



# Heartburn

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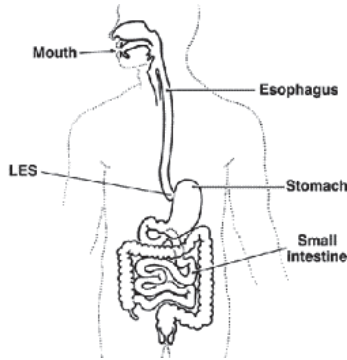
Pulse

Heartburn is a condition typically experienced as a burning discomfort in the chest just behind the breast bone. This burning sensation results when stomach juices come into contact with and irritate the delicate lining of the esophagus, the tube-like structure that connects the mouth to the stomach.

The lower esophageal sphincter (LES) is muscle/valve located at the base of the esophagus where it connects to the top of the stomach. The LES is the most important valve responsible for keeping stomach contents (such as food, acid and bile) out of the esophagus and away from our trachea or "windpipe". When closed, the muscles of the LES maintain a higher pressure than those in the stomach, preventing food and digestive juices from refluxing back into the esophagus.

A normally functioning LES will open occasionally when there is no swallowing - these spontaneous openings of the LES are known as transient LES relaxations and typically occur after a meal when the stomach is full with food and swallowed air. These

relaxations occur to let air out of the stomach and result in burping. The backwash of stomach contents can occur at this time - however, the esophagus responds by causing contractions that force the stomach contents back into the stomach. Our natural saliva is also alkaline and neutralizes any remaining gastric acid in the esophagus.



Many people experience occasional heartburn, but frequent sufferers tend to have a higher frequency of transient LES relaxations. Those with severe heartburn symptoms may have a LES with abnormally low muscle pressure which causes the LES to not close completely and allows a constant

reflux of stomach contents into the esophagus exacerbating their heartburn symptoms. Reflux in these sufferers occurs not only after meals but at night when lying down, and can also be induced by coughing, bending over and even by wearing clothing that fits tightly around the waist!

Current therapy for heartburn has acid suppression as the mainstay. This includes such drugs as Prilosec, Nexium and Prevacid in one class and Zantac and Pepcid in another class.

Reflux may still be the reason for persistent symptoms despite acid suppression. Emergent treatments are seeking to prevent heartburn and reflux by increasing the muscle pressure of the LES in addition to reducing the frequency of transient LES relaxations.

Starting in late October, Charlottesville Medical Research in conjunction with Daniel Pambianco, M.D., F.A.C.G., C.P.I. will be conducting a Heartburn/GERD research study for individuals suffering from frequent heartburn and reflux symptoms and a documented history of GERD. If you would like more information about this research study, please visit our website [www.cvillemedresearch.com](http://www.cvillemedresearch.com) or contact us directly at (434) 817-2442. To date, CMR has performed over thirty GERD/Heartburn research studies with over 350 participants.



**15 MILLION**

Americans have heartburn on a daily basis

**60 MILLION**

Americans have heartburn at least once a month

**50 PERCENT**

of people (male and female) who suffer from heartburn are between the ages of 45 to 64.

*(Source: Mayo Clinic)*

## Charlottesville Medical Research Current and Future Research Studies

- Osteoporosis
- Heartburn

