

## GASTROESOPHAGEAL REFLUX DISEASE

GERD is a chronic digestive condition where stomach acid or bile irritates the lining of the esophagus. This happens when the lower esophageal sphincter (LES) — the muscle between the esophagus and stomach — becomes weak or relaxes inappropriately, allowing stomach contents to flow back (reflux) into the esophagus.

### Symptoms of GERD:

GERD symptoms can vary from mild to severe and may include:

- Heartburn: A burning sensation in the chest, typically after eating or at night, often worse when lying down or bending over.
- Regurgitation: A sour or bitter taste in the mouth caused by stomach acid reaching the back of the throat or mouth.
- Dysphagia: Difficulty swallowing or the sensation of a lump in the throat.
- Chest Pain: Sometimes mimicking the pain of a heart attack, often due to acid irritation in the esophagus.
- Coughing: A persistent cough, especially at night, due to acid irritating the airways.
- Hoarseness: Acid reaching the voice box can lead to a sore or hoarse throat.
- Sore Throat or Globus Sensation: Feeling of something stuck in the throat.
- Belching and Bloating: Sometimes accompanied by indigestion and excessive gas.
- Nausea: May occur after eating, especially large meals or spicy foods.
- Worsening Symptoms at Night: Lying down can exacerbate reflux and cause symptoms to worsen, leading to disturbed sleep.

### Diagnosis of GERD:

Diagnosis is typically based on symptoms, but additional tests are used if symptoms are unclear or if there are concerns about complications.

- Patient History: A detailed history of symptoms (heartburn, regurgitation) and their frequency can be enough for a diagnosis. Symptom Frequency: GERD is typically diagnosed when symptoms occur two or more times a week.
- Clinical Evaluation:
- Endoscopy (EGD - Esophagogastroduodenoscopy):
- 24-Hour pH Monitoring
- Esophageal Manometry

- Barium Swallow (Esophagogram)
- Ambulatory Esophageal Impedance Monitoring

### Management of GERD:

The goal of treatment is to reduce symptoms, prevent complications, and improve quality of life. Treatment generally includes lifestyle modifications, medications, and, in some cases, surgery.

#### 1. Lifestyle Modifications:

- Dietary Changes: Avoid trigger foods that can worsen symptoms, such as: Fatty foods, spicy food, Chocolate, Caffeinated beverages, Alcohol, Citrus fruits and juices
- Eating Habits: Eat smaller, more frequent meals instead of large meals. Avoid eating at least 2-3 hours before bedtime to reduce nighttime reflux.
- Weight Loss: If overweight, losing weight can significantly improve GERD symptoms, as excess weight puts pressure on the stomach, increasing reflux.
- Elevation of the Head of the Bed: Raising the head of the bed by 6-8 inches can help prevent nighttime reflux.
- Avoiding Smoking: Smoking weakens the LES and can exacerbate GERD symptoms.
- Avoid Tight Clothing: Tight belts and clothing can increase intra-abdominal pressure, leading to more reflux.

#### 2. Medications for GERD:

- Proton Pump Inhibitors (PPIs)
- Prokinetics
- Antibiotics
- Alginate Therapy

#### 3. Surgical Treatment:

Surgery is usually considered in patients who:

- Have severe or refractory GERD symptoms despite medical therapy.
- Have complications like Barrett's esophagus (which increases cancer risk) or esophageal strictures.
- Want to avoid long-term use of medications.

### Robotic /Laparoscopic Fundoplication:

- The most common surgical procedure for GERD, where the top of the stomach is wrapped around the lower esophagus to prevent acid reflux. This can be done through traditional open surgery or using laparoscopic or robotic techniques.

#### *Benefits of Robotic fundoplication:*

- Robotic Fundoplication is a minimally invasive surgery used to treat conditions like gastroesophageal reflux disease (GERD), hiatal hernia.
- Precision and Accuracy
- Minimally Invasive
- Reduced Pain and Faster Recovery
- Better Visualization
- Reduced Risk of Complications
- Less Scarring
- Quicker Return to Normal Activities
- Improved Long-Term Outcomes
- Minimized Hospitalization Time
- Reduced Blood Loss

Robotic fundoplication can be a game-changer for those suffering from chronic acid reflux or other related conditions.

### 4. Endoscopic Treatments:

- Esophageal Dilation: If a stricture (narrowing) has developed in the esophagus due to long-term GERD, a procedure to dilate (widen) the esophagus may be necessary.

### Complications of GERD:

If GERD is left untreated or poorly managed, it can lead to serious complications:

1. Esophagitis: Inflammation of the esophagus, which can lead to ulcers or bleeding.
2. Strictures: Narrowing of the esophagus due to scarring from chronic acid reflux, causing difficulty swallowing.
3. Barrett's Esophagus: A condition where the lining of the esophagus changes due to long-term acid damage, increasing the risk of esophageal cancer.
4. Respiratory Issues: Aspiration of acid into the lungs can cause chronic cough, wheezing, and in some cases, asthma or pneumonia.

5. Tooth Erosion: Stomach acid can erode tooth enamel when regurgitated into the mouth.

#### Follow-up and Monitoring:

- Ongoing symptom monitoring: Patients should track symptoms to assess whether lifestyle changes and medications are effective.
- Endoscopy follow-ups: Regular endoscopies may be recommended for those with Barrett's esophagus or severe, long-standing GERD.

*Medications review: Regular evaluation to ensure the patient is on the right therapy, especially for long-term use of PPIs due to potential risks (e.g., bone fractures, infections, kidney disease).*

