

Magnetic Device Studied as Treatment for Heartburn and Acid Reflux

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More than 20 million Americans suffer from gastroesophageal reflux disease (GERD), experienced by many as chronic heartburn. Medication offers short-term relief for some sufferers of this disease. For those seeking a non-prescription alternative, a magnetic device, currently being evaluated at UC San Diego Medical Center, may provide a long-term solution.

The device, called the LINX Reflux Management System, is being studied at UC San Diego Medical Center as part of a US and European multicenter clinical trial. Santiago Horgan, MD, director of minimally invasive surgery at UC San Diego Medical Center, is the site's principal investigator.

"The goal of this clinical trial is to correct a defect in the lower esophagus so that the body can function naturally without pain or discomfort," said Horgan, a national expert in laparoscopic and scarless surgical techniques.

GERD is a progressive disease resulting from a weak muscle in the lower esophagus, the organ which passes food to the stomach. When this muscle functions properly, it acts as a protective valve between the esophagus and the stomach, allowing food and liquid to pass, but preventing the reflux or back up of acidic stomach contents. In patients with GERD, the valve is weak or nonfunctional, allowing movement in the wrong direction. The result is often burning pain and ultimately damage to the digestive tract.

During a 20-30 minute minimally-invasive surgical procedure, the device, made up of a series of magnetic beads, is secured around the bottom of the esophagus. Once in place, the magnetic attraction between the beads supports the valve to protect the esophagus from reflux, while still allowing it to open during swallowing or to release gas. Made of permanent rare earth magnets encased in titanium, the band is sized to fit each patient.

"With medical therapy alone, the production of acid in the stomach is suppressed, but the actual problem of reflux remains. The most appropriate long-term therapy for GERD is to restore the body's physiological barrier to correct the cause of reflux itself," said Horgan, the first surgeon in the western United States to implant the device in this clinical trial.

"I decided to participate in this clinical trial surgery because it may be a permanent, structural way of addressing the problem," said Gina Levine, age 43, who has suffered from GERD for more than 18 years. "I like the minimally invasive approach to this procedure and that it can be reversed if necessary."

Levine and other sufferers of GERD experience daily symptoms of burning, gas and throat irritation. Other symptoms include regurgitation, chest pain, hoarseness, wheezing, and chronic cough.

Left untreated, GERD can lead to a variety of serious esophageal complications including inflammation, ulceration, or strictures. In addition, GERD patients are at risk to develop a pre-cancerous condition known as Barrett's esophagus.

The current multicenter clinical trial, sponsored by the device manufacturer Torax Medical, Inc. of Shoreview, Minnesota, will evaluate the safety and effectiveness of the device in up to 100 patients.

To qualify for this study, patients must have a history of reflux symptoms and must be taking GERD medications on a daily basis.

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