

Surgical critical care

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To begin a fellowship in surgical critical care, residents must have completed at least 3 years of a general surgery residency and have a guaranteed, categorical, surgical spot in which to complete their last years of general surgery training. However, the majority of fellows choose to complete their entire general surgery residency before beginning a fellowship. This order of training is recommended because the success rate in passing the certifying examination in surgical critical care is much higher for those who have completed their general surgery residency program before entering a fellowship. This may change with the recent ruling that the examination may be taken after the fellowship year, even if the fellow has not completed training in general surgery.

There are 84 accredited programs in surgical critical care, with 136 positions filled for the 2005 to 2006 academic year. Some programs focus primarily on critically ill pediatric patients, but most fellows spend the majority of their time caring for adult patients, with minimal exposure to pediatric surgical patients. Fellows are able to sit for the certifying examination if they complete an accredited fellowship regardless of which age group they have had the greatest exposure to; however, the examination is weighted much more heavily to adult clinical practice.

A match was begun in 2004, in which a majority of surgical critical care programs participated. More fellowship positions are available than are interested applicants so the likelihood of finding a position is good. Surgical critical care is a specialty match conducted by the National Resident Matching Program, in which candidates apply directly to the residency program that interests them. Registration through the match begins in August, and match day is at the end of November.

Research experience is not required, although many applying for competitive fellowships have completed at least 1 year of research. A commitment to care of the critically injured patient and letters of recommendation are very important.

Lists of fellowships are both on the Eastern Association for the Surgery of Trauma (EAST) (www.east.org) and the

American Association for the Surgery of Trauma (AAST) web sites (www.aast.org). The AAST is the sponsoring organization for the Surgical Critical Care Match. The list of programs participating in the match is available at www.nrmp.org.

Fellowship Requirements

Programs vary from 1 to 2 years. The second year is often a research year and can be either clinical or basic research. Other programs have an optional trauma fellowship that can be combined with the critical care fellowship. No board certification is available for trauma, nor is there likely to be in the future. Potential employers are more interested in a critical care fellowship than in a trauma fellowship, especially if your residency has provided you with a reasonable exposure to trauma.

For the fellowship to be accredited, the year focused on critical care must be at least 80% nonoperative. Many residents are concerned that they will “forget” how to operate, particularly because they will be leaving the fellowship to become attending staff. This is a common worry but an extremely uncommon problem. Some of the trauma fellowships become extended chief residencies with little opportunity for a junior staff role. Therefore, be careful you are not signing up for another year of call without real exposure to trauma systems, research, and staff opportunity, unless that is what you want.

Surgical critical care is 50% political; it can be tricky convincing other surgeons to let you take care of their patients, particularly when you are advocating something with which they are unfamiliar. The political role varies depending on whether the unit is open (the critical care team functions only as a consultant) or closed (the critical care team becomes the primary service while the patient is in the intensive care unit [ICU]). Knowing in which type of unit you will be practicing, as well as your personal strengths and weaknesses, can avoid problems in the future.

Board Certification: Added Qualifications in Surgical Critical Care

One must pass the American Board of Surgery certifying examination in surgery and complete an approved surgical critical care training program to qualify. The surgeon will be eligible to take the written certifying examination in surgical critical care in the fall after completing their training. This requirement was recently revised for fellows complet-

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ing a surgical critical care fellowship after 3 years of general surgery residency. Fellows are required to complete a case log to document all patients cared for as a fellow. The individual is not required to recertify in surgery in order to recertify in surgical critical care (every 10 years).

Clinical Practice

Only a minority of those who complete surgical critical care fellowships go on to practice critical care exclusively. Most find the opportunity to combine it with a practice of general surgery, trauma surgery, vascular surgery, or pediatric surgery. In many places, job opportunities in critical care are linked to trauma. In some places, critical care certification is required to take care of patients in an ICU. This trend is likely to continue because data have shown improved outcomes in many patient subsets with care supervised by an intensivist, which affords an opportunity to receive salary and other support from hospital administration in addition to departmental support.

Administrative duties, including ICU directorates, are reserved for those with critical care certification. Billing for critical care services is slightly different than for many operative specialties and is focused on time, direct patient care, and documentation. Learning the nuances of billing is important, and exposure to the business aspects of critical care during fellowship is invaluable.

Grant Funding and Research Fellowships

Although a number of awards are available through other surgical societies, certain programs specific to the discipline of trauma/critical care are available. In general, trauma research is underfunded. Many more funding opportunities are available for basic critical care research. Much of this funding comes from the National Institutes of Health and is not specific to any of the societies listed. Within the National Institutes of Health, the National Institute for General Medical Sciences and the National Heart, Lung, and Blood Institute are the usual institutes that fund critical care research. The descriptions of qualifications listed herein are not complete.

Medical students

The AAST has a scholarship that funds medical students to attend the annual meeting (www.aast.org). Students must be nominated by a member of the AAST. A special lunch program is provided for the students during the meeting, and they are able to participate in all aspects of the annual meeting except the business meeting.

Residents

The Surgical Infection Society (SIS) Fellowship Awards are \$35,000/year (www.surgicalinfection.org). The purpose of these awards is to provide the opportunity for a resident or fellow to spend 1 to 2 years in full-time research in the laboratory of a member of the SIS. Residents or fellows who have completed at least 2 years of postgraduate training in a surgical discipline are eligible to apply. The award is to be used only for salary support or direct-cost expenditures of the funded research project conducted in the laboratory of the SIS member.

Faculty

An AAST scholarship of \$35,000 is available for junior faculty members who have a major commitment to a career in trauma surgery. Membership in the AAST is not a requirement. This fellowship covers direct costs only and does not provide salary support.

The SIS Junior Faculty Fellowship is \$40,000. The award can be renewed for an additional year, contingent on a report to the foundation that shows satisfactory progress in the project. Funds can only be used for salary support and direct expenses of this research project and cannot be used for overhead expenses. Candidates for this award must have an M.D. or equivalent degree and must have completed a residency in a surgical discipline. The applicant must be a member of the SIS and have a full-time faculty appointment at a United States or Canadian medical school. The applicant must have an appointment at the instructor or assistant professor level and be within 5 years of his/her initial faculty appointment at the time of the award.

Membership in Trauma/Critical-Care Societies

Three societies combine the specialties of trauma and critical care, and 1 particularly focuses on infectious disease but also includes a large number of physicians who specialize in critical care. One specialty society is devoted exclusively to physicians and allied health professionals from all disciplines of critical care. A brief description of each society, along with membership requirements, is provided later. Many of the other local, regional, and national societies have critical care sections. This is important, particularly when choosing where to submit research and which general societies you might be interested in joining.

AAST

The AAST was formed to further the study and practice of trauma surgery in its various departments in the United States and Canada (www.aast.org). Its purpose is to furnish leadership and foster advances in the surgery of trauma, including research, practice, and training.

Membership in the AAST is intended to afford recognition to those who have contributed to the surgery of trauma, as well as the investigation, care, and rehabilitation of injured patients. Members must be practicing physicians who are initiates or fellows of the American College of Surgeons or an equivalent international society and are active in the fields of trauma, burns, surgical critical care, or related surgical specialties.

EAST

The EAST affords a forum for exchange of knowledge pertaining to the care and rehabilitation of the injured patient (www.east.org). Additionally, it stimulates investigation and teaching in methods of treating and preventing injury from all causes. EAST is dedicated to the study of trauma surgery by establishing lectureships, scholarships, and foundations to promote, reward, and recognize those working in the field of injury and injury control.

Qualification for active membership requires an applicant to be a licensed physician, active in the field of trauma, and in possession of a valid certificate from a surgical board

that is a member of the American Board of Medical Specialties or the Royal College of Physicians and Surgeons of Canada. Previous geographical restrictions have been eliminated.

Western Trauma Association

Objectives of the Western Trauma Association are to promote the exchange of educational and scientific information and principles in diagnosis and management of traumatic conditions and advance the science and art of medicine (www.westerntraumaassociation.org). Membership is limited to 125 members, and no single specialty is allowed to comprise more than 40% of the total. Critical care is one of the specialties considered, as are general surgery, neurosurgery, orthopedic surgery, emergency medicine, radiology, and plastic surgery. Candidates must be sponsored by a member of the WTA and submit an abstract for consideration by the program chairman.

SIS

The major purpose of the SIS is to promote and encourage education and research in the nature and prevention, diagnosis, and treatment of surgical infection (www.surgicalinfection.org). Activities focus on both the fundamental and clinical aspects of surgical infection.

Society for Critical Care Medicine

The Society for Critical Care Medicine (SCCM) is the largest multidisciplinary, multiprofessional organization dedicated to ensuring excellence and consistency in the practice of critical care medicine (www.sccm.org). With more than 10,000 members in 62 countries, SCCM is the only organization that represents all professional components of the critical care team. The SCCM offers a variety of activities that promote excellence in patient care, education, research, and advocacy. An interest in critical care is the only requirement for membership.

New Horizons

With increasing specialization in all of general surgery, the true general surgeon is in danger of becoming an endangered species. However, the need for surgeons capable of caring for patients and conditions under the purview of the general and trauma surgeon has not diminished. To meet this need, the specialty of Acute Care Surgery has been proposed and is endorsed by the AAST and the American Board of Surgery. The goal of fellowships in this area will be to train surgeons with broad expertise in trauma, critical care, and emergency general surgery. This specialty would include acute care surgery; surgical critical care; and emergency cardiothoracic, vascular, orthopedic, and neurosurgical care. Several programs are poised to pilot this new fellowship in the coming years.