Managing Chronic Gastroesophageal Reflux Disease

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Key Clinical Issue
What are the effectiveness, benefits, and harms of therapies used to address symptoms and prevent adverse long-term outcomes in adults with gastroesophageal reflux disease (GERD)?

Evidence-Based Answer
Proton pump inhibitors (PPIs) are superior to histamine H₂ antagonists for treating chronic GERD. Comparisons among different PPIs or among different dosages and dosing regimens show few consistent differences. Limited studies suggest that continuous daily dosing provides improved symptom control and quality of life at six months compared with on-demand dosing. Surgery appears to be as effective as medication through up to three years of follow-up, but serious adverse effects may be more common with surgical treatments. Evidence to evaluate endoscopic treatments is lacking. (Strength of Recommendation: A, based on consistent, good-quality patient-oriented evidence.)

Practice Pointers
GERD is defined as the presence of chronic symptoms, with or without mucosal damage, from abnormal reflux of stomach contents into the esophagus. GERD is common, with more than 40 percent of the U.S. population experiencing at least one episode of heartburn monthly.¹ Treatment typically begins with lifestyle modifications. Medical treatment options include a variety of over-the-counter and prescription medications, including H₂ antagonists and PPIs. Surgical therapies include endoscopic and laparoscopic procedures and open surgeries.

There is moderately strong evidence that PPIs are superior to H₂ antagonists at relieving symptoms at four and eight weeks. Additional studies have found PPIs to be superior to H₂ antagonists at relieving symptoms for up to 12 months.²

Numerous randomized controlled trials have compared various PPIs. Esomeprazole (Nexium), 40 mg daily, is significantly better at relieving symptoms at four weeks than omeprazole (Prilosec), 20 mg daily. Limited evidence suggests that rabeprazole (Aciphex), 10 mg daily, is superior to esomeprazole, 40 mg daily, at four weeks, and that pantoprazole (Protonix), 20 mg daily, is superior to esomeprazole, 20 mg daily, at 24 weeks for symptom relief. However, it is likely that for PPIs, varying the dosage of one drug would achieve comparable effectiveness to another. Scheduled daily dosing of esomeprazole, 20 mg, provides better symptom control, improved quality of life, and improved endoscopic remission than on-demand dosing over six months. No other studies have shown clinically important differences in dosing regimens for individual PPIs. There also is no evidence to suggest that prescription PPIs are superior to over-the-counter PPIs. Clinically, these findings suggest that there is no single best choice of PPI or dosing regimen.²

Adverse effects with PPIs occur in less than 2 percent of patients and include diarrhea, nausea or vomiting, abdominal pain, dyspepsia, and headache. There is no difference in adverse effects among PPIs. Some studies have reported an association between PPI use and pneumonia and enteric infections, such as Campylobacter and Clostridium difficile.³ Another potential serious complication of long-term PPI use is bone fracture.
A recent meta-analysis comparing patients taking PPIs with patients not taking acid suppression therapy or taking acid suppression therapy other than PPIs showed an overall fracture odds ratio of 1.20 (95% confidence interval, 1.11 to 1.30), with the strongest evidence for spine fractures.4

Patients who have persistent symptoms of GERD despite adequate medical therapy, or who are intolerant of medical therapy, can
be considered for surgical options.\textsuperscript{5} Surgical options have been shown to be superior to medical management.\textsuperscript{1,6} Cost analyses have also suggested that surgery is a cost-effective approach.\textsuperscript{6,7}

Laparoscopic fundoplication is considered the standard surgical procedure for medication-recalcitrant GERD.\textsuperscript{8} There is no significant difference in effectiveness between total and partial laparoscopic fundoplication, between laparoscopic fundoplication with and without division of short gastric vessels, or between open total and partial fundoplication.\textsuperscript{2} There are more limited data and conflicting evidence on the effectiveness of specific endoscopic techniques.

Patients undergoing surgical intervention had better long-term symptom relief than patients on medical therapy alone. The magnitude of this difference was difficult to estimate because of the large number of patients who dropped out of the long-term studies (33 to 58 percent).\textsuperscript{2} Surgical patients generally were not able to discontinue medical therapy completely.

Short-term adverse outcomes were more common and more serious with surgery than with medication. The most common adverse outcomes in the first 30 days after surgery include splenic injury or splenectomy (less than 1 to 2.2 percent); gastrointestinal injury, including perforation (less than 1 to 3.4 percent); and infection or fever (less than 1 percent). The rate of conversion from laparoscopic to open procedures was 3.1 to 7.3 percent. The most common adverse outcomes in the first 30 days after endoscopic procedures were pain (0 to 83 percent), gastrointestinal injury (0 to 6.8 percent), bleeding (0 to 11 percent), and dysphagia (less than 1 to 24 percent). Up to 35 percent of patients may need additional surgery.\textsuperscript{2} The decision to refer a patient for a surgical procedure must be made on an individual basis. Patients should be informed that surgery is associated with significant risks and that it may not eliminate the need for medical therapy.

Older age, morbid obesity, female sex, severe baseline symptoms, and esophagitis with a hiatal hernia of more than 3 cm were all associated with poorer surgical outcomes, although the strength of the evidence was weak. Obesity, baseline symptoms, and more severe baseline esophagitis are associated with worse outcomes in patients undergoing medical therapy.

The views expressed in this article are those of the authors and do not reflect the policy or position of the U.S. Army Medical Department, Department of the Army, Department of Defense, or the U.S. Government.

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Author disclosure: No relevant financial affiliations to disclose.

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