EDUCATION

Gastroesophageal Reflux Disease (GERD)

Allina Health

Gastroesophageal Reflux Disease (GERD)

First edition

Developed by Allina Health.

© 2022 Allina Health System

The publisher believes that information in this manual was accurate at the time the manual was published. However, because of the rapidly changing state of scientific and medical knowledge, some of the facts and recommendations in the manual may be out-of-date by the time you read it. Your health care provider is the best source for current information and medical advice in your particular situation.

All rights reserved. No part of this book may be reproduced in any form or by any means, electronic or mechanical, including photocopying, without permission in writing from the publisher.

Disclaimer

This publication is for general information only and is not intended to provide specific advice or recommendations for any individual. The information it contains cannot be used to diagnose medical conditions or prescribe treatment. The information provided is designed to support, not replace, the relationship that exists between a patient and his/her existing physician. For specific information about your health condition, please contact your health care provider.

Table of Contents

Introduction 5
What is GERD? 5
Symptoms of GERD 6
Causes 7
Complications 8
Diagnosis 8
Treatment 9
    Diet and Lifestyle 9
    Medicines 10
Surgery 10
    Hiatal Hernia 11
    Fundoplication 12
    LINX 13
After Surgery 14
    Eating and Drinking Guidelines 14
    Pain Management 15
When Can I Return to Work? 16
When to Call Your Health Care Provider 16

Introduction

What is Gastroesophageal Reflux Disease (GERD)

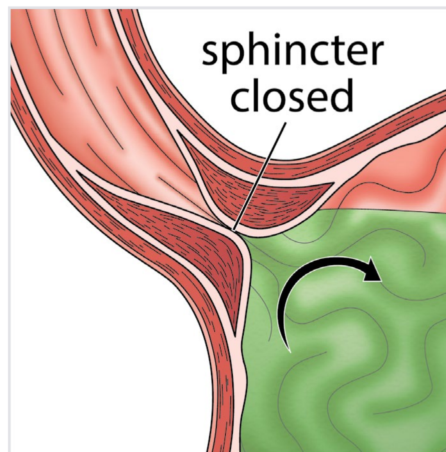
GERD is a digestive disorder that allows food and stomach acid to flow back up into your esophagus. Your esophagus is the tube that connects your mouth to your stomach.

GERD can cause a feeling often described as heartburn or acid indigestion.

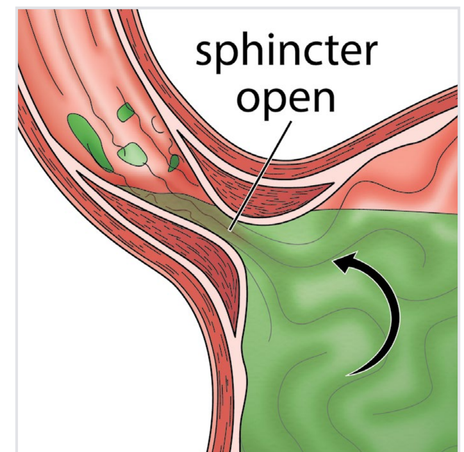
In normal digestion, food moves down your esophagus into your stomach, passing through your lower esophageal sphincter (LES). The LES is a ring of muscle between your esophagus and your stomach.

If your LES doesn't work properly or if you have a hiatal hernia, you may have GERD. This is not usually a life-threatening condition. GERD symptoms can be relieved by:

- taking over-the-counter or prescription medicines
- making lifestyle changes such as quitting tobacco and losing weight
- changing what you eat and drink.



In normal digestion, your LES sphinter closes to keep food and acid in your stomach.



Photos © Allina Health System

With GERD, your LES sphincter remains open. This lets acid and stomach contents to flow back up your esophagus.

Symptoms

The most common symptoms of GERD are:

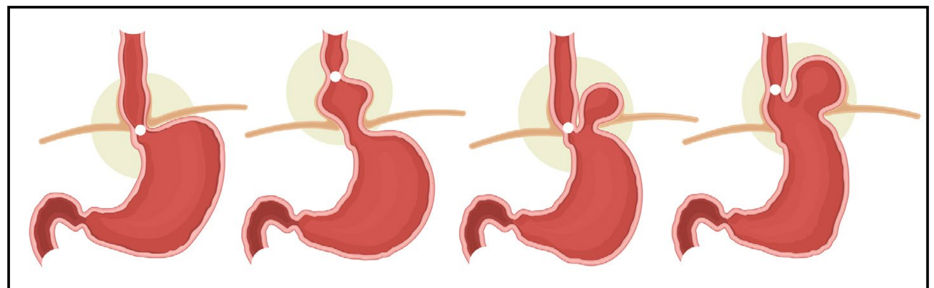
- **heartburn.** Heartburn is not related to your heart. Heartburn may start after you eat. Symptoms of heartburn can include:
  - — a burning feeling that starts behind your breastbone and moves up toward your throat
  - — an acidic or bitter taste in your mouth.
- **regurgitation.** A feeling that food is coming back up your throat into your mouth.
- **Laryngopharyngeal reflux (LPR) or "silent reflux."** LPR can happen when stomach acid flows back into your esophagus and into your throat. LPR is associated with:
  - a sore throat
  - a hoarse voice
  - chronic (long-term) coughing
  - the feeling that something is stuck in the back of your throat (globus sensation).

Causes

Some common causes of GERD include:

- hiatal hernia. Part of your stomach moves into your chest through a small opening in the diaphragm. This interferes with the LES being able to close and results in GERD symptoms.
- tobacco use.
- diet. Certain foods and beverages such as chocolate, peppermint, fried or fatty foods, coffee and alcohol.
- obesity. Being overweight can cause an increase in abdominal pressure which can lead to GERD.
- pregnancy. Hormone changes and a growing fetus can cause an increase in abdominal pressure, which can lead to GERD.

Types of hiatal hernias



Normal stomach and esophagus

Type 1 Sliding hiatal hernia

Type 2 Paraesophageal hiatal hernia

Type 3 Mixed hiatal hernia

Your health care provider will talk with you about the type of hernia you have.

Complications (Problems)

If not treated, over time GERD may result in a serious health condition such as:

- **erosive esophagitis**
  Damage to the esophageal lining from stomach acid can lead to ulcers and bleeding.
- **esophageal stricture**
  Repeated acid exposure can lead to scarring and narrowing of your esophagus. This can make it difficult to swallow.
- **Barrett's esophagus**
  Acid reflux for a long time can replace normal esophageal cells (squamous cells) with intestinal cells. These cells increase the risk of esophageal cancer.
- **lung and throat problems**
  These can include inflammation of the vocal cords, sore throat and a hoarse voice. Stomach acid that gets inhaled into your lungs can cause pneumonia, asthma and permanent lung damage.
- **dental problems**
  Repeated acid exposure can erode the enamel on your teeth.

Diagnosis

Your health care provider may be able to diagnose GERD by your symptoms. For some people more tests may be needed. Tests that can confirm GERD include:

- ❑ **upper endoscopy (EGD)**
  This exam is done using a flexible tube (scope). Your health care provider passes the tube through your mouth, into your esophagus and down into your stomach and the first part of your intestine. Endoscopy can show changes and damage to the esophagus. A biopsy of an area of concern also can be done with this exam. You will be given medicine that will make you sleepy during this test.
- ❑ **Bravo™ 48-hour test**
  The Bravo capsule measures the level of acid (pH) in your esophagus. A pH sensor is placed at the lower end of your esophagus. The sensor transmits information to a recording device. You will wear the recorder (about the size of a mobile phone) on your belt or waistband. Bravo will record for 2 days (48 hours). You will be given medicine that will make you sleepy during the placement of the capsule.

- ❑ **esophageal manometry**
  This test shows how well your esophageal muscles work. A small, flexible tube with sensors is placed through your nose. After the tube is in place, you will take 10 or more swallows of water. The sensors will show your swallow pattern. The tube is removed when the test is done. You will be awake during this test.
- ❑ **esophagram (barium X-ray of the esophagus)**
  The study allows your health care provider to view your esophagus and stomach in detail. During the exam you will swallow barium (a chalky liquid). This helps show your esophagus better on the X-ray. You will be awake during this test.

Treatment

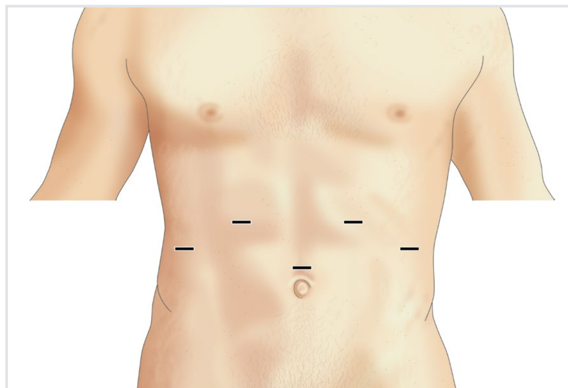
Treatment for GERD can include some or all of the following:

- Diet and lifestyle changes. Watch what you eat and make lifestyle changes. This can help reduce GERD symptoms. These changes can include:
  - — Do not eat or drink things that can irritate your esophagus such as:
    - foods that have a high acid content such as tomatoes and citrus fruit
    - spicy foods
    - fried or fatty foods
    - chocolate
    - caffeine and alcohol
    - peppermint.
  - — eat smaller meals more often
  - — do not eat anything for at least 2 to 3 hours before bed
  - — elevate the head of your bed 6 to 8 inches
  - — lose weight if you are overweight
  - — avoid tobacco.

- Medicines. Your health care provider may prescribe over-the-counter or prescription medicines to treat GERD. The most common medicines include:
  - — over-the-counter antacids such as Tums® and Maalox®
  - — H2 blockers (histamine receptor antagonists). These medicines may provide symptom relief for a longer time. Examples include cimetidine (Tagamet®) and famotidine (Pepcid®)
  - — PPIs (proton pump inhibitors). These medicines reduce stomach acid. Examples include omeprazole (Prilosec®), lansoprazole (Prevacid®), esomeprazole (Nexium®), pantoprazole (Protonix®), dexlansopraxole (Dexilant®)
- Surgery. If your symptoms don't get better or if you have complications, your health care provider may suggest antireflux (GERD) surgery. Talk to your health care provider for a referral to a surgeon

  Surgery can often be done without a hospital stay. Some surgery may require 1 to 2 days in the hospital.

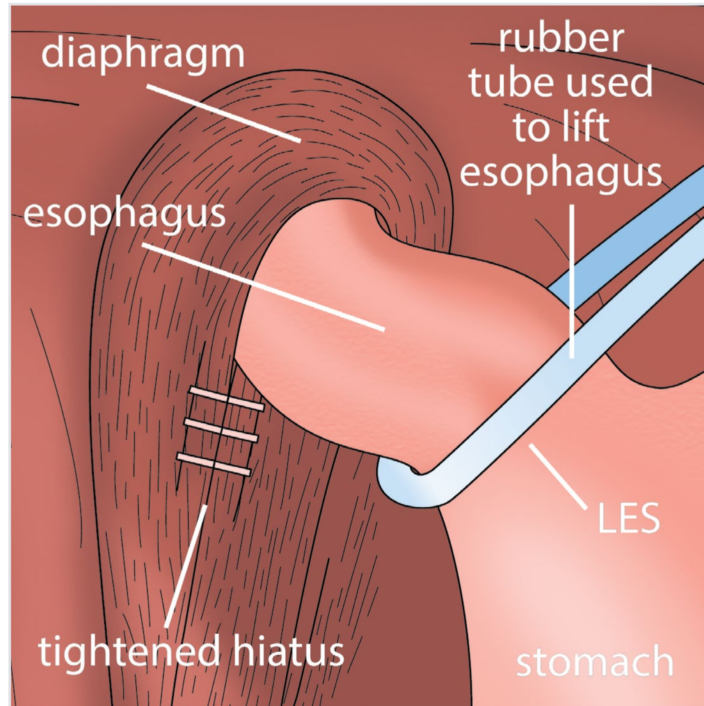
  During surgery you will be asleep (general anesthesia). Five or more small incisions will be made in your abdomen. A small scope (laparoscope) or a robotic tool is used. Ports are inserted to allow a camera and long tools to move and work inside your abdomen.



Your surgeon will make 5 or more small incisions in your abdomen during the laparoscopic or robotic surgery

■ Hiatal hernia surgery

Your surgeon will make several small cuts (incisions) in your abdomen to repair the hiatal hernia. This will bring your stomach back down below your diaphragm. If your diaphragm is very thin or the muscle is weak, in rare cases, mesh may be added for extra support.

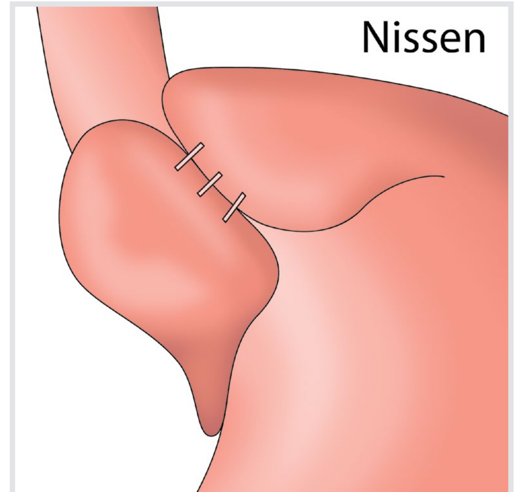


A hiatal hernia is repaired with stitches and will bring your stomach back below your diaphragm.

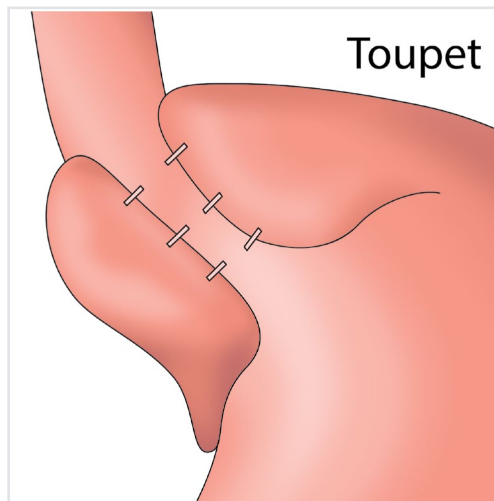
- **LES surgery**. Antireflux surgery to strengthen the LES is often done at the same time as hiatal hernia surgery.

  Several surgery options can be used. Your surgeon will talk to you to determine the best option for you. The most common surgical options to strengthen the LES are fundoplication surgery and a LINX device surgery:

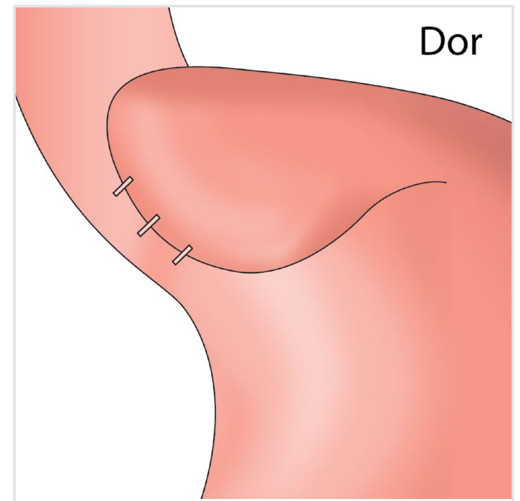
  — **fundoplication surgery**. In this surgery, part of your stomach is wrapped around your lower esophagus. This wrap helps decrease reflux symptoms. The strength of your esophagus muscles will determine the type of fundoplication that is suitable for you (Nissen, Toupet or Dor).



A full wrap is called a Nissen fundoplication.

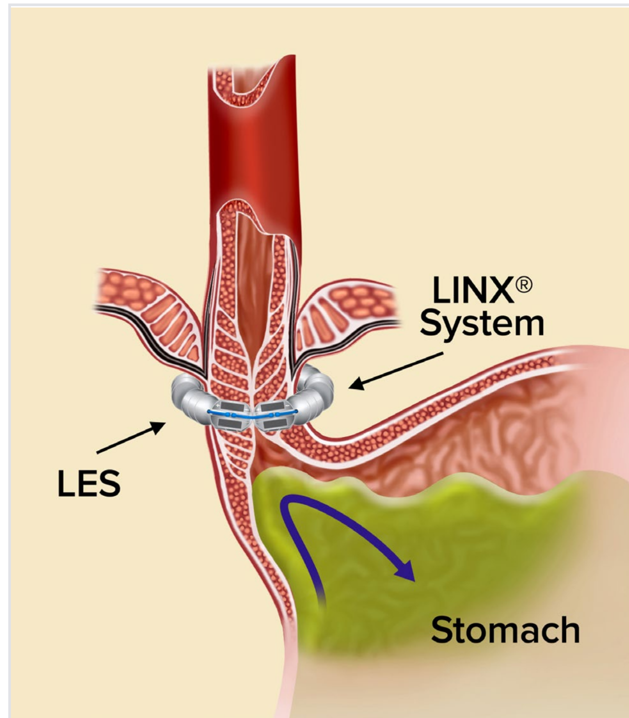


A wrap that goes 2/3 of the way around your esophagus is called a Toupet fundoplication.



A wrap that goes 1/2 way around your esophagus is called a Dor fundoplication.

— **LINX™ device surgery**. This surgery places a ring of magnetic titanium beads around the lower esophagus (LES). The pressure placed on the LES reduces reflux symptoms.



Used with permission © Ethicon US, LLC

A LINX device lets food pass into the stomach while blocking acid from traveling up into the esophagus.

After Surgery

Eating and drinking guidelines

After surgery you should follow these tips for eating and drinking.

- **Nissen fundoplication surgery**

It is normal to feel full after eating small amounts. It is also common to lose 10 to 15 pounds after surgery. You might have trouble swallowing or getting food past the wrap until your swelling goes away.

- ❑ 1 to 6 days after surgery: full liquid diet (see Diet Guidelines)
- ❑ 1 to 3 weeks after surgery: all liquids plus soft food diet
- ❑ 3 to 6 weeks after surgery: Resume normal diet including breads, meat, raw vegetables and carbonated drinks.

Follow these guidelines for what to eat and drink after surgery.

- — Drink a sip of water before you eat. This will help keep your throat and mouth wet and help you swallow. Take small bites and chew well before you swallow.
- — Eat small meals throughout the day. Only eat if you feel hungry.
- — Do not overeat. Stop eating the moment you feel full.
- — Do not use straws, chewing gum or smoke. This causes you to swallow more air and to become bloated.
- — Drink eight, 8-ounce glasses of water every day.

- **LINX device surgery eating plan**

For up to 2 months after surgery, the LINX magnetic ring requires "exercise" to prevent too much scar tissue to form around it. Too much scar tissue can make it hard for the band to open and for you to swallow.

Follow these guidelines as you heal after surgery.

Right away after surgery and for the next 8 weeks:

— Eat 1 to 2 bites of solid food every hour you are awake.

— Chew and swallow as you normally would.

— Do not chew food into liquid consistency before swallowing.

— Eat small meals more often.

— Take sips of water between bites.

- **1 to 2 weeks after surgery.** Call your surgery team if you have trouble swallowing. You may be prescribed medicine to help soften the scar tissue to make it easier for you to swallow.

Manage Your Pain or Discomfort

- It is important to walk and stay active. Try to walk at least 30 minutes a day.
- Take Tylenol® (acetaminophen) or Advil® (ibuprofen) for pain. Call your health care provider if you have pain that gets worse or doesn't get better.
- Constipation is common. You may take an over-the-counter liquid laxative such as Milk of Magnesia®, MiraLAX® or magnesium citrate.
- You may have a prescription for narcotic pain medicine for just a few days. Follow the directions carefully. You may drive 24 hours after your last dose of narcotics.
- If you have stomach cramps or bloating you can take over-the-counter medicine such as GasX®.

Return to Work After Surgery

Your return to work depends on the type of surgery you had and the kind of activities you do at work. Talk with your surgeon or nurse about when it is OK for you to go back to work.

In general, you can return to work about 1 to 2 weeks after surgery.

When to Call Your Health Care Provider

Call your health care provider right away if you have any of these symptoms:

- nausea, vomiting, or hiccups that last longer than 1 hour
- you are suddenly unable to swallow or keep down liquids or saliva.

Contact the clinic if you have these symptoms within 3 months of surgery:

- symptoms that come back
- swallowing problems that are not improving
- abdominal pain that is not due to your incision, general cramping or passing gas
- a temperature of 101 F or higher
- increased pain or tenderness that can't be relieved with rest or pain medicine
- signs of infection at your incision site:
  - pain
  - swelling
  - redness
  - green or yellow discharge
- problems breathing.

Notes

allinahealth.org

© 2022 ALLINA HEALTH SYSTEM. TM – A TRADEMARK OF ALLINA HEALTH SYSTEM.
OTHER TRADEMARKS USED ARE OWNED BY THEIR RESPECTIVE OWNERS
THIS BOOKLET DOES NOT REPLACE MEDICAL OR PROFESSIONAL ADVICE; IT IS ONLY A GUIDE.
endo-ah-910003 (11/22)