American Society For Gastrointestinal Endoscopy

Guidelines for credentialing and granting privileges for endoscopic ultrasound

This is one of a series of statements discussing the utilization of gastrointestinal endoscopy in common clinical situations. In preparing this guideline, a MEDLINE literature search was performed, and additional references were obtained from the bibliographies of the identified articles and from recommendations of expert consultants. When little or no data exist from well-designed prospective trials, emphasis is given to results from large series and reports from recognized experts.

Guidelines for the appropriate use of endoscopy are based on a critical review of the available data and expert consensus. Controlled clinical studies are needed to clarify aspects of this statement and revision may be necessary as new data appear. Clinical considerations may justify a course of action at variance from these recommendations.

This document is intended to provide the principles by which credentialing organizations may create policy and practical guidelines for granting endoscopic ultrasound (EUS) privileges. For information on credentialing for other endoscopic procedures, please refer to "Guidelines for Credentialing and Granting Privileges for Gastrointestinal Endoscopy" (Gastrointest Endosc 1998;48:679-82).

DEFINITION OF TERMS

Clinical Privileges: Authorization by a local institution to perform a particular procedure or clinical service.

Competence: The minimum level of skill, knowledge, and/or expertise derived through training and experience, required to safely and proficiently perform a task or procedure.

Credentialing Process: The process of assessing and validating the qualifications of a licensed independent practitioner to provide patient care. The determination is based on an evaluation of the individual's current license, knowledge base, training or experience, current competence, and ability to perform the procedure or patient care requested.

Credentials: Documents provided after successful completion of a period of education or training as an indication of clinical competence.

Endoscopic Ultrasound (EUS): A group of related techniques whereby an endoscope is used to place an ultrasound transducer within the gastrointestinal lumen to perform ultrasonography of the wall, wall associated lesions, and of structures surrounding the gastrointestinal tract.

Echoendoscope: A device used to perform EUS consisting of a flexible fiberoptic or video endoscope incorporating an ultrasound transducer in its design.

Catheter ultrasound probe: A through-the-scope ultrasound device that allows the insertion of a transducer through the working channel of standard endoscopic instruments to perform endoluminal ultrasonography.

EUS-guided fine needle aspiration (FNA): Use of EUS for real-time guidance of an aspiration needle into a lesion within or adjacent to the GI tract for diagnostic sampling.

PRINCIPLES OF INITIAL CREDENTIALING IN EUS

1. Credentials for EUS should be determined independently from other endoscopic procedures such as colonoscopy, sigmoidoscopy, esophagogastroduodenoscopy (EGD), endoscopic retrograde cholangiopancreatography (ERCP), or any other endoscopic procedure.[1]
2. Competence in EUS requires both cognitive and technical components.[2,3]
3. Appropriate documentation should be required in the determination of competence in EUS. This may include the completion of a formal training program (residency or fellowship) or documentation of equivalent training in other settings. Documentation of continued competence should be required for the renewal of EUS privileges.[1,4]
4. After the successful completion of EUS training (as detailed in "Guidelines for Training in Endoscopic Ultrasound" Gastrointest Endosc 1999;49:829-33) the trainee:
   A. Must be able to integrate EUS into the overall clinical evaluation of the patient.
   B. Should have sound general medical or surgical training.
   C. Must have completed at least 24 months of a standard GI fellowship (or equivalent) and have documented competence in routine endoscopic procedures.

Table 1. Minimum number of EUS procedures before competency can be assessed

Site/lesion	No. of cases required
Mucosal tumors (cancers of esophagus, stomach, rectum)	75
Submucosal abnormalities	40
Pancreaticobiliary	75
EUS-guided FNA	
Nonpancreatic*	25
Pancreatic†	25

For competence in imaging both mucosal and submucosal abnormalities, a minimum of 125 supervised cases is recommended.

For comprehensive competence in all aspects of EUS, a minimum of 150 supervised cases, of which 75 should be pancreaticobiliary and 50 EUS-guided FNA, is recommended.

*Intramural lesions or lymph nodes. Must be competent to perform mucosal EUS.

†Must be competent to perform pancreaticobiliary EUS.

D. Must have a thorough understanding of the indications, contraindications, individual risk factors, and benefit-risk considerations for the individual patient.

E. Must be able to clearly describe the EUS procedure and obtain informed consent.

F. Must have knowledge of the gastrointestinal and surrounding anatomy as imaged by EUS, and of the technical features of the equipment, work station, and accessories.

G. Must be able to safely intubate the esophagus, pylorus, and duodenum, and obtain imaging of the desired organ or lesion.

H. Must be able to accurately identify and interpret EUS images and recognize normal and abnormal findings.

I. Must be able to perform imaging such as tumor staging in agreement with surgical findings or findings of EUS trainer.

J. Must be able to document EUS findings and communicate with referring physicians.

K. Must competently perform those EUS procedures that were taught.

5. A clinician can obtain training in formal settings such as fellowship or residency programs. Less formal settings may be an option if an adequate number of supervised cases can be provided. Short courses, use of animal models, and computer-based learning are useful adjuncts but should not be used in lieu of direct supervised training.[3] Self-teaching through trial and error is not appropriate.
6. New EUS procedures or significant advances in existing procedures may occur. Endosonographers may wish to acquire privileges to perform these procedures. The degree of training, direct supervision, and proctoring will vary with the experience of the endoscopist.[5] When possible, objective criteria of competence should be developed and met.[6]

EUS is performed in several anatomic locations for various indications.[7] These include the evaluation and staging of mucosally based malignancies (esophagus, stomach, colon, rectum), evaluation of submucosal abnormalities, assessment of pathology involving the pancreas and bile ducts, and performance of EUS-guided FNA. It is recognized that a practitioner may be competent in one or more of these areas. Privileging should consider each of these areas separately and training must be adequate for the major category for which privileges are sought. Performance of an arbitrary number of procedures does not guarantee competency. The number of supervised procedures necessary to obtain competency will vary between trainees. Whenever possible, competence should be determined by objective criteria and direct observation.[3]

Threshold numbers of procedures that should be done before competency can be assessed are presented in Table 1. These numbers represent a minimum standard and should not be taken to indicate that competency has been achieved. These numbers are derived from studies on training in EUS, published expert opinion, and the consensus of the Ad Hoc EUS and Standards of Practice committees of the ASGE.

Mucosal tumors

The evaluation of esophageal, gastric, and duodenal tumors requires safe intubation of the esophagus, pylorus, and duodenum, accurate imaging of the lesion, and identification of lymphadenopathy with special attention to the celiac axis region. In a prospective study, competent intubation of the above sites was achieved in 1 to 23 procedures (median 1-2), with visualization of the gastric or esophageal wall in 1 to 47 procedures (median 10-15). Evaluation of the celiac axis required 8 to 36 procedures (median 25).[8] Two articles have addressed the issue of the learning curve in the staging of esophageal cancer. Fockens et al.[9] found that adequate staging accuracy was achieved only after 100 examinations, and Schlick et al.[10] found 75 cases to be the minimum to attain 89.5% T stage accuracy. Both of these articles involved largely self-taught practitioners and it is possible that competency may be achieved with fewer cases in the setting of a formalized training program. A survey of the American Endosonography Club suggested an average 44.3

cases for competent gastric imaging, 42.9 for the esophagus, and 37.1 for the rectum.[11] It is recognized that once competence is achieved in one anatomic location (e.g., esophageal cancer), then the number of cases required in other sites (e.g., stomach cancer) may be reduced. For this reason it is recommended that for the evaluation of mucosal tumors and malignancies, a minimum of 75 supervised cases, at least ⅔ in the upper GI tract, should be performed before competency can be assessed.

Submucosal abnormalities

EUS is indicated for the evaluation of submucosal abnormalities such as neoplasms, varices, enlarged gastric folds, and to determine intramural versus extrinsic location of an abnormality.[12] With the availability of inexpensive catheter-based EUS systems, practitioners may wish to become competent in the evaluation of these abnormalities separately from other indications for EUS. Although the number of cases required to accurately assess submucosal abnormalities has not been studied, the Standards of Training Committee of the ASGE recommends 40 to 50.[13]

Pancreaticobiliary imaging

Consensus opinion recognizes that accurate imaging and interpretation of images of the pancreas, bile duct, gallbladder, and ampulla is more technically demanding than for intramural lesions.[2,11] The number of pancreaticobiliary cases needed to achieve competency may be higher than for other anatomic sites. In a prospective study, adequate imaging of the pancreas required 15 to 74 cases (median 34), imaging of the bile and pancreatic ducts required 13 to 135 cases (median 55) and of the ampulla 13 to 134 cases (median 54).[8] A survey of the American Endosonography Club found that although technical competence in pancreaticobiliary imaging could be achieved in 94 cases, interpretive competence required 121,[11] whereas other expert opinion suggested 150 cases were needed for interpretative competence.[2]

EUS-guided FNA

The addition of EUS-guided FNA to standard EUS imaging adds both complexity and risk to the procedure.[3] FNA is performed in 3 general sites: intramural lesions, peri-gastrointestinal lymphadenopathy, and pancreatic lesions.[14] Of these sites, the most technically difficult and the one that carries the highest risk of complications is biopsy of pancreatic lesions and cysts.[14,15] Therefore, pancreatic and nonpancreatic FNA are considered separately. Successful and safe FNA first requires competence in standard EUS imaging.[2] The number of FNA cases needed to achieve competence has not been studied. EUS has similarities to ERCP in that each use side viewing instruments and combined endoscopic/radiologic imaging. For therapeutic ERCP it has been recommended that a minimum of 25 supervised cases be performed in addition to 75 diagnostic cases.[13] For nonpancreatic FNA (intramural lesions, lymph nodes) it is recommended that the trainee be competent to perform mucosal tumor EUS and have done at least 25 supervised FNA of nonpancreatic lesions. For pancreatic FNA it is recommended that the trainee be competent to perform pancreaticobiliary EUS and have done at least 25 supervised FNA of pancreatic lesions.

Comprehensive EUS competence

It is recognized that once clinical competence in one area of EUS practice has been achieved (e.g., staging mucosal tumors), the number of cases required to achieve competence in other areas (e.g., submucosal tumors) may be decreased. For practitioners interested in achieving competence in more than one area, training must include an adequate variety of clinical pathology. It is suggested that for those interested in mucosal and submucosal lesions but not pancreaticobiliary imaging, a minimum of 100 supervised cases be completed. For comprehensive competence in all aspects of EUS, at least 150 supervised cases should be performed, with 50 EUS guided FNA, and at least 75 pancreaticobiliary cases.

PRINCIPLES OF RECREDENTIALING AND RENEWAL OF EUS PRIVILEGES

The goal of recredentialing is to assure continued clinical competence, promote continuous quality improvement, and maintain patient safety (see "Renewal of Endoscopic Privileges" Gastrointest Endosc 1999;49:823-5).

ASSURING CONTINUED COMPETENCE IN EUS REQUIRES:

1. Documentation of an adequate case load to maintain skills. Documentation can include procedure log books or patient records and should include objective measures of the number of cases, procedure success, and complications.
2. Review of above statistics in a continuous quality improvement setting.
3. Documentation of continued cognitive training through participation in educational activities.

The purpose of this review and documentation should be restricted to use in continuous quality improvement and endoscopic credentialing.

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