



## Heartburn: Nothing To Do With The Heart

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Heartburn is among the commonest of symptoms. Ask any group of adults if they have had heartburn in the last year, and a third will put up their hands. This article will discuss simple heartburn and what you can do about it. [Frequent or persistent heartburn may be a symptom of an underlying disorder such as gastroesophageal reflux disease (GERD). For more detailed information about GERD and its complications see IFFGD's GERD Brochure, Publication No. 501].

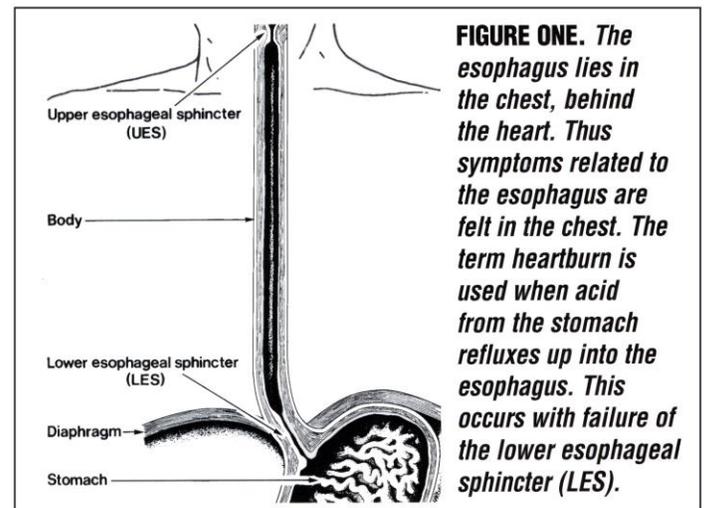
### What is Heartburn?

Heartburn is a burning sensation in the chest behind the breastbone. This accounts for the "heart" in heartburn. Other than the name and the location, heartburn bears little resemblance to the exercise-related, crushing chest pain (angina) due to heart disease. "Indigestion" is sometimes used to describe it, but this term is imprecise and people use it to describe anything from diarrhea to belching. "Dyspepsia" describes pain in the upper abdomen that resembles that of a peptic ulcer. It is important not to confuse dyspepsia with heartburn because the treatments are quite different.

### What Causes Heartburn?

If you understand how heartburn is caused, it becomes easy to understand its characteristics. In order to assist digestion, the stomach produces a very strong acid called hydrochloric acid. We are normally unaware of this since the stomach is designed to withstand the caustic action of this chemical. However, the esophagus or swallowing tube is not so protected. If acid escapes back from the stomach into the esophagus (gastroesophageal reflux), it irritates or damages it. We experience heartburn when reflux occurs. To prevent this reflux, we are endowed at the lower end of the esophagus with a mechanism called the *lower esophageal sphincter (LES)*, which acts like a gate or valve. It permits food to pass down, and then closes to

prevent acid gastric contents from coming back up (Figure One). This works admirably most of the time, but many circumstances of modern life such as overeating, obesity, aging, and the need for medication conspire to compromise this protective mechanism.



Esophageal and stomach contractions respectively support or compromise the lower esophageal sphincter. Hiatus hernia (protrusion of part of the stomach from the abdomen into the chest) can also compromise LES function. If your sphincter is not working well, there are a number of things that you may be doing that promote gastroesophageal reflux and cause you to experience heartburn.

### How Can one Prevent Reflux?

**Your posture** - Gravity plays an important role in controlling reflux. Those of us who have a less than perfect LES find that if we lie down after a large meal, food comes back into the esophagus and heartburn occurs. If you experience heartburn, think whether it occurs after meals, when you lie in bed at night, or if you take a nap after a meal. Maintaining an upright posture until the meal is digested may prevent the heartburn. If heartburn occurs

regularly at night, consider raising the head of the bed or inserting a triangular wedge to keep your esophagus above the stomach. Avoid exertion after a meal. It contracts the abdominal muscles and forces food through a weakened sphincter. This is especially true of tasks that require bending such as lifting or cleaning the floor.

**How you eat** – *How* is perhaps more important than *what* you eat. A large meal will empty slowly from the stomach and exert pressure on the LES. A snack at bedtime is well positioned to reflux when you lie down. It is best to eat early in the evening so that the meal is digested at bedtime. You might try having the main meal at noon and a lighter one at dinnertime. All meals should be eaten in relaxed stress-free surroundings. If possible, trips to the kitchen to fetch food or the performance of other tasks such as minding children should be avoided during, and for a time after, eating. Smaller meals and an upright, relaxed posture should help minimize reflux.

**What you eat** – Certain foods compromise the sphincter's ability to prevent reflux, and are best avoided before retiring or exertion. These differ from person to person, but many recognize fats, onions, and chocolate as particularly troublesome. Alcohol often provokes heartburn, by compromising the LES, irritating the esophagus, and by stimulating stomach acid production. Certain other foods may bother some people; upon their discovery a period of avoidance or reduction may be of benefit.

Some oral medications such as potassium supplements or the antibiotic tetracycline will burn if allowed to rest in the esophagus. To be safe, one should always swallow medication in the upright position and wash it down with water.

**Other factors** – Being overweight can promote reflux. Excess abdominal fat puts pressure on the stomach and the loss of even a moderate amount of weight makes many people feel better. Pregnant women are often troubled by heartburn, particularly in the first three months. Certain hormones appear to weaken the LES, and the increasingly crowded abdomen encourages reflux. Generally, if there has not been too much weight gain during the pregnancy, a woman's heartburn improves after delivery. Stress or strong emotion can also influence heartburn.

The most important measures are implied by the information mentioned above. Avoidance of recumbency or straining after meals, and elevation of the head of the bed are important. Early dinners, smaller meals and the avoidance of

fat, chocolate, and onions also seem helpful. A review of diet, medications, and the stresses of life may help you manage the symptom. When these measures fail an antacid preparation may temporarily relieve the symptom by neutralizing stomach acid. An antacid containing an alginate will float in the stomach and prevent reflux by blocking the lower esophagus. These are safe if used in moderation. There are now over-the-counter drugs that reduce acid production and may be safely taken for a few days until the heartburn subsides.

## Complications

If the heartburn occurs on two or more days per week despite the measures discussed above, you should consult your family doctor. If you are over 50 years, your heartburn occurs with exercise, or you have a family history of heart disease, you should promptly see a physician to be sure that your heart is not the source of the pain. An early visit to a doctor should be prompted also by difficulty swallowing, vomiting, passing blood, or significant weight loss. If your heartburn is accompanied by breathing difficulties or hoarseness, you should seek advice. A key investigation for these complications is upper abdominal endoscopy where the esophagus and LES can be examined directly and if necessary biopsied.

## Acid-Suppressing Drugs

There are powerful drugs that your doctor may prescribe for persistent symptoms, and tests may be done to exclude other diseases. The acid-suppressing action of these drugs controls the symptom of heartburn, but the conditions that cause reflux remain. Many people learn to control heartburn without them. Therefore, the heartburn is likely to return once the drugs are stopped. The posture and eating modifications mentioned above remain an important part of treatment. Nevertheless, intractable heartburn, or complicated GERD may require prolonged pharmacotherapy to permit healing and prevent recurrence.

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