

Facing Surgery for GERD (Gastroesophageal Reflux Disease)?

Learn about minimally invasive **da Vinci[®] Surgery**



da Vinci.  **Surgery**

The Conditions:

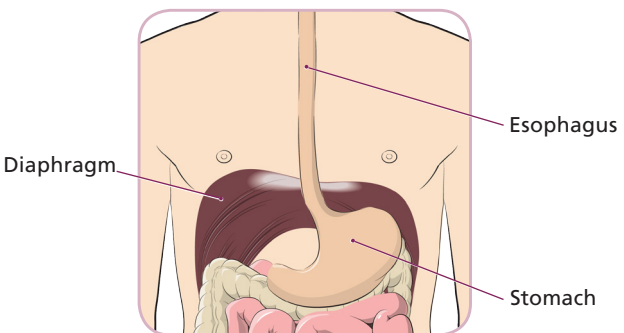
GERD, Hiatal Hernia

Gastroesophageal reflux disease or GERD is a common digestive disease that occurs when stomach acid flows back into your esophagus and irritates the lining. GERD can result when your lower esophageal sphincter (valve between your esophagus and stomach) weakens and causes stomach contents to rise (reflux).

The most common signs and symptoms of GERD are frequent acid reflux and heartburn. Other symptoms include a dry cough, wheezing, asthma, pneumonia, nausea and vomiting.¹ An estimated 5-7% of the world's population suffer from GERD.²

GERD can be caused by an abnormality in the body such as a hiatal hernia. Hiatal hernias occur when part of your stomach moves up toward your diaphragm or chest. Other causes of GERD include: obesity, pregnancy, certain medications, smoking, or second-hand smoke.¹ GERD affects men and women equally and can strike at any age.¹

Most people can manage the symptoms of GERD with lifestyle changes and medications. For others, these remedies may offer only temporary relief.



The Digestive Tract

The Surgery:

Nissen Fundoplication

Treatment options often depend on how severe your symptoms are, your age and overall health. If medicine and lifestyle changes do not ease your symptoms, your doctor may recommend surgery.

Surgery to repair hiatal hernia or reduce/stop reflux in patients diagnosed with GERD is called Nissen fundoplication. This surgery involves tightening the lower esophageal sphincter by wrapping the top of the stomach around the outside of the lower esophagus.

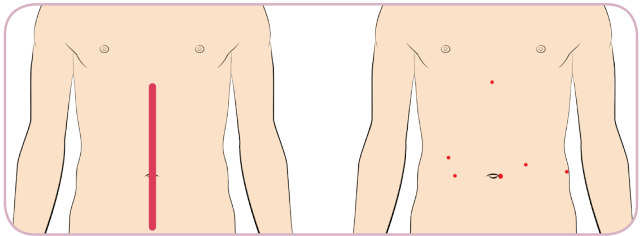
Your doctor may perform the procedure using open surgery, laparoscopy or robotically-assisted *da Vinci* Surgery.

In open surgery, the surgeon makes an incision in your abdomen. The incision must be large enough for your surgeon to fit his or her hands and surgical instruments inside your body. This allows doctors to see and touch your organs as they operate.



Laparoscopy or laparoscopic surgery is minimally invasive. This means your surgeon operates through a few small incisions in the abdomen using long-handled instruments and a tiny camera. The camera sends images to a video monitor in the operating room to guide doctors as they operate.

There is another minimally invasive surgical option for patients facing surgery: state-of-the-art *da Vinci* Surgery.



Open Surgery
Incision

da Vinci Surgery/
Laparoscopy Incisions



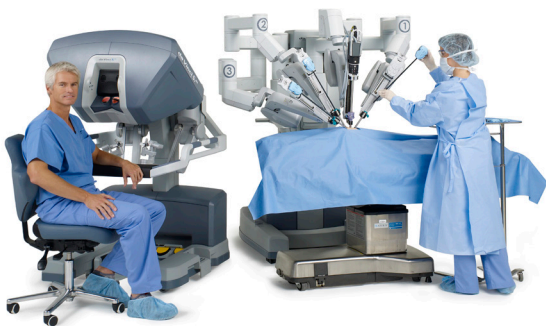
da Vinci Surgery: A Minimally Invasive Surgical Option

If your doctor recommends surgery for GERD and its symptoms, ask about minimally invasive *da Vinci* Surgery.

Using the *da Vinci* System, your surgeon makes a few small incisions - similar to traditional laparoscopy. The *da Vinci* System features a magnified 3D HD vision system and tiny wristed instruments that bend and rotate far greater than the human wrist. These features enable surgeons to operate with enhanced vision, precision, dexterity and control.

As a result of its advanced technology, *da Vinci* Surgery offers the following potential benefits compared to traditional laparoscopy:

- › Similar rate of complications during surgery and fewer after surgery³
- › Less acid reflux after surgery⁴



Risks & Considerations Related to Any Nissen Fundoplication:

- Injury to nearby organs/tissues³
- Difficulty swallowing³
- Pneumonia³

Important Information for Patients:

All surgery presents risk, including *da Vinci* Surgery. Results, including cosmetic results, may vary. Serious complications may occur in any surgery, up to and including death. Examples of serious and life-threatening complications, which may require hospitalization, include injury to tissues or organs; bleeding; infection, and internal scarring that can cause long-lasting dysfunction or pain. Temporary pain or nerve injury has been linked to the inverted position often used during abdominal and pelvic surgery. Patients should understand that risks of surgery include potential for human error and potential for equipment failure. Risks specific to minimally invasive surgery may include: a longer operative time; the need to convert the procedure to other surgical techniques; the need for additional or larger incision sites; a longer operation or longer time under anesthesia than your surgeon originally predicts. Converting the procedure to open could mean a longer operative time, long time under anesthesia, and could lead to increased complications. Patients who bleed easily, have abnormal blood clotting, are pregnant or morbidly obese are typically not candidates for minimally invasive surgery, including *da Vinci* Surgery. Other surgical approaches are available. Patients should review the risks associated with all surgical approaches. They should talk to their doctors about their surgical experience and to decide if *da Vinci* is right for them. For complete information on surgical risks, safety and indications for use, please refer to <http://www.davincisurgery.com/safety>.

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Your doctor is one of a growing number of surgeons worldwide offering *da Vinci*[®] Surgery.

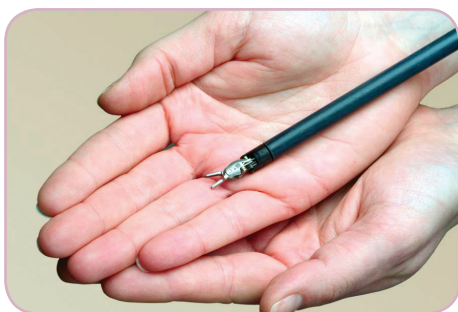
For more information and to find a *da Vinci* surgeon near you, visit:

www.daVinciSurgery.com

¹ National Digestive Diseases Information Clearinghouse; National Institutes of Health; Gastroesophageal Reflux (GER) and Gastroesophageal Reflux Disease (GERD) in Adults. From: <http://digestive.niddk.nih.gov/ddiseases/pubs/gerd/#symptoms>. ² International Foundation for Functional Gastrointestinal Disorders. "GERD Costs America Nearly \$2 Billion Each Week in Lost Productivity." From: <http://www.iffgd.org/site/news-events/press-releases/2005-1125-gerd-costs> ³ Mi J, Kang Y, Chen X, Wang B, Wang Z. Whether robot-assisted laparoscopic fundoplication is better for gastroesophageal reflux disease in adults: a systematic review and meta-analysis. *Surg Endosc*. 2010 Aug;24(8):1803-14. doi: 10.1007/s00464-009-0873-9. Epub 2010 Jan 29. ⁴ Frazzoni M, Conigliaro R, Colli G, Melotti G. Conventional versus robot-assisted laparoscopic Nissen fundoplication: a comparison of postoperative acid reflux parameters. *Surg Endosc*. 2012 Jun;26(6):1675-81. doi: 10.1007/s00464-011-2091-5. Epub 2011 Dec 17.

The Enabling Technology: *da Vinci* Surgical System

The *da Vinci* Surgical System is designed to provide surgeons with enhanced capabilities, including high-definition 3D vision and a magnified view. Your doctor controls the *da Vinci* System, which translates his or her hand movements into smaller, more precise movements of tiny instruments inside your body.



Though it is often called a "robot," *da Vinci* cannot act on its own. Surgery is performed entirely by your doctor. Together, *da Vinci* technology allows your doctor to perform routine and complex procedures through just a few small openings, similar to traditional laparoscopy.

Over the last decade, the *da Vinci* System has brought minimally invasive surgery to over 2 million patients worldwide. *da Vinci* - changing the experience of surgery for people around the world.