Abdominal Ultrasound: Credentialing and Certification

21

R. Stephen Smith, William R. Fry, and Richard A. Hoppman

Introduction

The use of clinical ultrasound as a diagnostic tool by surgeons has rapidly increased over the past two decades. The use of ultrasound has found its way into essentially all of the surgical subspecialties. Ultrasound provides a real-time diagnostic modality that enhances the surgeon's ability to make therapeutic decisions. Utilization of ultrasound during operative procedures is an extension and expansion of other diagnostic modalities, such as computed tomography. A number of studies have documented that surgeons can perform ultrasound with a high degree of sensitivity, specificity, and accuracy. Other papers have documented that the interpretation of specific ultrasound images by surgeons is equivalent to the high-quality interpretation provided by radiologists and other imaging specialists.

The Credentialing Process

A basic principal of the privileging and credentialing process is that a surgeon must have adequate judgment and excellent training to perform ultrasound with safety and accuracy. However, guidelines for credentialing must be flexible and reasonable. While general guidelines may be applicable to all surgeons, subspecialty differences in practice, ultrasound utilization, and clinical applications must be considered. All surgical ultrasound examinations are not the same in scope, complexity, or difficulty.

R.S. Smith, MD, RDMS, FACS (✉)
W.R. Fry, MD, RVT, RDMS, FACS
Department of Surgery, University of South Carolina School of Medicine, 2 Medical Park Rd. #306, Columbia, SC 29203, USA
e-mail: flysurg@yahoo.com; chaoticdoc@aol.com

R.A. Hoppman, MD
Department of Internal Medicine,
University of South Carolina School of Medicine,
6311 Garners Ferry Road, 29209 Columbia, SC, USA
e-mail: richard.hoppmann@uscmed.sc.edu

Criteria for establishing the standards required for a surgeon to be granted ultrasound privileges should take into account the surgeon's overall experience and extensive skills obtained through residency and fellowship training and the application of these skills during ongoing patient care activities. Standards should be uniform when considering a surgeon's application for privileges in ultrasound. Privileges should be considered and granted for each category of ultrasound after a careful process of consideration and a thorough review of the surgeon's training and experience. While ultrasound principles and instrumentation are similar regardless of the clinical activity, the ability of a surgeon to perform one ultrasound examination in an acceptable fashion does not automatically guarantee competency to perform another type of ultrasound study. For example, skill and certification in performance of the focused assessment with sonography for trauma (FAST) examination do not imply that a surgeon possesses adequate skills in laparoscopic, intraoperative, vascular, or breast ultrasound. Each area of surgical ultrasound has different requirements for training and mandates different skill sets. One size does not fit all.

The process for credentialing a surgeon to perform ultrasound examinations is the responsibility of each individual hospital. It is the responsibility of the Department of Surgery, as directed by the chair, to recommend an individual surgeon for privileges in ultrasound. This process should not be substantively different from the process leading to a recommendation for privileges for other surgical procedures. Credentialing decisions must be based on the objective assessment of the individual's capabilities and not due to the specialty of the applicant. Equal skills mandate equal privileges.

Requirements for Training

The field of surgical ultrasound has undergone dramatic changes over the past two decades. Twenty years ago, most surgeons were not formally trained in ultrasound

E.J. Hagopian, J. Machi (eds.), *Abdominal Ultrasound for Surgeons*,
DOI 10.1007/978-1-4614-9599-4_21,

applications. Since that time, however, formal ultrasound training has been incorporated into many general surgery residency and subspecialty fellowship training programs. The contemporary graduate of a surgical training program has, in all likelihood, received a structured experience in surgical ultrasound. Most residency and fellowship directors can now provide documentation of the resident's training and expertise in multiple areas of surgical ultrasound. The residency program director should be prepared to verify the graduate's skill in surgical ultrasound to any credentialing body. The surgical resident should include in his or her case logs, the number and types of ultrasound examinations performed during training. The ability to provide this information to the credentials committee of an institution will streamline the surgeon's ability to gain privileges in surgical ultrasound at individual hospital. To ensure the availability of a structured program in ultrasound education for general surgery residencies, the American College of Surgeons National Ultrasound Faculty offers an introductory course in surgical ultrasound specifically tailored for residents. This Resident Course is very similar in design and content to the Basic Ultrasound Module offered by the American College of Surgeons to practicing surgeons. Successful completion of the resident ultrasound course allows residents to enter into a number of advanced training modules offered by the American College of Surgeons and other surgical specialty organizations. Through participation in these advanced training programs, the surgeon can gain new skills and become "proctor ready" in advanced ultrasound examinations.

For practicing surgeons without formal residency or fellowship training in ultrasound, there must be documentation of adequate prior experience in surgical ultrasound or evidence of participation in a structured training program that is accepted by the hospital's credentialing process. The requirements for this training curriculum, as well as a defined level of experience (number of ultrasound examinations), should be clearly delineated by the institution. Such a training curriculum should include a formal course of instruction, as outlined by the American College of Surgeons or other bona fide specialty societies, as well as opportunities for the practicing surgeon to observe, assist, and serve as the primary surgical sonographer in the specific area of surgical ultrasound in which privileges are requested. An acceptable ultrasound course should include didactic sessions and a hands-on experience with models or stimulators. The surgeon must demonstrate an acceptable fund of knowledge as well as technical and procedural expertise.

Practical Experience

The applicant for credentials in surgical ultrasound should be able to document an appropriate volume of ultrasound studies during which the surgeon obtained the images and provided an initial interpretation. The minimum number of procedures required for the granting of privileges is determined by the complexity of the examination. For example, several series have shown that considerable expertise with the FAST examination can be gained after 15–25 studies. For more complex clinical situations such as hepatobiliary or intraoperative ultrasound studies, the volume of examinations to reach an acceptable level of skill may be greater. The chief of surgery at the specific hospital should set the volume standard for each individual surgical ultrasound examination. Additionally, requirements for proctoring must be standardized and established in advance.

The criteria to determine competency in each surgical ultrasound examination should be fair, uniform, and straightforward. Areas of assessment should include familiarity with ultrasound physics, ultrasound instrumentation and equipment, appropriate patient selection, efficient performance of the ultrasound examination, and of course, accurate interpretation of the images obtained. The acceptable standards for each examination should be set by the chair of surgery with input from the appropriate division or section chief. The assessment of the applicant's skills and qualifications must be unbiased, objective, and transparent in all cases. The credentialing process should never be viewed as a mechanism to protect "turf" for other practitioners or other departments. This practice is morally, ethically, and legally indefensible and can interfere with optimal patient care. Institutions that deny, withdraw, or restrict a surgeon's privileges in surgical sonography must have an appropriate appeal mechanism in place. This process must be in accordance with medical staff bylaws and follow the guidelines of the Joint Commission.

Maintenance and Renewal of Privileges

Once a surgeon has been credentialed in ultrasound, the chair of the Department of Surgery or the hospital's credentialing body should assure that competency is maintained. There should be a mechanism in place to monitor and record the number of ultrasound procedures performed and the accuracy of these diagnostic images. This process should be incorporated into the hospital's performance improvement program. Areas of monitoring could include the frequency of the utilization of ultrasound, image quality and standard

orientation, and appropriate patient selection. Participation in continuing medical education programs and surgical ultrasound should be expected and required.

Further Reading

Granting of Endoscopic Ultrasonography Privileges for Surgeons. Society of American Gastrointestinal Endoscopic Surgeons (SAGES). Surg Endosc. 2000;14:691–2.

Society of American Gastrointestinal Endoscopic Surgeons (SAGES). Guidelines for Granting of Ultrasound Privileges for Surgeons. 2014. http://www.sagescms.org.

Shepherd AE, Gogalniceanu P, Kashef E, et al. Surgeon-performed ultrasound: a call for consensus and standardization. J Surg Educ. 2012;69:132–3.

Staren ED, Knudson MM, Rozycki GS, et al. An evaluation of the American College of Surgeons ultrasound education program. Am J Surg. 2006;191:489–96.

Statement on Ultrasound Examinations by Surgeons. Committee on Emerging Surgical Technology and Education, American College of Surgeon. Bull Am Coll Surg. 1998;83:37–40.