Appropriate Use of Gastrointestinal Endoscopy

A consensus statement from the American Society for Gastrointestinal Endoscopy. Initially prepared by the Committee on Endoscopic Utilization. Revised by the Standards of Practice Committee and approved by the Governing Board.

INTRODUCTION

Progress in endoscopic technology has advanced the practice of Medicine as it relates to the gastrointestinal tract. Over the last thirty years, scientists and clinicians have acquired unprecedented access to the gastrointestinal lumen and the pancreatic and biliary ductal systems. Direct examination of the mucosal surface provides far greater information than that gained by two dimensional scans and x-rays. Further, endoscopic diagnosis and treatment of conditions have now supplanted many open surgical procedures. Ongoing technical improvements and innovations continue to extend potential endoscopic therapies.

The ASGE has continually promoted safe and responsible endoscopic practice. For more than 20 years, the ASGE with the assistance and support of the American Gastroenterological Association (AGA), the American College of Gastroenterology (ACG), Society for Surgery of the Alimentary Tract (SSAT), The Society of American Gastrointestinal Endoscopic Surgeons (SAGES), and The American Society for Colon and Rectal Surgery (ASCRS) has written guidelines on how endoscopy should be performed, by whom, and for what purposes. These guidelines have been published periodically and are reviewed and updated frequently.

It is critical that endoscopists receive thorough training in the cognitive aspects of gastrointestinal diseases as well as in the technical aspects of endoscopy. Extensive non-endoscopic training is necessary to provide the endoscopist with the depth of experience, judgement and knowledge necessary to recognize what has been seen and to formulate an appropriate plan for the patient’s subsequent care.

Standards of training and practice must be defined and implemented on a national, as well as a local basis. Therefore, the ASGE is continuing to meet with accrediting agencies concerning their mutual interest in quality of care and the peer review mechanisms.

The following information has been prepared for use by national and local procedure review committees to assist them in defining standards of endoscopic practice and training. This information should also be helpful to primary care physicians deciding how best to evaluate their patients.

DEFINITION OF GASTROINTESTINAL (GI) ENDOSCOPIC PROCEDURES

Esophagogastroduodenoscopy (EGD) affords an excellent view of mucosal surfaces of the esophagus, stomach, and proximal duodenum. Colonoscopy allows examination of the entire colon and rectum and frequently the terminal ileum. Standard diagnostic functions include inspection, biopsy, photography and video recording. Diagnostic observations are made concerning focal benign or malignant lesions, diffuse mucosal changes, luminal obstruction, motility, and extrinsic compression by contiguous structures. The most common therapeutic endoscopic procedures include polypectomy, dilatation of strictures, removal of foreign bodies, gastrostomy, and treatment of gastrointestinal bleeding with injection, banding, coagulation or sclerotherapy.

Endoscopic retrograde cholangiopancreatography (ERCP) employs endoscopy to identify the major and minor papillae. The biliary and pancreatic ductal systems are cannulated and opacified with contrast material to provide diagnostic information. Other diagnostic tools may be used in conjunction with ERCP including brush cytology, biopsy, and endoscopic ultrasound. Therapeutic maneuvers included with ERCP include endoscopic sphincterotomy with or without stent placement and with other ancillary techniques for the treatment of pancreatic and biliary duct disease.

Flexible sigmoidoscopy (FS) employs a flexible instrument to examine the rectum, sigmoid, and a variable length of more proximal colon.

Enteroscopy allows the visualization of a greater extent of the small bowel than EGD. Two types of enteroscopes are available, the push enteroscope, which allows limited tissue sampling and therapy, and the Sonde enteroscope, that potentially visual-
izes the entire small bowel without the ability of therapy or biopsy.

Endoscopic ultrasonography is a technique where a high frequency ultrasound transducer is incorporated into the tip of the endoscope or a probe is passed through the channel of the endoscope. This provides high resolution images of the gastrointestinal wall and adjacent structures. Instruments can be passed under ultrasonographic guidance to obtain tissue samples and perform therapy.

Laparoscopy is a procedure that allows direct visualization of major portions of the liver, gallbladder, spleen, stomach, large and small intestine, pelvic organs and peritoneum. Directed biopsy increases diagnostic accuracy. Diagnostic laparoscopy is the only gastrointestinal endoscopic procedure that does not use a natural body orifice for access. Access is gained through a small incision in the abdominal wall. Laparoscopy is simple, safe, and well-tolerated under local anesthesia and sedation. General anesthesia is neither necessary nor desirable, except in special circumstances. While sterile conditions are required, laparoscopy need not be performed in an operating room; routine backup by a surgical or anesthesia team is usually not required. The procedure may be performed on an outpatient basis.

A SUMMARY STATEMENT ON ENDOSCOPIC TRAINING AND PRACTICE

The ASGE supports the following statements pertaining to endoscopic training and practice. A more detailed statement is available in the ASGE Principles of Training in Gastrointestinal Endoscopy (Gastrointest Endosc 1999;49:845-853).

1. Those performing gastrointestinal endoscopy should be well trained in endoscopy as part of a broader clinical discipline such as gastroenterology, general or colorectal surgery.
2. Training in endoscopy is usually acquired during formal residency/fellowship training in an accredited (Accreditation Council for Graduate Medical Education) program. Training will include integration of endoscopy with clinical problem-solving and hands on performance of procedures under direct supervision of an experienced endoscopic trainer. Alternative comprehensive training in endoscopy should comply with published guidelines in Alternative Pathways to Training in Gastrointestinal Endoscopy (Gastrointest Endosc 1996;43:658-660).
3. Endoscopic competence is determined and certified by the endoscopic training supervisor.
4. Endoscopic competence must be demonstrated by those seeking privileges in local hospitals.
5. Attendance in short courses should not be considered a substitute for training acquired during a formal residency/fellowship in an accredited training program. Endoscopic privileges should not be granted to applicants citing attendance in short courses as the principal training experience.
6. Privileges should be granted for each separate procedure for which training has been documented and competence verified. The ability to perform any one endoscopic procedure does not imply competency to perform others.
7. Endoscopic privileges should be reviewed periodically with due consideration to procedure performance and continuing education. A more detailed statement is available from the ASGE, "Maintaining Competency in Endoscopic Skills" (Gastrointest Endosc 1995;42:620-621).

ENDOSCOPIC PRIVILEGE GRANTING

A guideline addressing methods of granting hospital privileges to perform gastrointestinal endoscopy has been published by the ASGE (Gastrointest Endosc 1998;48:679-682). Local hospital committees wishing to apply the foregoing criteria may find the following credentialing guidelines helpful.

1. The hospital staff should have minimal standards which uniformly apply to all endoscopists.
3. The applicant:
   A. Must be able to integrate gastrointestinal endoscopy into the overall clinical evaluation of the patient.
   B. Should have sound general medical or surgical training.
   C. Must have a thorough understanding of the indications, contraindications, individual risk factors and benefit-risk considerations for the individual patient.
   D. Must be able to clearly describe an endoscopic procedure and obtain informed consent.
   E. Must have a knowledge of endoscopic anatomy, technical features of endoscopic equipment, accessory endoscopic techniques, including biopsy, cytology, photography, thermal and non-thermal endoscopic therapy.
F. Must be able to accurately identify and interpret endoscopic findings.
G. Must have a thorough understanding of the principles, pharmacology and risks of conscious sedation/analgesia.
H. Must be able to document endoscopic findings and therapy, and communicate with referring physicians and integrate endoscopic findings into patient care.
I. Must be able to competently perform the specific procedure for which he/she is seeking privileges.

4. Endoscopic short courses are unacceptable as the principal evidence of competence for granting of privileges. Attendance in short courses should not be considered a substitute for training acquired during a formal residency/fellowship in an accredited training program.

5. Credentialing for all procedures, except sigmoidoscopy, should require the ability to perform associated therapeutic modalities.

6. Privileges should be granted on a procedure specific basis. The ability to perform any one endoscopic procedure does not imply competency to perform others, thus credentialing in one area of endoscopy does not necessarily apply to another endoscopic procedure.

7. Training requirements for non-endoscopists seeking to be privileged in flexible sigmoidoscopy should be less rigorous than that for other endoscopic procedures. Training still requires supervised hands on experience.

8. The renewal of privileges should be based on demonstration of continued endoscopic skills, participation in continuous quality improvement, and evidence of ongoing educational activities.

9. New endoscopic procedures or significant advances in existing procedures may occur. Endoscopists who have not received conventional formal training 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 and the nature of the procedure. When possible, objective criteria of competence should be developed and met.

10. Subspecialty board certification or membership in regional/national societies does not, per se, indicate competence to perform GI endoscopic procedures and should not be the sole or primary criterion for granting procedure privileges.

GENERAL INDICATIONS STATEMENTS

The indications and relative contraindications for doing each of the endoscopic diagnostic procedures are listed below. These guidelines are based on a critical review of available information and broad clinical consensus, and are as specific and definitive as possible.

Clinical considerations may occasionally justify a course of action at variance with these recommendations.

GI endoscopy is generally indicated:

1. If a change in management is probable based on results of endoscopy.
2. After an empiric trial of therapy for a suspected benign digestive disorder has been unsuccessful.
3. As the initial method of evaluation as an alternative to radiographic studies.
4. When a primary therapeutic procedure is contemplated.

GI endoscopy is generally not indicated:

1. When the results will not contribute to a management choice.
2. For periodic follow-up of healed benign disease unless surveillance of a premalignant condition is warranted.

GI endoscopy is generally contraindicated:

1. When the risks to patient health or life are judged to outweigh the most favorable benefits of the procedure.
2. When adequate patient cooperation or consent cannot be obtained.
3. When a perforated viscus is known or suspected.

SPECIFIC INDICATIONS STATEMENTS

1. Esophagogastroduodenoscopy (EGD) is generally indicated for evaluating:

A. Upper abdominal symptoms, which persist despite an appropriate trial of therapy
B. Upper abdominal symptoms associated with other symptoms or signs suggesting serious organic disease (e.g., anorexia and weight loss) or in patients over 45 years of age.
C. Dysphagia or odynophagia.
D. Esophageal reflux symptoms, which are persistent or recurrent despite appropriate therapy.
E. Persistent vomiting of unknown cause.
F. Other diseases in which the presence of upper GI pathology might modify other planned management. Examples include, patients who have a history of ulcer or GI bleeding who are scheduled for organ transplantation, long-term anti-coagulation or chronic nonsteroidal anti-inflammatory drug therapy for arthritis and those with cancer of the head and neck.
G. Familial adenomatous polyposis syndrome.

H. For confirmation and specific histologic diagnosis of radiologically demonstrated lesions:
   1. Suspected neoplastic lesion.
   2. Gastric or esophageal ulcer.
   3. Upper tract stricture or obstruction.

I. Gastrointestinal bleeding:
   1. In patients with active or recent bleeding.
   2. For presumed chronic blood loss and for iron deficiency anemia when the clinical situation suggests an upper GI source or when colonoscopy is negative.

J. When sampling of tissue or fluid is indicated.

K. In patients with suspected portal hypertension to document or treat esophageal varices.

L. To assess acute injury after caustic ingestion.

M. Treatment of bleeding lesions such as ulcers, tumors, vascular abnormalities (e.g., electrocoagulation, heater probe, laser photocoagulation or injection therapy).

N. Banding or sclerotherapy of varices.

O. Removal of foreign bodies.

P. Removal of selected polypoid lesions.

Q. Placement of feeding or drainage tubes (peroral, percutaneous endoscopic gastrostomy, percutaneous endoscopic jejunostomy).

R. Dilation of stenotic lesions (e.g., with transendoscopic balloon dilators or dilation systems employing guidewires).

S. Management of achalasia (e.g., botulinum toxin, balloon dilation).

T. Palliative treatment of stenosing neoplasms (e.g., laser, multipolar electrocoagulation, stent placement).

2. EGD is generally not indicated for evaluating:

A. Symptoms which are considered functional in origin (there are exceptions in which an endoscopic examination may be done once to rule out organic disease, especially if symptoms are unresponsive to therapy).

B. Metastatic adenocarcinoma of unknown primary site when the results will not alter management.

C. Radiographic findings of:
   1. Asymptomatic or uncomplicated sliding hiatal hernia.
   2. Uncomplicated duodenal ulcer which has responded to therapy.
   3. Deformed duodenal bulb when symptoms are absent or respond adequately to ulcer therapy.

3. Sequential or periodic EGD may be indicated:

   A. Surveillance for malignancy in patients with premalignant conditions (i.e., Barrett’s esophagus).

4. Sequential or periodic EGD is generally not indicated for:

   A. Surveillance for malignancy in patients with gastric atrophy, pernicious anemia, or prior gastric operations for benign disease.

   B. Surveillance of healed benign disease such as esophagitis, gastric or duodenal ulcer.

   C. Surveillance during repeated dilations of benign strictures unless there is a change in status.

5. Colonoscopy is generally indicated in the following circumstances

   A. Evaluation of an abnormality on barium enema or other imaging study, which is likely to be clinically significant, such as a filling defect or stricture.

   B. Evaluation of unexplained gastrointestinal bleeding.
      1. Hematochezia.
      2. Melena after an upper GI source has been excluded.
      3. Presence of fecal occult blood.

   C. Unexplained iron deficiency anemia.

   D. Screening and surveillance for colonic neoplasia.
      1. Screening of asymptomatic, average risk patients for colonic neoplasia.
      2. Examination to evaluate the entire colon for synchronous cancer or neoplastic polyps in a patient with treatable cancer or neoplastic polyp.

   3. Colonoscopy to remove synchronous neoplastic lesions at or around time of curative resection of cancer followed by colonoscopy at three years and 3-5 years thereafter to detect metachronous cancer.

   4. Following adequate clearance of neoplastic polyp(s) survey at 3-5 year intervals.

   5. Patients with significant family history.
      a. Hereditary non polyposis colorectal cancer: colonoscopy every two years beginning at the earlier of age 25, or five years younger than the earliest age of diagnosis of colorectal cancer. Annual colonoscopy should begin at age 40.
      b. Sporadic colorectal cancer before the age of 60: colonoscopy every five years begin-
ning at age 10 years earlier than the affected relative or every three years if adenoma is found.

6. In patients with ulcerative or Crohn's pancolitis eight or more years' duration or left sided colitis 15 or more years' duration every 1-2 years with systematic biopsies to detect dysplasia.

E. Chronic inflammatory bowel disease of the colon if more precise diagnosis or determination of the extent of activity of disease will influence immediate management.

F. Clinically significant diarrhea of unexplained origin.

G. Intraoperative identification of a lesion not apparent at surgery (e.g., polypectomy site, location of a bleeding site).

H. Treatment of bleeding from such lesions as vascular malformation, ulceration, neoplasia, and polypectomy site (e.g., electrocoagulation, heater probe, laser or injection therapy).

I. Foreign body removal.

J. Excision of colonic polyp.

K. Decompression of acute nontoxic megacolon or sigmoid volvulus.

L. Balloon dilation of stenotic lesions (e.g., anastomotic strictures).

M. Palliative treatment of stenosing or bleeding neoplasms (e.g., laser, electrocoagulation, stenting).

N. Marking a neoplasm for localization.

6. Colonoscopy is generally not indicated in the following circumstances

A. Chronic, stable, irritable bowel syndrome or chronic abdominal pain; there are unusual exceptions in which colonoscopy may be done once to rule out disease, especially if symptoms are unresponsive to therapy.

B. Acute diarrhea.

C. Metastatic adenocarcinoma of unknown primary site in the absence of colonic signs or symptoms when it will not influence management.

D. Routine follow-up of inflammatory bowel disease (except for cancer surveillance in chronic ulcerative colitis and Crohn's colitis).

E. Upper GI bleeding or melena with a demonstrated upper GI source.

7. Colonoscopy is generally contraindicated in:

A. Contraindications listed under General Indications statements.

B. Fulminant colitis.

C. Documented acute diverticulitis.

8. Endoscopic Retrograde Cholangiopancreatography (ERCP) is generally indicated in:

A. The jaundiced patient suspected of having biliary obstruction (appropriate therapeutic maneuvers should be performed during the procedure).

B. The patient without jaundice whose clinical and biochemical or imaging data suggests pancreatic or biliary tract disease.

C. Evaluation of signs or symptoms suggesting pancreatic malignancy when results of direct imaging (e.g., US, CT or MRI) are equivocal or normal.

D. Evaluation of pancreatitis of unknown etiology.

E. Preoperative evaluation of the patient with chronic pancreatitis and/or pseudocyst.

F. Evaluation of the sphincter of Oddi by manometry.

G. Endoscopic Sphincterotomy
   1. Choledocholithiasis
   2. Papillary stenosis or sphincter of Oddi dysfunction causing significant disability
   3. To facilitate placement of biliary stent or balloon dilation of biliary stricture

H. Stent placement across benign or malignant strictures, fistulae, postoperative bile leak or in high-risk patients with large unremovable common duct stones.

I. Balloon dilation of ductal strictures.

J. Nasobiliary drain placement for prevention of or treatment of acute cholangitis or infusion of chemical agents for common duct stone dissolution, for decompression of an obstructed common bile duct or postoperative bile leak.

K. Pancreatic pseudocyst drainage in appropriate cases.

L. Tissue sampling from pancreatic or bile ducts.

M. Therapy of disorders of the pancreatic duct.

9. ERCP is generally not indicated in:

A. Evaluation of abdominal pain of obscure origin in the absence of objective findings which suggest biliary or pancreatic disease.

B. Evaluation of suspected gallbladder disease without evidence of bile duct disease.

C. As further evaluation of proven pancreatic malignancy unless management will be altered.

10. ERCP is generally contraindicated for:

A. Contraindications listed in General Indications statements.
11. Flexible sigmoidoscopy (FS) is generally indicated for:
   A. Screening of asymptomatic, average risk patients at risk for colonic neoplasia.
   B. Evaluation of suspected distal colonic disease when there is no indication for colonoscopy.
   C. Evaluation of the colon in conjunction with barium enema.
   D. Evaluation for anastomotic recurrence in rectosigmoid carcinoma.
   E. Patients with a family history of familial adenomatous polyposis
      1. Annually from age 10-12 years with colectomy when polyps develop
      2. Annually to age 40 years if no polyps found then every 3-5 years thereafter.

12. FS is generally not indicated:
   A. When colonoscopy is indicated.

13. FS is generally contraindicated for:
   A. Contraindications listed in General Indications statements.
   B. Documented acute diverticulitis.

14. Therapeutic FS may be indicated for:
   A. All colonoscopic procedures under special circumstances, (e.g. polypectomy in patient with subtotal colectomy, laser photo-coagulation of a rectal carcinoma). However, colonoscopy and not FS is generally indicated for therapeutic colonic procedures (e.g.polypectomy).

15. Enteroscopy is generally indicated for:
   A. Evaluation of the source of gastrointestinal bleeding not identified by EGD or colonoscopy.
   B. Evaluation of an abnormal radiographic imaging study of the small bowel.
   C. Localization of known or suspected small bowel lesions.
   D. Therapy of small bowel lesions beyond the reach of a standard endoscope.
   E. Tissue sampling from the small bowel.

16. Enteroscopy is generally not indicated:
   A. When the source of gastrointestinal bleeding has been identified by EGD or colonoscopy.
   B. When the findings of the procedure will not alter therapy.

17. Enteroscopy is generally contraindicated:
   A. Contraindications listed in General Indications statements.

18. Endoscopic ultrasound is generally indicated for:
   A. Staging tumors of the gastrointestinal tract, pancreas, bile ducts and mediastinum.
   B. Evaluating abnormalities of the gastrointestinal tract wall or adjacent structures.
   C. Tissue sampling of lesions within, or adjacent to, the wall of the gastrointestinal tract.
   D. Evaluation of abnormalities of the pancreas, including masses, pseudocysts and chronic pancreatitis.
   E. Evaluation of abnormalities of the biliary tree
   F. Providing endoscopic therapy under ultrasonographic guidance.

19. Endoscopic ultrasound is generally not indicated:
   A. When the results will not alter patient care.
   B. Staging of tumors shown to be metastatic by other imaging methods (unless the results are the basis for therapeutic decisions)

20. Endoscopic ultrasound is generally contraindicated:
   A. Contraindications listed in General Indications statements.

21. Laparoscopy is generally indicated for:
   A. Evaluation of focal liver disease (benign and malignant) particularly when image directed biopsies are non diagnostic
   B. Staging of intraabdominal malignancies (e.g., liver, pancreas, stomach, esophagus)
   C. Suspended intraabdominal malignancy (e.g., hepatic/peritoneal metastasis) when imaging studies are negative
   D. Suspected cirrhosis with non-diagnostic percutaneous biopsy
   E. Cirrhosis when blind percutaneous biopsy may be hazardous (e.g., small shrunken liver, marked ascites, overlying intestinal loops, coagulopathy)
   F. Ascites of unknown cause
   G. Disorders of the peritoneum (e.g., mesothelioma, metastatic disease, tuberculous peritonitis)

22. Laparoscopy is generally not indicated:
   A. When direct percutaneous or image directed biopsies are diagnostic
   B. When open surgery is indicated despite the results of laparoscopy
23. **Laparoscopy is contraindicated in:**

A. Abdominal wall infections  
B. Acute, cardio-pulmonary disease  
C. History of generalized peritonitis or perforated viscus resulting in extensive adhesions  
D. Intestinal obstruction  
E. Severe coagulopathy

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