





#### **Overview**

Gastroesophageal reflux disease (GERD) is one of the most common disorders of the digestive tract, affecting about 20% of the U.S. population. GERD may cause discomfort while eating and over time can lead to serious medical conditions, such as esophagitis, Barrett's esophagus, and cancer.<sup>1</sup>

However, GERD can often be prevented or controlled through diet and lifestyle changes.<sup>2</sup>

### What Is GERD?

When a person swallows, food travels down a muscular tube called the esophagus. At the base of the esophagus is the lower esophageal sphincter (LES). The LES is a ring of muscle that can tighten or loosen like a drawstring. When swallowed food reaches the base of the esophagus, the LES relaxes and opens, allowing food to enter the stomach. It then tightens closed to prevent acid and other stomach contents from flowing back up, or refluxing, into the esophagus.

In GERD, or severe acid reflux, the LES is weak and not able to effectively close the opening of the stomach. As a result, stomach acid flows back into the esophagus. This constant backflow of acid can cause the esophagus to become inflamed and raises the risk of breathing problems and even cancer if left untreated.<sup>3</sup> Possible causes of GERD include obesity, pregnancy, certain medicines, smoking, and a condition called hiatal hernia.<sup>4</sup>

### Signs and Symptoms

Reflux of stomach acid into the esophagus causes heartburn, chest pain, swallowing problems, pain in the upper stomach, dry cough, sore throat, acid reflux, belching, and nausea.<sup>4</sup>



#### **Treatment**

Treatment for GERD is multifactorial and may involve dietary changes, lifestyle modifications, medication, surgery, or a combination of these.

### **Nutritional Management**

Dietary changes effectively control or prevent GERD symptoms. Research suggests a high-fat diet is associated with an increased risk of GERD, while a high-fiber diet may be protective. Researchers believe high-fat meals may keep the LES from properly closing, allowing acid into the esophagus.<sup>5</sup>

Eating a healthy plant-based diet may be helpful. Studies link vegetarian diets to a lower risk of GERD.<sup>6,7</sup> Results from one study showed that those eating meat were nearly twice as likely to have GERD as vegetarians.<sup>7</sup> Researchers believe the lower rate of GERD in vegetarians could be due to the elimination of meat, lower levels of fat in the diet, or higher levels of healthful phytochemicals, fiber, and antioxidants.<sup>7</sup>

Avoiding irritating foods may also help reduce GERD symptoms. Foods that can trigger heartburn include fatty or spicy foods, raw onions, chocolate, tomato products, citrus fruits, coffee, and alcohol.<sup>8,9,10</sup>

Finally, research suggests that eating plenty of fiber (found only in plant foods) is linked to a lower risk of GERD symptoms.<sup>5</sup>

	Avoid	Include
Animal products like meat and cheese	Х	
High-fat foods	Х	
Common triggers (raw onions, chocolate, tomato products, citrus fruits, coffee, alcohol)	X (if you have symptoms after eating these foods)	
Fruits and vegetables (except onions, tomatoes, and citrus)		✓
High-fiber foods (whole grains, beans, etc.)		<b>✓</b>

## GASTROESOPHAGEAL REFLUX DISEASE (GERD)

## **Lifestyle Changes**

Other changes that may help to manage GERD include the following:



## 1. MAINTAIN A HEALTHY WEIGHT.

A healthy BMI reduces the risk for developing GERD.<sup>11</sup> Obese individuals are 2.5 times as likely as those with a healthy weight to experience GERD symptoms or damage their esophagus.<sup>12</sup>



### 2. AVOID SMOKING.

2. Research shows that smoking is directly related to an increase in acid reflux.<sup>13</sup> However, quitting can decrease GERD symptoms.<sup>2,14</sup>



# 3. EAT SMALL, FREQUENT MEALS.

A large meal can stretch the stomach, putting pressure on the LES and causing stomach acid to reflux into the esophagus.<sup>15</sup>



# 4. AVOID LYING DOWN AFTER EATING.

Allow food enough time to pass through the stomach. Stay upright for two to three hours after eating if possible.<sup>2</sup>



### 5. AVOID TIGHT-FITTING CLOTHES.

Tight-fitting clothes (including tight belts) put extra pressure around the stomach, making it easier for stomach acid to backflow into the esophagus.<sup>2</sup>



### 6. RAISE THE HEAD OF YOUR BED.

Elevation of the torso helps keep acid in the stomach where it belongs. Instead of propping up on pillows, place blocks securely under bedposts at the head of the bed only to raise it 6-8 inches.<sup>2</sup>

### **Medication and Surgery**

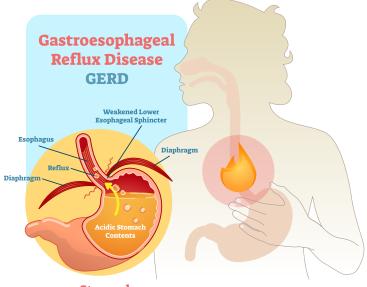
Medications can also be used to reduce GERD symptoms. H2 blockers and proton pump inhibitors (PPIs) are common drugs used for GERD. H2 blockers decrease the body's production of stomach acid for a short period of time. Examples of H2 blockers include Pepcid and Zantac and are available over the counter.<sup>2</sup>

PPIs also work by reducing the body's ability to produce acid over a longer period of time. Examples of PPIs include Nexium, Prevacid, Prilosec, and Protonix. Some PPIs are prescription-only, while others are available over the counter. In some cases, antibiotics and drugs that help the stomach empty faster may be prescribed.<sup>2</sup>

While medications can be helpful, they do have short-term and long-term side effects. Moreover, they do not treat the cause of GERD, just its symptoms. It is best to speak with your physician before starting any drug for managing GERD symptoms.

In rare situations, severe GERD may require surgery. The most common surgery to treat GERD is called fundoplication. In this procedure, a surgeon wraps the upper part of the stomach around the lower part of the esophagus to help tighten the junction and prevent acid from backflowing into the esophagus. However, most people can manage their GERD through nonsurgical means.

In conclusion, GERD is a severe form of acid reflux that affects many people. Signs and symptoms include acid reflux, upper stomach pain, difficulty swallowing, sore throat, and dry cough. GERD can often be prevented and managed through healthy diet and lifestyle changes.



Stomach

### GASTROESOPHAGEAL REFLUX DISEASE (GERD)

## References

- 1. El-Serag HB, Petersen NJ, Carter J, et al. Gastroesophageal reflux among different racial groups in the United States. *Gastroenterology*. 2004;126:1692-1699.
- 2. National Institute of Diabetes and Digestive and Kidney Diseases. Treatment for GER & GERD. U.S. Department of Health and Human Services. <a href="https://www.niddk.nih.gov/health-information/digestive-diseases/acid-reflux-ger-gerd-adults/treatment">https://www.niddk.nih.gov/health-information/digestive-diseases/acid-reflux-ger-gerd-adults/treatment</a>. Accessed September 1, 2020.
- 3. National Institute of Diabetes and Digestive and Kidney Diseases. Definition & Facts for GER & GERD. U.S. Department of Health and Human Services. <a href="https://www.niddk.nih.gov/health-information/digestive-diseases/acid-reflux-ger-gerd-adults/definition-facts">https://www.niddk.nih.gov/health-information/digestive-diseases/acid-reflux-ger-gerd-adults/definition-facts</a>. Accessed September 1, 2020.
- 4. National Institute of Diabetes and Digestive and Kidney Diseases. Symptoms & Causes of GER & GERD. U.S. Department of Health and Human Services. <a href="https://www.niddk.nih.gov/health-information/digestive-diseases/acid-reflux-ger-gerd-adults/symptoms-causes">https://www.niddk.nih.gov/health-information/digestive-diseases/acid-reflux-ger-gerd-adults/symptoms-causes</a>. Accessed September 1, 2020.
- 5. El-Serag HB, Satia JA, Rabeneck L. Dietary intake and the risk of gastro-oesophageal reflux disease: A cross sectional study in volunteers. *Gut*. 2005;54:11-17.
- 6. Bhatia SJ, Reddy DN, Ghoshal UC, et al. Epidemiology and symptom profile of gastroesophageal reflux in the Indian population: Report of the Indian Society of Gastroenterology Task Force. *Indian J Gastroenterol.* 2011;30:118-127.
- 7. Jung JG, Kang HW, Hahn SJ, et al. Vegetarianism as a protective factor for reflux esophagitis: A retrospective, cross-sectional study between Buddhist priests and general population. *Dig Dis Sci.* 2013;58:2244-2252.

- 8. Kubo, A, Block G, Quesenberr CP, Buffler P, Corley DA. Dietary guideline adherence for gastroesophageal reflux disease. *BMC Gastroenterol.* 2014;14:144-153.
- 9. Rodriguez S, Miner P, Robinson M, Greenwood B, Maton PN, Pappa K. Meal type affects heartburn severity. *Dig Dis Sci.* 1998:43:485-490.
- 10. Rodriguez–Stanley S, Collings KL, Robinson M, Owen W, Miner PB Jr. The effects of capsaicin on reflux, gastric emptying and dyspepsia. *Aliment Pharmacol Ther.* 2000;14:129-134.
- 11. Khan A, Kim A, Sanossian C, Francois F. Impact of obesity treatment on gastroesophageal reflux disease. *World J Gastroenterol.* 2016;22:1627-1638.
- 12. El-Serag HB, Graham DY, Satia JA, Rabeneck L. Obesity is an independent risk factor for GERD symptoms and erosive esophagitis. *Am J Gastroenterol.* 2005;100:1243-1250.
- 13. Kahrilas PJ, Gupta RR. Mechanisms of acid reflux associated with cigarette smoking. *Gut.* 1990;31:4-10.
- 14. Kohata Y, Fujiwara Y, Watanabe T, et al. Long-term benefits of smoking cessation on gastroesophageal reflux disease and health-related quality of life. *PLoS One*. 2016;11:e0147860-e0147872.
- 15. Johnson A. Gastroesophageal Reflux. Academy of Nutrition and Dietetics. <a href="https://www.eatright.org/health/wellness/digestive-health/gastroesophageal-reflux">https://www.eatright.org/health/wellness/digestive-health/gastroesophageal-reflux</a>. Accessed September 1, 2020.

