

Trauma: Surgical skills

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Trauma

Trauma is a primary source of morbidity and mortality globally, and rapid identifying and controlling hemorrhage is important for survival. As a result, Surgical Trainees (ST) must be skilled in the care of traumatically injured patients, including operational exposure and hemorrhage control. The effectiveness of nonoperative trauma care and the adoption of duty-hour limitations have resulted in a decrease in operative experience for surgical residents. A recent 20-year study of case files from the Accreditation Council for Graduate Medical Education revealed that graduating chief residents performed half the amount of designated trauma procedures as they did two decades earlier.

Despite the fact that vascular surgery is still considered an essential component of general surgery training, graduating residents have less experience with vascular trauma (including elective open patients). Over the last decade, the average number of major vascular repairs for trauma (including thoracic aorta, innominate, subclavian, neck vessels, abdominal aorta, peripheral, and other vascular injuries) reported to the American Board of Surgery by graduating chief residents (during residency) decreased from 5.0 in 2002 to 2.1 in 2011. This lack of experience is quite concerning, as numerous researchers have identified experience as a component in acquiring competence. Another effect of diminishing experience is a reduction in surgeons' confidence in managing injuries, which may lead to a rise in morbidity and death.

Though it is difficult to judge proficiency and competence solely on numbers, it is clear that trainee experience is anything but uniform and that we are graduating specialists with a surprisingly broad range of abilities who, when called upon to care for trauma victims, may or may not have the requisite skill set to ensure optimal outcomes. As a result, there is an urgent

need to enhance how we educate and retain the abilities of trauma surgeons in the future.

In 2005, the American College of Surgeons (ACS) Committee on Trauma created a Surgical Skills Committee. This committee was tasked with creating a standardized, skills-based cadaver course to teach surgical exposure of important structures that are most likely to cause an urgent hazard to life or limb if damaged. As a result of this work, the Advanced Surgical Skills for Exposure in Trauma (ASSET) course was created.

The ASSET course is a one-day case-based, scenario-driven dissection training that emphasizes surgical exposure of limb, neck, chest, abdominal, and pelvic vasculature, with extra teaching in fasciotomies and pelvic packing. This course is intended for senior surgical residents, trauma fellows, and Practicing Surgeons (PS) who care for trauma victims. The course is fully lab-based, with a student-to-faculty ratio of 4:1. The abilities included in the course were chosen from a thorough list of all conceivable trauma exposures, and a modified Delphi technique was used to choose 59 different skills judged important to trauma care for inclusion in the course. Following that, the group created a course handbook, narrated videos of selected processes, a faculty manual, lab slides, and evaluation tools, all of which were reviewed by subject matter and pedagogical specialists. In March of 2008, a demonstration course was held at the Uniformed Services University of the Health Sciences, followed by three additional beta courses in which the course was further refined prior to final approval and release of the course as an ACS branded continuing medical education course in March of 2010. Since then, the course has been extensively accepted, with over 40 certified venues in the United States and Canada having performed more than 110 sessions. This research examines the outcomes of the first 25 ASSET courses delivered after the program's final standardization in September of 2010.

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