



Complete Summary

GUIDELINE TITLE

Guidelines for surgical treatment of gastroesophageal reflux disease (GERD).

BIBLIOGRAPHIC SOURCE(S)

Society of American Gastrointestinal Endoscopic Surgeons (SAGES). Guidelines for surgical treatment of gastroesophageal reflux disease (GERD). Santa Monica (CA): Society of American Gastrointestinal Endoscopic Surgeons (SAGES); 2001 Jun. 6 p. [39 references]

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SCOPE

DISEASE/CONDITION(S)

Gastroesophageal reflux disease (GERD)

GUIDELINE CATEGORY

Treatment

CLINICAL SPECIALTY

Gastroenterology
Surgery

INTENDED USERS

Physicians

GUIDELINE OBJECTIVE(S)

To outline the indications for and appropriate surgical treatment of gastroesophageal reflux disease (GERD)

TARGET POPULATION

Individuals with documented gastroesophageal reflux disease (GERD)

INTERVENTIONS AND PRACTICES CONSIDERED

1. Preoperative workup procedures, such as:
 - Esophagogastroduodenoscopy
 - Esophageal manometric evaluation
 - 24-hour intraesophageal pH monitoring
 - Barium cineradiography
2. Surgical procedures:
 - Techniques to re-establish the antireflux barrier, assure adequate intraabdominal esophageal length, mobilize the gastric fundus, and close any associated hiatal defect
 - Laparoscopic treatment

MAJOR OUTCOMES CONSIDERED

Not stated

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

The guideline developer performed a MEDLINE search.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Not stated

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Not applicable

METHODS USED TO ANALYZE THE EVIDENCE

Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Not stated

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

This statement was reviewed and approved by the Board of Governors of the Society of American Gastrointestinal Endoscopic Surgeons (SAGES).

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Surgical Treatment Of Gastroesophageal Reflux Disease (GERD)

A. Preoperative Work-Up

Before considering surgical treatment of gastroesophageal reflux disease (GERD), it is recommended that patients undergo:

1. Esophagogastroduodenoscopy (with biopsy, where appropriate)
2. Esophageal manometric evaluation

In selected cases, the following investigations may prove helpful:

3. 24-hour intraesophageal pH monitoring (Klingman, Stein, & DeMeester, 1991)
4. Barium cineradiography

While not always available, these investigations should not only confirm the diagnosis, but also lead to appropriate selection of patients for surgical repair. In particular, biopsies from areas of suspected Barrett's epithelium may document the presence of severe dysplasia or carcinoma. In such settings, an antireflux procedure alone would be inappropriate and other interventions such as resection or close endoscopic surveillance might be indicated (Spechler & Goyal, 1996; Lagergren et al., 1999). Upper gastrointestinal endoscopy may also identify other esophagogastric mucosal abnormalities, suggesting symptomatic etiologies other than gastroesophageal reflux disease. Additionally, a normal 24-hour intraesophageal pH study should strongly suggest an alternate diagnosis and lead to additional diagnostic investigations. Finally, abnormal peristalsis on esophageal manometric study may suggest a significant risk of dysphagia following fundoplication and may indicate need for a modified surgical procedure.

B. Indications for Surgery

Surgical therapy should be considered in those individuals with documented gastroesophageal reflux disease who:

1. Have failed medical management

OR

2. Opt for surgery despite successful medical management (due to life style considerations including age, time or expense of medications, etc.)

OR

3. Have complications of gastroesophageal reflux disease (e.g., Barrett's esophagus; grade III or IV esophagitis) (Spechler & Goyal, 1996; Lagergren et al., 1999)

OR

4. Have medical complications attributable to a large hiatal hernia (e.g., bleeding dysphagia)

OR

5. Have "atypical" symptoms (e.g., asthma, hoarseness, cough, chest pain, aspiration) and reflux documented on 24-hour pH monitoring

In patients with Barrett's changes and dysplasia, the risk of underlying malignancy is significant. This mandates increased vigilance. Esophagectomy should be considered if the severe dysplasia persists (Lagergren et al., 1999; Ortiz et al., 1996).

C. Surgical Techniques

Various safe and effective surgical techniques have been developed to realize the goals listed below (Hill, 1967; Lerut et al., 1990; Luostarinen, 1993). The choice of technique has typically been based upon anatomic considerations, as well as the surgeon's preference and expertise. Many of these techniques have been extensively tested and proven to be effective in controlling reflux with minimal side effects. The 360 degree or Nissen-type fundoplication has emerged as the most widely accepted procedure for patients with normal esophageal motility (Devault & Castell, 1994; Wetscher, Redmond, & Vititi, 1993; Donohue et al., 1985; Grande et al., 1994; Mira-Navarro et al., 1994). For patients with compromised esophageal motility, one of the various partial fundoplications (e.g., Toupet fundoplication) should be considered to decrease the possibility of postoperative dysphagia. The success of an antireflux procedure depends upon the surgeon's familiarity and training with the specific technique and his/her ongoing involvement in the pre- and post-operative care. The choice of procedure and methods of access (open or laparoscopic) should be determined by the surgeon's experience and training more than by the technique itself. Special mention of the laparoscopic approaches for the treatment of gastroesophageal reflux disease is made below.

The primary goal of surgical intervention for gastroesophageal reflux disease is to re-establish the antireflux barrier without creation of undue side effects. In addition, most surgeons feel it is necessary to:

1. Assure adequate intraabdominal esophageal length to allow a longitudinal, tension free fundoplication around the distal esophagus

AND

2. Mobilize the gastric fundus to facilitate a torsion and tension free fundoplication

AND

3. Close any associated hiatal defect

D. Laparoscopic Treatment of Gastroesophageal Reflux Disease

Laparoscopic antireflux procedures rely on videoscopic technologies to allow surgeons to reproduce the accepted "open" procedures in a minimally invasive fashion (Hill et al., 1994; Dallemange, Weerts, & Jahaes et al., 1991; Collard et al., 1994; Cuschieri et al., 1993). The benefits of a laparoscopic approach are analogous to those realized with laparoscopic cholecystectomy and include a shorter and more comfortable recovery with an earlier return to normal activities. Several reports in the literature document the feasibility, safety, and favorable results of laparoscopic antireflux procedures (Collard et al., 1994; Cuschieri et al., 1993; Weerts et al., 1993; Peters et al., 1995; Hunter et al., 1996).

The indications for laparoscopic treatment of gastroesophageal reflux disease are the same as those outlined earlier in this document. Laparoscopic antireflux surgery should only be offered by surgeons skilled and privileged in the equivalent open antireflux procedure. Safe and effective laparoscopic

treatment of gastroesophageal reflux disease requires advanced laparoscopic skills such as intracorporeal knot tying, the use of angled scopes to achieve multiple viewing angles, and two-handed organ and tissue manipulation. Therefore, appropriate training in advanced laparoscopic techniques is mandatory. These skills are most appropriately acquired through a residency, fellowship, or course that details the specific laparoscopic antireflux technique and teaches the appropriate advanced skills. Such a course should provide documentation of attendance and skills taught. Before attempting such a procedure independently, the surgeon should be preceptored by a surgeon experienced in the procedure (SAGES publication # 14, 1992). Finally, laparoscopic antireflux surgery requires a well-trained operating team familiar with the equipment, instruments and techniques of antireflux surgery.

E. Summary

Gastroesophageal reflux disease is a significant health concern. Medical management is expensive and may be necessary lifelong. Effective surgical therapy is available and, if performed by experienced surgeons, is successful in greater than 90% of patients. Laparoscopic techniques that reproduce their "open" counterpart are also available. When performed by appropriately trained surgeons, these laparoscopic approaches appear to hasten the patient's recovery and return to normal function.

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

REFERENCES SUPPORTING THE RECOMMENDATIONS

[References open in a new window](#)

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

Surgical treatment of gastroesophageal reflux disease (GERD) is supported by two controlled trials (the most recent is a prospective randomized controlled trial) and other longitudinal studies.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Two controlled trials that compared medical and surgical therapy of gastroesophageal reflux disease (GERD) favored surgical therapy. In the most recent prospective randomized comparison, surgical treatment was significantly more effective than medical therapy (ranitidine and metoclopramide) in improving symptoms and endoscopic signs of esophagitis for periods of up to two years. Other longitudinal studies report good to excellent long-term results in 80% to 93% of surgically treated patients. In addition, laparoscopic techniques when

performed by appropriately trained surgeons appear to hasten the patient's recovery and return to normal function.

POTENTIAL HARMS

Not stated

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Getting Better
Living with Illness

IOM DOMAIN

Effectiveness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

Society of American Gastrointestinal Endoscopic Surgeons (SAGES). Guidelines for surgical treatment of gastroesophageal reflux disease (GERD). Santa Monica (CA): Society of American Gastrointestinal Endoscopic Surgeons (SAGES); 2001 Jun. 6 p. [39 references]

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

1998 Feb (revised 2001 Jun)

GUIDELINE DEVELOPER(S)

Society of American Gastrointestinal Endoscopic Surgeons - Medical Specialty Society

SOURCE(S) OF FUNDING

Society of American Gastrointestinal Endoscopic Surgeons (SAGES). No outside funding sources were used.

GUIDELINE COMMITTEE

Committee on Standards of Practice

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Not stated

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

This is the current release of the guideline. It updates a previously issued version (Guideline for surgical treatment of gastroesophageal reflux disease [GERD]. Surg Endosc 1998 Feb; 12[2]: 186-8).

An update is not in progress at this time.

GUIDELINE AVAILABILITY

Electronic copies: Available from the [Society of American Gastrointestinal Endoscopic Surgeons \(SAGES\) Web site](#).

Print copies: Available from the Society of American Gastrointestinal Endoscopic Surgeons (SAGES), 2716 Ocean Park Boulevard, Suite 3000, Santa Monica, CA 90405; Web site: www.sages.org.

AVAILABILITY OF COMPANION DOCUMENTS

None available

PATIENT RESOURCES

The following is available:

- SAGES Task Force on Patient Information. Patient information from your surgeon and SAGES. Laparoscopic anti-reflux surgery. Surgery for "heartburn." Santa Monica (CA): Society of American Gastrointestinal Endoscopic Surgeons (SAGES), 1997. 6 p.

Electronic copies: Available from the [Society of American Gastrointestinal Endoscopic Surgeons \(SAGES\) Web site](#).

Print copies: Available from the Society American Gastrointestinal Endoscopic Surgeons (SAGES), 2716 Ocean Park Boulevard, Suite 3000, Santa Monica, CA

90405; Web site: www.sages.org. The printing of this brochure was made possible by a generous educational grant from U.S. Surgical Corporation.

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NGC STATUS

This summary was completed by ECRI on November 19, 1999. The information was verified by the guideline developer on February 15, 2000. This summary was updated by ECRI on March 13, 2002.

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