGME-accredited graduate educational program in the disciplines of general surgery, neurosurgery, urology, or obstetrics and gynecology is a prerequisite for admission to the program.

B. Number of Fellows

The program director may not appoint more fellows than approved by the Review Committee, unless otherwise stated in the specialty-specific requirements. The program's educational resources must be adequate to support the number of fellows appointed to the program.

1. Any increase in fellow complement, permanent or temporary, must be prior-approved by the Review Committee.

IV. Educational Program

A. The curriculum must contain the following educational components:

1. **Skills and competencies the fellow will be able to demonstrate at the conclusion of the program. The program must distribute these skills and competencies to fellows and faculty annually, in either written or electronic form. These skills and competencies should be reviewed by the fellow at the start of each rotation;**
2. **ACGME Competencies**

The program must integrate the following ACGME competencies into the curriculum:

a) Patient Care

Fellows must be able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health. Fellows:

- (1) must have supervised training that will enable them to gain competence in the performance and application of the following critical care skills:
 - (a) Respiratory: airway management, including endoscopy and management of respiratory systems;
 - (b) Circulatory: invasive and noninvasive monitoring techniques, including trans-esophageal and pericardial cardiac ultrasound and application of transvenous pacemakers; computations of cardiac output and of systemic and pulmonary vascular resistance; monitoring electrocardiograms and management of cardiac assist devices;
 - (c) Neurological: the performance of complete neurological examinations; the use of intracranial pressure monitoring techniques and of the electroencephalogram to evaluate cerebral function; application of hypothermia in the management of cerebral trauma;
 - (d) Renal: the evaluation of renal function; peritoneal dialysis and hemofiltration; knowledge of the indications and complications of hemodialysis;
 - (e) Gastrointestinal: utilization of gastrointestinal intubation and endoscopic techniques in the management of the critically ill patient; application of enteral feedings; management of stomas, fistulas, and percutaneous catheter devices;
 - (f) Hematologic: application of autotransfusion; assessment of coagulation status; appropriate use of component therapy;
 - (g) Infectious disease: classification of infections and application of isolation techniques, pharmacokinetics, drug interactions, and management of antibiotic therapy during organ failure; nosocomial infections; indications for applications of hyperbaric oxygen therapy;

- (h) Nutritional: application of parenteral and enteral nutrition; monitoring and assessing metabolism and nutrition;
- (i) Monitoring/bioengineering: use and calibration of transducers, amplifiers, and recorders;
- (j) Miscellaneous: use of special beds for specific injuries; employment of pneumatic antishock garments, traction, and fixation devices.

b) Medical Knowledge

Fellows must demonstrate knowledge of established and evolving biomedical, clinical, epidemiological and social-behavioral sciences, as well as the application of this knowledge to patient care. Fellows:

- (1) must acquire advanced knowledge of the following aspects of critical care, particularly as they relate to the management of patients with hemodynamic instability, multiple system organ failure, and complex coexisting medical problems:
 - (a) cardiorespiratory resuscitation
 - (b) physiology, pathophysiology, diagnosis, and therapy of disorders of the cardiovascular, respiratory, gastrointestinal, genitourinary, neurological, endocrine, musculoskeletal, and immune systems, as well as of infectious diseases
 - (c) metabolic, nutritional, and endocrine effects of critical illness
 - (d) hematologic and coagulation disorders
 - (e) critical obstetric and gynecologic disorders
 - (f) trauma, thermal, electrical, and radiation injuries
 - (g) inhalation and immersion injuries
 - (h) monitoring and medical instrumentation
 - (i) critical pediatric surgical conditions
 - (j) pharmacokinetics and dynamics of drug metabolism and excretion in critical illness

- (k) ethical and legal aspects of surgical critical care
 - (l) principles and techniques of administration and management
 - (m) biostatistics and experimental design
- (2) must acquire an advanced body of knowledge and level of skill in the management of critically ill surgical patients in order to assume a leadership role in teaching and in research in surgical critical care. This advanced body of knowledge and level of skill must include the mastery of:
- (a) the use of advanced technology and instrumentation to monitor the physiologic status of children or adults of both sexes, including those in the neonatal, pediatric, child-bearing, or advanced years;
 - (b) organizational and administrative aspects of a critical care unit;
 - (c) ethical, economic, and legal issues as they pertain to critical care.

c) Practice-based Learning and Improvement

Fellows are expected to develop skills and habits to be able to meet the following goals:

- (1) systematically analyze practice using quality improvement methods, and implement changes with the goal of practice improvement;**
- (2) locate, appraise, and assimilate evidence from scientific studies related to their patients' health problems.**
- (3) undertake investigations into the various areas of surgical critical care, such as new instrumentation, identification of important physiologic parameters, evaluation of pharmacologic agents in critically ill patients, or health outcomes and/or health policy issues related to surgical critical care.

d) Interpersonal and Communication Skills

Fellows must demonstrate interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and health professionals.

- (1) Fellows completing a surgical critical care residency program will be expected to teach the specialty of surgical critical care.

e) Professionalism

Fellows must demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles.

f) Systems-based Practice

Fellows must demonstrate an awareness of and responsiveness to the larger context and system of health care, as well as the ability to call effectively on other resources in the system to provide optimal health care.

- (1) Fellows completing a surgical critical care residency program will be expected to administer a surgical critical care unit and appoint, educate, and supervise specialized personnel, establish policy and procedures for the unit, and coordinate the activities of the unit with other administrative units within the hospital.

B. Fellows' Scholarly Activities

V. Evaluation

A. Fellow Evaluation

1. Formative Evaluation

- a) **The faculty must evaluate fellow performance in a timely manner.**
- b) **The program must:**
 - (1) **provide objective assessments of competence in patient care, medical knowledge, practice-based learning and improvement, interpersonal and communication skills, professionalism, and systems-based practice;**
 - (2) **use multiple evaluators (e.g., faculty, peers, patients, self, and other professional staff); and,**
 - (3) **provide each fellow with documented semiannual evaluation of performance with feedback.**
- c) **The evaluations of fellow performance must be accessible for**

review by the fellow, in accordance with institutional policy.

2. Summative Evaluation

The program director must provide a summative evaluation for each fellow upon completion of the program. This evaluation must become part of the fellow's permanent record maintained by the institution, and must be accessible for review by the fellow in accordance with institutional policy. This evaluation must:

- a) document the fellow's performance during their education, and
- b) verify that the fellow has demonstrated sufficient competence to enter practice without direct supervision.

B. Faculty Evaluation

1. At least annually, the program must evaluate faculty performance as it relates to the educational program.
2. These evaluations should include a review of the faculty's clinical teaching abilities, commitment to the educational program, clinical knowledge, professionalism, and scholarly activities.

C. Program Evaluation and Improvement

1. The program must document formal, systematic evaluation of the curriculum at least annually. The program must monitor and track each of the following areas:
 - a) fellow performance, and
 - b) faculty development.
2. If deficiencies are found, the program should prepare a written plan of action to document initiatives to improve performance in the areas listed in section V.C.1. The action plan should be reviewed and approved by the teaching faculty and documented in meeting minutes.

VI. Fellow Duty Hours in the Learning and Working Environment

A. Principles

1. The program must be committed to and be responsible for promoting patient safety and fellow well-being and to providing a supportive educational environment.
2. Duty hour assignments must recognize that faculty and fellows collectively have responsibility for the safety and welfare of patients.

B. Supervision of Fellows

The program must ensure that qualified faculty provide appropriate supervision of fellows in patient care activities.

C. Duty Hours (the terms in this section are defined in the ACGME Glossary and apply to all programs)

Duty hours are defined as all clinical and academic activities related to the program; i.e., patient care (both inpatient and outpatient), administrative duties relative to patient care, the provision for transfer of patient care, time spent in-house during call activities, and scheduled activities, such as conferences. Duty hours do *not* include reading and preparation time spent away from the duty site.

1. Duty hours must be limited to 80 hours per week, averaged over a four-week period, inclusive of all in-house call activities.
2. Fellows must be provided with one day in seven free from all educational and clinical responsibilities, averaged over a four-week period, inclusive of call.
3. Adequate time for rest and personal activities must be provided. This should consist of a 10-hour time period provided between all daily duty periods and after in-house call.

D. On-call Activities

1. In-house call must occur no more frequently than every-third-night, averaged over a four-week period.
2. Continuous on-site duty, including in-house call, must not exceed 24 consecutive hours. Fellows may remain on duty for up to six additional hours to participate in didactic activities, transfer care of patients, conduct outpatient clinics, and maintain continuity of medical and surgical care.
3. No new patients may be accepted after 24 hours of continuous duty.
 - a) A new patient is defined as any patient for whom the fellow has not previously provided care.
4. At-home call (or pager call)
 - a) The frequency of at-home call is not subject to the every-third-night, or 24+6 limitation. However at-home call must not be so frequent as to preclude rest and reasonable personal time for each fellow.
 - b) Fellows taking at-home call must be provided with one day in seven completely free from all educational and clinical

responsibilities, averaged over a four-week period.

- c) **When fellows are called into the hospital from home, the hours fellows spend in-house are counted toward the 80-hour limit.**

E. Moonlighting

Internal moonlighting must be considered part of the 80-hour weekly limit on duty hours.

ACGME: June 1992 Effective June 1993

Editorial Revisions July 2001

Editorial Revisions July 2004

Common Program Requirements March 2005

Revised Common Program Requirements Effective: September 16, 2008