O' Surgery Case Log Data, Where Art Thou?

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BACKGROUND:	The American College of Surgeons (ACS) Case Log represents a data system that satisfies the American Board of Surgery (ABS) Maintenance of Certification (MOC) program, yet has broad data fields for surgical subspecialties. Using the ACS Case Log, we have developed a method of data capture, categorization, and reporting of acute care surgery fellows' experiences.
STUDY DESIGN:	In July 2010, our acute care surgery fellowship required our fellows to log their clinical experiences into the ACS Case Log. Cases were entered similar to billable documentation rules. Keywords were entered that specified institutional services and/or resuscitation types. These data were exported in comma separated value format, deidentified, structured by Current Procedural Terminology (CPT) codes relevant to acute care surgery, and substratified by fellow and/or fellow year.
RESULTS:	Fifteen report types were created consisting of operative experience by service, procedure by major category (cardiothoracic, vascular, solid organ, abdominal wall, hollow viscus, and soft tissue), total resuscitations, ultrasound, airway, ICU services, basic neurosurgery, and basic orthopaedics. Results are viewable via a secure Web application, accessible nationally, and exportable to many formats.
CONCLUSIONS:	Using the ACS Case Log satisfies the ABS MOC program requirements and provides a method for monitoring and reporting acute care surgery fellow experiences. This system is flexible to accommodate the needs of surgical subspecialties and their training programs. As documentation requirements expand, efficient clinical documentation is a must for the busy surgeon. Although, our data entry and processing method has the immediate capacity for acute care surgery fellowships nationwide, multiple larger decisions regarding national case log systems should be encouraged. (J Am Coll Surg 2012;215:427–431. © 2012 by the American College of Surgeons)

In 1984, the Accreditation Council for Graduate Medical Education (ACGME) case log was first used to capture procedures by general surgery residents.[1] Currently, from the time internship begins, procedural case logs are required ACGME documentation from 20 accredited residency specialties through a Web-based system initiated in 2000. Upon residency completion from procedure-based

specialties, residency case logs are mandatory to apply for certification by specialty boards, such as the American Board of Surgery (ABS).

After obtaining board certification in general surgery, the ABS Maintenance of Certification (MOC) program "requires ongoing participation in a national, regional or local outcomes database or quality assessment program" and maintenance of a 12-month operative log to apply for recertification in any ABS specialty. The American College of Surgeons (ACS) provides a case log system that satisfies MOC requirements, is organized by Current Procedural Terminology (CPT) codes, similar to the ACGME case log system, and also allows documentation of diagnoses and complications.[2]

Subspecialty surgery fellowships and subspecialty board certification processes are also increasingly requiring documentation of procedural experiences. More than 30 subspecialties, including pediatric, cardiothoracic, and colorectal surgery, are using the ACGME resident case log,[3] while some fellowships are creating parallel, independent

Abbreviations and Acronyms

AAST	=	American Association for the Surgery of Trauma
ABS	=	American Board of Surgery
ACGME	=	Accreditation Council for Graduate Medical Education
ACS	=	American College of Surgeons
CPT	=	Current Procedural Terminology
MOC	=	maintenance of certification
NSQIP	=	National Surgical Quality Improvement Program
REDCap	=	Research Electronic Data Capture

Figure 1. Current use of surgery case logs. ACGME, Accreditation Council for Graduate Medical Education.

data entry systems, like the American Association for Surgery of Trauma (AAST) acute care surgery case log system.[4] In duplicate fashion, the ABS certification process for surgical critical care requires data entry of critical care cases into a system designed only for the certification process. At the same time, certified general surgeons in fellowship training are simultaneously using the ACS Case Log given its data export feature that satisfies application for becoming a Fellow of the ACS, hospital credentialing, and long-term MOC requirements.

Despite the numerous data entry systems (Fig. 1), experiential and procedural logs are valuable for trainees, program directors, hospitals, and specialty boards to quantify procedural character, quality, and volume. Efforts to minimize data entry duplication would enhance efficacy and improve efficiency. Using the flexible ACS Case Log, we have developed a method of data capture, categorization, and reporting of acute care surgery fellows' experiences.

METHODS

Procedural and clinical experiences of surgical critical care and acute care surgery fellows were logged in the ACS Case Log, starting in July 2010. This system was used to capture experiences believed to be relevant to fellow training. Using CPT codes, experiences and cases were entered identically to billable rules and documentation submitted to our electronic medical record. Annually, CPT codes are updated by the ACS Case Log and currently reflect any 2012 CPT changes. When relevant, in the ACS Case Log free-text "Notes" field, specific keywords were entered that specified unique fellow services, resuscitation types (burn, blunt, penetrating), and focused abdominal sonography for trauma (FAST) test characteristics. These data were exported in comma separated value format and deidentified. IRB approval was obtained for the purposes of this publication.

Operative procedures, bedside procedures, and free-text designated resuscitations were parsed using STATA programming (StataCorp. 2009. Stata Statistical Software: Release 11). Coupling the code for evaluation and manage-
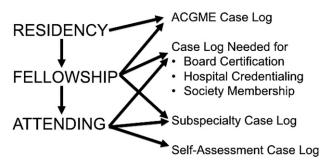
ment of the critically ill (99291) with standardized free-text, we differentiated resuscitations from daily critical care time. Critical care time also captured elements essential for critical care certification such as hemodynamic monitoring, ventilator support, cardiac resuscitation, dialysis or hemofiltration, and nutritional support.

Relevant bedside diagnostic and therapeutic procedures were also captured. Ultrasound modalities measured were FAST examination performance with sensitivity and specificity reporting, in addition to transesophageal, transthoracic, and Doppler mode echocardiography examinations. Bedside airway procedures captured included intubation, tracheostomy, and cricothyroidotomy. Bedside ICU vascular procedures were subcategorized into placements of central venous catheters, arterial catheters, intraosseous access, inferior vena cava filters, transvenous pacers, Swan-Ganz catheters, and intra-aortic balloon pumps. Other bedside procedures included bronchoscopy, endoscopy, tube thoracostomy, percutaneous endoscopic gastrostomy, application of negative pressure wound therapy, provision of conscious sedation, paracentesis (including peritoneal lavage), thoracentesis, external cardioversion, cardiopulmonary resuscitation, laceration repair, port removal, and urinary system imaging.

For operative procedures with multiple CPT codes, the number of operative cases was kept distinct from the individual intraoperative CPT coded procedures performed. Based on our earlier work and proposed curriculum in acute care surgery,[5,6] major operative procedures were then structured into 6 main acute care surgery categories: cardiothoracic, vascular, abdominal wall, gastrointestinal and genitourinary, solid organ, and soft tissue. Cardiothoracic procedures ranged from exploration of penetrating thoracic wounds, thoracotomy, thoracoscopy, open sternal fixation, open rib fixation, cardiorraphy, pericardial window, lung resection, lung hernia repair, and esophageal repair. Vascular CPTs covered ligation or repair of major vasculature, vein harvest and/or ligation, amputation, and spinal exposures. Abdominal wall CPT codes covered exploratory laparotomy, diagnostic laparoscopy, exploration of pene-