What is Gastroesophageal reflux disease (GERD)?
The esophagus is the muscular tube that is located between your mouth and your stomach. This specialized muscle squeezes and propels food and liquids from your mouth into your stomach. At the end of the esophagus (right before it enters the stomach), there is an even more specialized muscle called the lower esophageal sphincter (LES). The LES acts as a one way valve, permitting food and liquids to pass into the stomach but preventing the stomach contents (which include stomach acid) from backing up (or “refluxing”) into the esophagus. Even when this esophageal sphincter is working properly, a small amount of the stomach contents may still reflux into the esophagus. However, an esophagus that is functioning normally can quickly clear out these irritating substances by moving them back into the stomach.

In patients with GERD, these protective mechanisms fail to work properly and the sensitive lining of the esophagus becomes irritated. The symptoms that develop as a result of this esophageal irritation are variable but frequently include:
- chest burning (“heartburn”) or pressure and/or
- a sour taste in the mouth or the back of the throat.

The severity of the symptoms do not always correlate with the severity of the reflux. Other symptoms that may occur as a result of stomach acid refluxing into the esophagus include:
- esophageal spasm,
- esophageal scarring and stricture (which may cause difficulty swallowing and lead to food getting stuck in the esophagus),
- bleeding in the esophagus and
- lung fibrosis (caused by the acid actually refluxing all the way into the airways).

In a small minority of patients, the cells lining the esophagus change (Barrett’s esophagus). Some people with Barrett’s esophagus can later develop esophageal cancer so if Barrett’s esophagus is present, your doctor will probably recommend certain tests in order to detect esophageal cancer at an earlier stage.

GERD has also been referred to in the past either Reflux Esophagitis or Hiatal Hernia. Esophagitis is an inflammation of the lining of the esophagus. Not all people with GERD actually have esophageal inflammation so the term “reflux esophagitis” is not completely accurate. In addition, the stomach normally resides below the diaphragm. When part of the stomach is found above the diaphragm, you have a hiatal hernia. Since the diaphragm plays a key role in helping the LES work properly, people with a hiatal hernia often have GERD. However, not all people with a hiatal hernia have GERD and not all people with GERD have a hiatal hernia.

GERD can be controlled but not usually cured by non-surgical treatment measures. Therefore, in most patients, treatment of some form is needed for prolonged periods, possibly for life.

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What treatment measures are available that do not require medication?

All these measures may not apply to you.

- Do not overeat. Overeating stimulates excessive stomach acid production and increases the likelihood of acid refluxing into your esophagus.
- Avoid frequent bending. Bending over increases the pressure on your stomach and forces stomach acid back into your lower esophagus.
- Avoid tight fitting clothes. Tight fitting clothing also increases the pressure on your stomach.
- Avoid lying down within three hours of eating. Gravity helps prevent acid reflux. Lying down with a full stomach negates the beneficial effects of gravity.
- Avoid or minimize certain foods and beverages. If you find a certain food or beverage makes your GERD worse, you should avoid it. Common culprits here include fatty foods, chocolate, citrus fruits, spicy foods, peppermint, alcohol and coffee (with or without caffeine).
- Avoid tobacco. ALL forms of tobacco are potentially harmful to the esophagus and can increase your risk of developing esophageal cancer.
- Eat smaller meals. The less volume eaten, the less likely reflux will occur.
- Weight reduction. Excess weight on your abdomen increases the pressure on your stomach, leading to reflux. If you are overweight, losing weight may help you control the GERD and eliminate the need to take medications to control your acid reflux.
- Avoid aspirin and other anti-inflammatory drugs. These drugs can cause further injury to the esophagus and should be avoided. If aspirin is recommended for other medical problems, enteric coated is preferred. Acetaminophen (Tylenol®) does not aggravate GERD and can be used safely as an alternative pain reliever.
- Elevating the upper body when sleeping. When lying flat, the beneficial effects of gravity in the prevention of GERD is lost. Therefore, by elevating the head of your bed 3-4 inches on blocks or by using a wedge pillow (available at any medical supply store), you can once again use gravity to keep the acid from refluxing back into your esophagus. However, be careful that by elevating the head of your bed, you do not create an excessive bend at your waist as this may actually increase the pressure on your stomach and negate any beneficial effects.

In mild cases of GERD, applying some of the recommendations outlined above may prove to be sufficient. However, if the above measures fail to eliminate your GERD symptoms, you may need to try a medication.
What medications are effective in GERD?

- Antacids.
  These over the counter preparations are beneficial in relieving the acute symptoms of heartburn because they neutralize the stomach acid. The liquid preparations may be more effective but are less convenient to take.

- Histamine receptor blockers.
  Histamine stimulates the acid producing cells in the stomach to make more acid. These drugs block this effect. All of these drugs are now available without a prescription. These drugs include (original prescription trade name in parenthesis):
    - cimetidine (Tagamet),
    - ranitidine (Zantac),
    - famotidine (Pepcid) and
    - nizatidine (Axid).

- Proton Pump inhibitors.
  These drugs also stop acid production in the stomach but work in a different way than the histamine blockers. These drugs are usually more effective than histamine blockers at stopping acid production and alleviating the symptoms of GERD. However, these drugs are also more expensive and some are only currently available with a prescription. Available drugs of this type include:
    - omeprazole (Prilosec),
    - lansoprazole (Prevacid),
    - pantoprazole (Protonix),
    - rabeprazole (Aciphex),
    - esomeprazole (Nexium) and
    - dexlansoprazole (Dexilant).

- Motility agents.
  These medications can increase the lower esophageal sphincter pressure, promote the clearance of stomach acid when acid does reflux into the esophagus and promote the emptying of the stomach. Motility agents currently available include:
    - bethanechol (Urecholine, Duvoid) and
    - metoclopramide (Reglan).

- Coating agents.
  Drugs in this category coat the inflamed tissues of the stomach and esophagus and protect the lining from the refluxed stomach contents. Sucralfate (Carafate) is the only drug available in this category.

What is the role of surgery in the treatment of GERD?

Surgery is usually reserved for severe cases that have not been successfully treated by the measures noted above. The surgeon often wraps the upper portion of the stomach around the lower esophagus and by so doing, makes the area act again like a one way valve. This surgery is called a fundoplication. This surgery is often successful but recurrences of symptoms may occur several years later.