



## Management of Gastroesophageal Reflux Disease (GERD)

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### ABSTRACT :

The main objectives of treatment for patients with gastroesophageal reflux disease are symptom relief, symptom relapse prevention, erosive esophagitis healing, and esophagitis complication prevention therapy for reflux esophagitis patient is intended to suppress acid production by means of pharmacologic agents a proton pump inhibitor [PPI] taken 30 to 60 minutes before the first meal of the day, or a histamine H2-receptor antagonist [H2RA] taken on demand) and lifestyle changes (e.g., raising the head of the bed, changing the amount and makeup of meals). Step-up therapy (start with an H2RA for eight weeks; if symptoms do not improve, switch to a PPI) or step-down therapy (start with a PPI and titrate to the next higher dose) is the recommended empirical strategy.

### Introduction :

The condition known as gastroesophageal reflux disease (GERD) is persistent, recurrent illness linked to a considerable risk of morbidity and even death from complications. Gastroesophageal reflux disease is caused by the dysfunction of the lower esophageal sphincter whereby frequent and/or prolonged relaxations lead to regurgitation of gastric acid Heartburn, the classic sign of acid regurgitation is thought to affect 61 million adults in the United States, or 44 percent of the population, at least once a month.<sup>[1]</sup> Thirteen percent of Americans experience symptoms on a weekly basis, and seven percent experience symptoms on a daily basis.<sup>[1,2]</sup> Gastroesophageal reflux disease (GERD) is a prevalent long-term, relapsing condition linked to a considerable risk of morbidity and even death from consequences. Heartburn, the classic sign of acid regurgitation, is thought to affect 61 million adults in the United States, or 44 percent of the population, at least once a month. About 14% .

The gastroesophageal mucosa becomes damaged and deformed as a result of the acid over time. Genetic susceptibility, obesity, and tobacco use are risk factors for GERD<sup>[3]</sup> Complications from untreated GERD might be extra-esophageal (chronic laryngitis, hypersalivation, asthma exacerbations) or esophageal (esophagitis, Barrett's esophagus, esophageal strictures, or esophageal cancer). The prevalence of GERD associated complications is 18% to 25% for esophagitis, 7% to 23% for esophageal strictures, and 7.2% for Barrett's esophagus.<sup>[3]</sup> Many patients cure their symptoms on their own, self-diagnose, and avoid seeking medical care, while some have more serious illness, such as erosive esophagitis.<sup>[3]</sup> GERD patients typically experience worse well-being, lower productivity, and lower quality of life. Compared to patients with untreated angina pectoris or chronic heart failure, many of these patients report a lower quality of life.<sup>4</sup> An evidence-based strategy for the economical management of GERD patients is summarized in this article.

The majority of money spent on GERD treatment goes toward acid-suppressing medications, with esomeprazole alone costing \$5.2 billion. However, new research has raised concerns about the possible negative effects of prolonged acid suppression, which has led to a reevaluation of the data supporting GERD treatment with medicine. For the treatment of GERD, lifestyle changes like weight loss, food adjustments, and mealtime routines continue to be the recommended first line of treatment. If these methods are unsuccessful, pharmaceutical therapy is then considered.

In this article, we provide a comprehensive review of the current guidelines on the medical management of GERD. A summary of the recommendations and their respective grades based on the Strength of Recommendation Taxonomy (SORT) are presented in (Table 3).

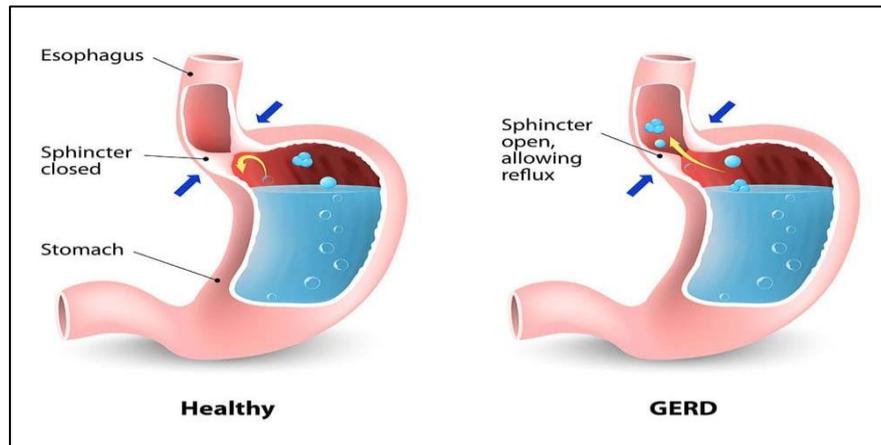


FIG.1.1GERD

TABLE.1 Atypical Signs and Symptoms of GERD

- Asthma
- Chest pain
- Chronic cough
- Dental enamel loss
- Globus sensation
- Initial onset of heartburn and regurgitation after 45 years of age
- Recurrent sore throat
- Subglottic stenosis

TABLE 2: Indication and Warning Signs of Complicated GERD

- Dysphagia
- Early sensation of fullness
- hemorrhage in the gastrointestinal tract
- Anemia due to a lack of iron
- Odynophagia
- Loss of weight

### Diagnosis :

The diagnosis of GERD must be established thorough medical history. If a patient With the traditional signs of acid regurgitation and heartburn, the diagnosis can be made with high specificity but low sensitivity.<sup>[6,7]</sup> Patients who have heartburn may not have GERD, while others who have Barrett's esophagus or esophageal adenocarcinoma may not experience heartburn symptoms. Only 2 to 3 percent of acid reflux events reach the conscious level and are perceived by patients with GERD.<sup>8</sup> Furthermore, many patients with GERD present with atypical symptoms (Table 1) although the presence of such symptoms is not required for clinical diagnosis.

In clinical practice, the history is used to make the initial diagnosis of GERD. It is recommended to try empiric acid suppression medication for four to eight weeks. in individuals with standard GERD symptoms who do not exhibit unusual symptoms or warning indicators of a complex illness<sup>[8]</sup> (Table 2).

Treatment for the empirical trial may begin with a regular dosage of a twice-daily histamine H<sub>2</sub>-receptor antagonist (H<sub>2</sub>RA). daily as needed or as directed by a physician; a proton pump inhibitor (PPI) dose should be taken 30 to 60 minutes prior to the first meal of the day. Step-up or step-down therapy is the favored empirical strategy. Step-up therapy starts with an eight-week H<sub>2</sub>RA trial and moves on to PPI use if reflux and heartburn symptoms are not improved. Step-down therapy begins with a PPI for eight weeks, after which the patient's medicine is "downgraded" to the least potent kind and dosage that still relieves symptoms.

The frequency or intensity of symptoms at presentation should be taken into consideration when choosing a drug with the ultimate goal of treatment being full, affordable symptom relief. Patients who exhibit warning signs and symptoms, have not responded to PPI therapy, or had their disease for five to ten years should be the only ones who undergo diagnostic testing.

### Treatment :

#### Lifestyle modification

Expert opinion states that patients should begin and maintain lifestyle modifications during their therapy. Having a medical history consistent with simple GERD.<sup>[9]</sup> Even though there isn't much evidence to support it, it makes sense to inform patients about the several things that can cause reflux. A few lifestyle changes that have been shown to help with GERD control are losing weight, avoiding eating just before bed and time, and avoiding

poisonous substances or meals that can worsen symptoms. The primary course of treatment should always be adjustments in lifestyle. Which include following –

1. Weight loss
2. Dietary factors
3. Toxic habits
4. Body posture
5. Meal timing in relation to bedtime

**Table 3. Lifestyle Modifications in the Treatment of GERD.**

Lifestyle modifications Strength of recommendation taxonomy (SORT)

1. Weight loss	Grade A (level of evidence 1)
2. Avoidance of trigger foods/beverages	Grade C (level of evidence 2)
3. Avoid alcohol and tobacco	Grade B (level evidence of 1 and 2)
4. Elevation of the head of the bed	Grade A (level of evidence 1)
5. Avoidance of meals for at least 3 h before bedtime	Grade B (level of evidence 2)

### Pharmacological therapy :

Patients who find that changing their lifestyle is not helpful in managing their GERD symptoms may benefit from pharmacologic medication. The basic principle of acid suppression is the medication-based treatment for GERD. Traditional therapeutic agents for the treatment of GERD include acid suppressants such as proton pump inhibitors (PPIs), histamine-2-receptor blockers (H2B), and antacids, as well as medications that may affect gastrointestinal motility. Lately, pharmacologic therapy for GERD has drawn attention due to several studies that have revealed potential side effects of long-term therapy, particularly for PPI therapy.

#### ANTACID :

Over-the-counter antacids and acid suppressants are thought to be a suitable first treatment for GERD. Nearly one-third of At least twice a week, patients with heartburn-related symptoms use one of these medications, spending more than \$1 billion on them annually.<sup>[7,8]</sup> Studies have demonstrated that antacids (such as Tums, Rolaids, and Maalox) and antacid–alginic acid preparations work better than placebos at reducing the symptoms of GERD. These studies have measured reductions in global symptom scores, reductions in acid regurgitation, and reductions in the number of days. The prescription medication sucralfate, also known as carafate, raises the esophageal barrier's resistance to acid entry. therapeutic research on GERD patients has, however, revealed little to no therapeutic efficacy for this medication.<sup>[9]</sup>

#### HISTAMINE H2-RECEPTOR ANTAGONISTS :

Several randomized controlled trials (RCTs) have demonstrated that H2RAs at regular dosages are superior to placebo in treating GERD patients' heartburn; a few weeks after starting treatment, up to 70% of patients reported symptom alleviation<sup>[13, 14]</sup> There hasn't been a comparison of the recurrence rates of esophagitis symptoms between patients treated with H2RAs and placebo in any RCTs or systematic reviews.

Patients with erosive esophagitis treated with H2RAs had faster healing rates than those receiving a placebo, according to a systematic evaluation of 43 RCTs. [Level A evidence, RCT meta-analysis] These drugs seem to work better at treating reflux symptoms and healing esophagitis when used at higher dosages and more often.<sup>22</sup> There could be two drawbacks to taking the highest dosages of H2RAs: poor drug compliance and cost, which could be on par with or more than PPI therapy. FDA approval has been granted for the use of cimetidine (Tagamet), famotidine (Pepcid), nizatidine (Axid), and ranitidine (Zantac) as over-the-counter medications, each medication's dosage being exactly half of the lowest recommended prescription amount. The therapeutic efficacy of the four drugs is comparable.

Certain GERD patients might be able to forecast when they will experience reflux symptoms. Pre medication may be beneficial for certain patients. Use an over-the-counter H2RA for premedication. Alternatively, individuals may choose to take the medication as needed (on-demand therapy). Alginic acid, placebo, and antacids are thought to be less effective than over-the-counter H2RAs. At typical dosages, the effectiveness of promotility agents is comparable to that of H2RAs. Agents of promotion might be utilized to supplement therapy; but due to their link to uncommon, deadly cardiac arrhythmias, they are rarely employed. Randomized trials have not looked at the course of GERD that is not receiving enough treatment. The extent of stomach acid suppression required to guarantee sufficient esophageal repair is not well understood. After 30 days of treatment patients may become less effective with H2RAs due to tolerance.

In individuals with renal impairment and the elderly, H2RA dosages may need to be reduced. In certain case studies, these Rare cases of cypopenias, gynecomastia, abnormal liver function tests, and hypersensitivity responses have all been linked to agents. There are no RCTs that look at the long-term safety of H2RA therapy.

#### PROTON PUMP INHIBITORS :

A patient should receive suitable step-up therapy if, after two weeks, they do not react to twice-daily H2RA medication. Should transition to PPI medication once a day.<sup>[14]</sup> Evidence from multiple RCTs revealed that patients treated with PPIs (83%) had greater control during a four- to eight-week

period of time than patients who received H2RAs or a placebo, and that these patients also had symptomatic remission at 12 months.<sup>24</sup> Patients received a placebo (27 percent) or H2RAs (60 percent).<sup>14</sup> Research also suggests that step-down and step-up therapy are worthwhile and economical approaches to employ. Additionally, a study revealed that a notably higher proportion of individuals using PPI treatment.

PPI therapy for four to eight weeks was associated with faster healing rates in individuals with erosive esophagitis. weeks (78%) compared to those who received a placebo (24%) or H2RAs (50%) within the same time frame<sup>[13]</sup> Patients receiving daily PPI treatment had a significantly lower recurrence rate at one year compared to those receiving an H2RA. Lansoprazole (Prevacid), omeprazole (Prilosec), pantoprazole (Protonix), and rabeprazole (Aciphex) are among the PPIs. There haven't been any discernible changes found while using these medications to treat GERD symptoms or mend erosive esophagitis.

Recently, omeprazole became generically available at a price that was only somewhat less than that of Prilosec. Soon, an omeprazole over-the-counter version ought to be available.

PPIs have not been linked to gastric cancer or carcinoid since their release more than 16 years ago. In patients with chronic or complicated GERD, the potential benefit of long-term PPI therapy generally outweighs the risk of adverse events. The most common side effects include headache and diarrhea. Rarely, cobalamin absorption is decreased, but a clinically significant decrease in serum vitamin B12 levels is unusual. The profound decrease in gastric acid secretion induced by PPIs leads to increased gastrin production from antral G cells.

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## ANTIREFLUX SURGERY :

Antireflux surgery needs to be evaluated on an individual basis. Failure of medicinal management is one indication for surgery, and the patient prefers need for surgery in spite of effective medicinal treatment, GERD complications, medical issues brought on by a big hiatal hernia, or unusual reflux symptoms recorded by 24-hour pH monitoring. Candidates for surgery should have normal esophageal motility and reflux esophagitis as confirmed by an esophago-gastric duodenoscopy, manometry's assessment of motility. In the absence of inadequate stomach emptying, patients who are being considered for surgery should have a deficient antireflux barrier. Additionally, prospective candidates must have experienced at least a partial response from an earlier acid suppression medication trial. A GERD subspecialist should be the one to recommend surgery

The reduction of hiatal hernia, diaphragmatic hiatus repair, strengthening of the gastroesophageal junction–posterior diaphragm attachment, and strengthening of the antireflux barrier by placing a gastric wrap around the gastroesophageal junction (fundoplication) are the fundamental principles of surgery. Surgery appears to be less beneficial for treating extraesophageal symptoms such as cough, asthma, and laryngitis (beneficial in 50 to 75 percent of patients) and more beneficial for treating heartburn and regurgitation (beneficial in 75 to 90 percent of patients). Surgery appears to be less beneficial for treating extraesophageal symptoms such as cough, asthma, and laryngitis (beneficial in 50 to 75 percent of patients) and more beneficial for treating heartburn and regurgitation (beneficial in 75 to 90 percent of patients). Operation.

Even though postoperative problems are frequent, most patients are able to manage them.

Ten percent or so of patients have solid food dysphagia; of these patients, 2–3% experience symptoms that are lifelong. Gas bloating affects 7 to 10 percent of postoperative patients; early satiety, nausea, and diarrhea are less common. Even though up to 20% of patients experience postsurgical problems, when GERD symptoms are effectively managed, patient satisfaction is high.<sup>[14]</sup> In individuals with erosive esophagitis, comparisons between antireflux surgery and antacid medication have shown that surgery is marginally superior in terms of heartburn alleviation, esophagitis healing, and improved quality of life. Long-term follow-up studies, however, have revealed that 52% of patients are still alive three to five years after surgery.

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## NEWER ENDOSCOPIC TREATMENTS :

The Stretta procedure's radiofrequency heating of the gastroesophageal junction aims to achieve the endoscopic gastroplasty (endocinch procedure), which avoids the expense and hazards of traditional antireflux surgery, is intended to lessen medication consumption, enhance quality of life, and lessen reflux symptoms in GERD patients. The initial outcomes of these treatments have been positive; 50–75% of treated individuals reported a decrease in or elimination of their use of acid suppressants.<sup>31</sup> Less than 10,000 patients have had any kind of endoscopic antireflux therapy to date. There are now studies comparing postprocedure outcomes.

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## FOLLOW UP :

Patients who have not responded to continuous therapy or who need such treatment, who show warning signs, or who are at risk should undergo additional diagnostic tests. reasons why Barrett's esophagus occurs.<sup>14</sup> While Barrett's esophagus develops mostly as a result of persistent reflux, it is unknown if surveillance in addition to medicinal or surgical treatment will improve outcomes. It is not recommended to perform another endoscopy during this time since observational studies have shown that patients with an initial normal endoscopy whose symptoms have not changed over a 10-year follow-up have not progressed to severe esophagitis.<sup>[15]</sup>

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## CONCLUSION:

The rising obesity epidemic in the US is contributing to an increase in the prevalence of GERD. The Sixth Journal of Community Health & Primary Care

A key component of treatment is changing one's lifestyle, which includes mealtime routines, food, and weight loss. Proton pump inhibitors continue to

be the most successful medication for managing symptoms, despite the availability of several pharmacologic treatments. However, it is important to study the proper administration of proton pump inhibitors as well as any possible side effects before prescribing them. Even though there is evidence linking kidney damage, dementia, and bone mineral disorders, more study is necessary to determine whether a causal relationship is real.

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