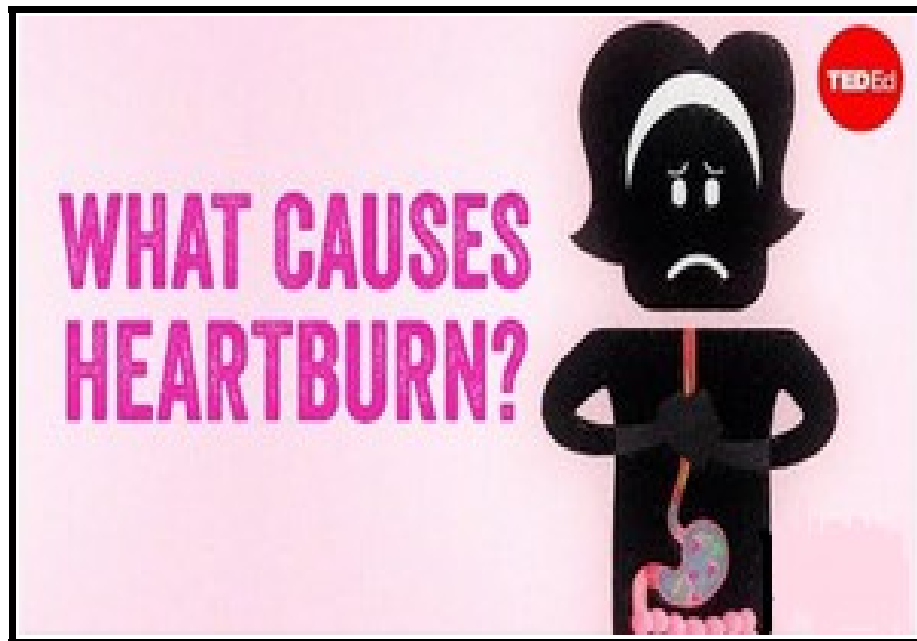


What Causes Heartburn



Just between your chest and abdomen is where you'll find one of the most important muscles you probably didn't know you had: the lower esophageal sphincter, or LES. When functioning properly, this ring of tissue plays a crucial role in helping us eat. But when the LES malfunctions, it becomes the main player in heartburn – a searing, sometimes sour-tasting chest-spasm that many people will experience at some point in their lives. We know that humans have been battling heartburn for hundreds, if not thousands of years. But recently the incidence has risen, making it a common stomach complaint worldwide. When the symptoms of heartburn become more and more regular and intense – such as twice a week or more – it's diagnosed as Gastroesophageal Reflux Disease, or GERD. But what causes this problem, and how can it be stopped?

Heartburn starts in an area called the gastroesophageal junction, where the LES resides. This smooth, muscular ring of the LES is moderated by an intricate tree of nerve roots that connect to

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the brain, the heart, and the lungs. After food enters the stomach from the esophagus, the muscle's task is to stop it from surging back up again. The LES contracts, squeezing the stomach entrance and creating a high pressure zone that prevents digestive acids from seeping out. But if the LES relaxes at the wrong moment or gradually weakens, it becomes like a faulty, ill-fitting lid, causing the area to depressurize. That allows burning stomach acid – and even chunks of food – to spurt into the esophagus, sometimes going as far up as the mouth. The cause of all this internal drama has long been put down to diet. Foods like caffeine and peppermint contain ingredients that may have a relaxing effect on the LES, which makes it incapable of doing its job. Other acidic foods, like citrus and tomatoes, can worsen irritation of the esophagus when they leach out with stomach acid. Carbonated beverages can similarly bubble up in the stomach, forcing open the valve. But researchers have discovered that food isn't the only trigger. Smoking poses a risk, because the nicotine in cigarettes relaxes the LES. Consuming excessive amounts of alcohol may have a similar effect.

Pregnant women often experience more heartburn due to the pressure of a growing baby on their stomachs. and the levels of certain hormones in their bodies. Obesity can cause hernias that disrupt the anti-reflux barrier of the gastroesophageal junction that normally protects against heartburn. Numerous medications, including those for asthma, high blood pressure, birth control, and depression can also have unintended effects on the LES. An occasional bout of heartburn isn't necessarily something to worry about. But, if heartburn starts happening regularly, it can weaken the LES muscle over time, letting more and more acid escape. And if it goes untreated, this can cause bigger problems. Over time, constant acid leakage from heartburn may form scar tissue which regurgitation narrows the esophageal tube, making it harder to swallow food. Ongoing reflux can also damage the cells lining the esophagus – a rare condition called Barrett's esophagus, which can elevate the risk of esophageal cancer. Luckily, heartburn is often treatable with a range of



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medicines that can help neutralize or reduce stomach acid. In extreme cases, some people have surgery to tighten the LES to minimize their distress. But we can often stop heartburn before it reaches that point. Reducing the consumption of certain foods, not smoking, and maintaining a healthy weight can all dramatically reduce reflux. With proper care we can help our LES's keep the chemical fountain of our stomachs in proper order and avoid having to feel the burn.