



Understanding **GASTROESOPHOGEAL REFLUX DISEASE (GERD)**

What is gastroesophageal reflux disease (GERD)?

Gastroesophageal reflux disease (GERD) is the result of a disordered valve mechanism between the esophagus (swallowing tube) and the stomach. The valve, or lower esophageal sphincter (LES), opens during swallowing to allow food to enter the stomach and then closes to prevent food and stomach secretions from moving backward into the esophagus. When the LES fails to close correctly, the stomach contents—which are acidic and contain digestive secretions—can flow back into the esophagus. This reverse flow (reflux) of food, acids and the digestive enzyme pepsin, can cause damage to the esophageal lining and resulting heartburn.

GERD is a common disorder that has a significant impact on the community. In Canada, people suffering from GERD symptoms are absent from work 16% of each year, representing \$21 billion in costs or 1.7 billion hours of lost productivity annually.

On average, five million Canadians experience heartburn and/or acid regurgitation at least once each week. Reflux is common during pregnancy and one-quarter of pregnant women experience daily

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heartburn. Recent studies show that GERD in infants and children occurs more frequently than previously thought and may produce repeated vomiting, failure to grow, coughing and other respiratory problems.

What are the symptoms of GERD?

GERD symptoms are caused by the reflux, of stomach contents into the esophagus and the associated damage to the esophageal mucosa or lining. The two most common symptoms of GERD are heartburn and acid regurgitation.

- **Heartburn:** A burning sensation in the centre of the chest behind the breastbone, which has an upward moving quality toward the throat. Heartburn often becomes worse after eating, bending over, lying down or physical activity. Sometimes, the pain of heartburn may be confused with the pain experienced during a heart attack.
- **Acid regurgitation:** The awareness of acid or partially digested food from the stomach backing up into the esophagus, and occasionally into the throat and mouth.

Other GERD symptoms may include:

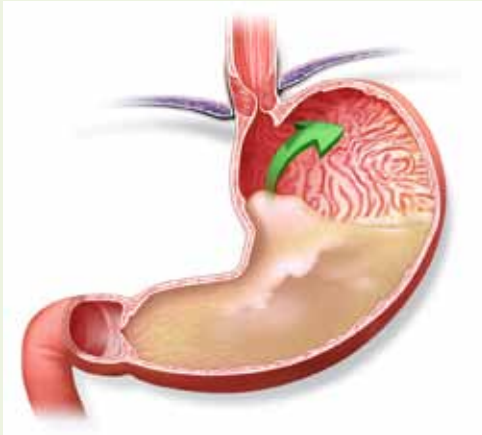
- Difficulty swallowing
- Excessive burping or belching
- Sour or bitter taste in the mouth
- Chest pain
- Abdominal pain
- Nausea or gagging
- Cough, sore throat or hoarseness

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What causes GERD?

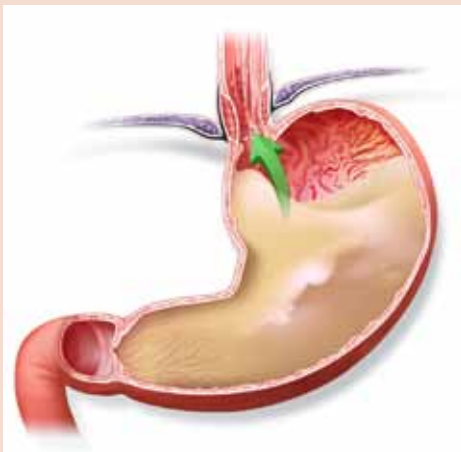
The causes of GERD are complex. Several factors may cause the LES to relax inappropriately, allowing the reflux of stomach contents into the esophagus. Some food and drinks, including chocolate, peppermint, fried or fatty foods, coffee and alcohol may reduce the LES pressure or prevent it from closing properly. Cigarette smoking also relaxes the LES and may worsen symptoms.

Normal



LES valve closes to prevent reflux of acidic stomach contents.

Abnormal



LES valve does not close and stomach contents reflux into esophagus.

GERD is associated with obesity, pregnancy and the presence of a hiatus hernia. A hiatus hernia occurs when the upper part of the stomach and the LES move up into the chest through the diaphragm (the flat muscle that

separates the abdominal and chest cavities). A hiatus hernia leads to LES dysfunction and may act as a reservoir (above the diaphragm) for stomach acid, increasing reflux into the esophagus and prolonging the exposure time of the esophagus to acid.



Hiatus Hernia

Risk Factors FOR GERD

- Obesity
- Pregnancy
- Hiatus hernia
- Food choices
- Smoking
- Family history of GERD

How do I know if I have GERD?

Most of the time, symptoms alone can provide doctors with the information they need to diagnose GERD. If symptoms respond quickly to treatment, further investigation is usually not necessary. However, if symptoms are slow to improve or persistent (long-term) treatment is required and diagnostic tests, including those listed below, may be needed.

- **Endoscopy:** This safe test involves passing a slim, flexible tube (endoscope) equipped with a light and tiny camera into the esophagus. The endoscope allows your doctor to examine the esophagus and stomach and collect tissue samples (biopsies) for further examination under a microscope.
- **Barium X-ray (upper GI series):** A barium drink coats the lining of the upper digestive tract so it can be seen on an X-ray. X-rays allow your doctor to visualize the esophagus, stomach and small intestine and locate areas of damage or inflammation.
- **24-hour pH monitoring:** A small tube (catheter) equipped with a pH sensor is positioned in the esophagus. The sensor monitors the acidity in the esophagus over a 24-hour period and the data is stored on a small computer worn around the waist for later analysis.
- **Esophageal motility study (EMS):** A small tube (catheter) equipped with a sensor is positioned in the esophagus. During this test, the sensor measures movement and pressure within the esophagus and stomach and can evaluate if the LES is functioning properly.

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How is GERD treated?

The treatment for GERD may involve a combination of approaches.

Lifestyle/dietary changes

Your doctor will usually recommend lifestyle and dietary changes to reduce or relieve GERD symptoms and help reduce acid reflux and potential damage to the lining of your esophagus. Suggested changes may include:

- Avoid food and beverages known to lower LES pressure including chocolate, peppermint, fried or fatty foods, coffee and alcohol
- Avoid spicy and acid-containing foods that can irritate the esophageal lining
- Eat small, frequent meals, rather than large meals
- Have nothing to eat and little or nothing to drink for 3 to 4 hours before going to bed
- Raise the head of the bed or elevate the upper body with a foam wedge
- Achieve and maintain an ideal body weight
- Stop smoking

Medication

Many people living with GERD symptoms require medication. The choice and combination of medications your doctor recommends will depend upon the frequency and severity of your symptoms.

- **Antacids** quickly neutralize stomach acid and are readily available without a prescription at a pharmacy.
- **Histamine H₂-receptor antagonists (H₂-RAs)** reduce the production of stomach acid and these drugs are available in prescription strength or lower dose, over-the-counter formulations.
- **Proton pump inhibitors (PPIs)** are prescription medications that block the production of stomach acid. This reduces heartburn symptoms and also heals damage to the esophagus. PPIs are safe when taken appropriately, and are the most effective drugs to control GERD symptoms.
- **Prokinetic (promotility) agents** are prescription medications that strengthen the LES pressure and help the stomach empty more rapidly. Side effects such as fatigue, depression, anxiety and other neurological problems, limit the usefulness of these medications.

Over 70% of GERD patients respond well to treatment with acid-reducing medications (such as H₂-RAs or PPIs) taken

once a day, in the morning about thirty minutes before breakfast. About 15 to 25% of patients require a higher or more frequent dosing of medication to relieve their symptoms. For a small number of people, prokinetic agents may be beneficial.

Surgery

Surgery may be an option for people with severe GERD symptoms or complications, especially young patients with high-volume reflux. **Nissen fundoplication** surgery is performed laparoscopically (through small incisions in the upper abdomen) to tighten the LES and prevent the reverse flow of stomach contents into the esophagus. This procedure works best for those who have responded well to medical therapy especially those who have had a good response to acid-lowering drugs. A full assessment of esophageal function should be undertaken before undergoing surgery and the decision to have surgery is an important one that you should discuss with your physician and consider carefully.

What are the complications of GERD?

GERD is a chronic disease and so treatment usually needs to be maintained on a long-term basis, even after symptoms have been brought under control. Untreated GERD can sometimes result in serious damage to the esophagus. A narrowing (stricture) of the esophagus may occur from chronic scarring and an esophageal ulcer and bleeding may develop from repeated exposure to stomach acid. Some patients with prolonged, uncontrolled GERD may have Barrett's esophagus, a condition that results in changes to the esophageal lining which increase the risk of developing esophageal cancer.

Alarm symptoms

Alarm symptoms are not typical of GERD and can signal additional, more serious health concerns. Consult a health care professional if you notice a change in your current symptoms or experience any of the following:

- Sudden weight loss
- Difficulty swallowing or a feeling that food is trapped in the chest
- Nausea
- Vomiting
- Bloody stools (tarry black or red)
- Anemia

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How can I tell if my treatment is working?

Once you begin treatment, your GERD symptoms should become less frequent and less severe. However, in some cases, reflux symptoms may be made worse or confused by abnormal motility or other conditions such as *Helicobacter pylori* gastritis (a common bacterium that can cause stomach inflammation and peptic ulcers), celiac disease (wheat or gluten intolerance), diabetes mellitus, gastroparesis (delayed gastric emptying), gallstones or pancreatitis (inflammation of the pancreas).

Once you **begin treatment**, your GERD symptoms should become **less frequent** and **less severe**.

If your GERD symptoms persist, speak to your doctor, as you may need further investigation to rule out other causes or complications or alternative treatment options.

Partnering for Best Health – Preparing for your next appointment

Good communication with your doctor is an important part of effective management of GERD. Before your appointment, take the time to keep a symptom journal that can help you and your doctor see patterns in your activities and identify specific triggers for your symptoms. Include the following information in your journal:

- Write down the symptoms that are bothering you, and for how long you have had them
- Make a note of the frequency and severity of your symptoms and their relationship with your meals.
- Write down key personal and medical information, including any recent changes or stressful events in your life.
- Make a list of the triggers (food, stress, activity,) that seem to make your symptoms worse.
- Make a list of all of the medications you are taking including the dose and time you take them and the conditions you take them for. Also, note if any of your medications seem to affect your symptoms.
- Talk to your family members and find out if any relatives have been diagnosed with GERD, Barrett's esophagus or esophageal cancer.

- Create a list of 3 to 6 questions to ask your doctor during your appointment. Specifically, you may want to ask your doctor some of the following:
 - What do you think is causing my symptoms?
 - Are there other possible causes for my condition?
 - What diagnostic tests do I need?
 - Do these tests require any special preparation?
 - What treatment approach do you recommend trying first?
 - If the first treatment doesn't work, what will we try next?
 - Are there any side effects associated with these treatments?

CDHF App helps track information

The CDHF has developed a smart phone app for iPhone and Android called

Gi BodyGuard to help you quickly, easily and privately track and share your digestive symptoms with your physician.

Gi BodyGuard has a built-in symptom tracker (stool, pain, blood), food, fitness and medication trackers, a health history form and appointment/medication reminders. Using **Gi BodyGuard** is quick, easy and private.

As well, **Gi BodyGuard** lets you produce comprehensive reports so you can share important information with your physician during your next appointment. You can download **Gi BodyGuard** for free at:

www.CDHF.ca/Gibodyguard



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Living positively with GERD

Along with medications, your doctor may recommend dietary and lifestyle changes which are an important part of effectively managing GERD. Achieving and maintaining a healthy weight, eating small, frequent meals, raising the upper body during sleep, avoiding trigger foods and not smoking can reduce reflux and the discomfort associated with GERD symptoms.

Learning more about GERD

The Canadian Digestive Health Foundation provides information, tools and support to help you take control of your digestive health with confidence and optimism.

Visit www.CDHF.ca to view WebSeminars, personal stories and helpful resources about GERD and other digestive disorders or browse the links below:

Living with GERD: A gastroenterologist speaks about options - video

Niki Travers has suffered with GERD for years. In this video you will learn about Niki's journey and hear the reassuring insights of Dr. Richard Hunt who addresses the complications of GERD and speaks about safe therapeutic option. <http://www.cdhf.ca/en/videos/video/14>

Living Successfully with GERD – on-line seminar

Learn from Dr. David Armstrong and a patient living with the disease how to take control of their GERD - and life - with confidence and optimism.

<http://www.cdhf.ca/en/videos/video/76>

GERD with Dr. Richard Hunt

At the 2012 CDHF Digestive Health Public Education Forum, Dr. Richard Hunt gave an interesting and educational presentation on acid reflux and Gastroesophageal Reflux Disease (GERD) to a capacity crowd.

<http://www.cdhf.ca/en/videos/video/64>

Understanding and Treating GERD

Douglas Bryant blamed himself for his acid reflux but after visiting his doctor, he learned that by not taking action, he would continue to suffer and possibly put himself at risk of developing cancer. Dr. David Armstrong explains GERD, how it can be treated and why seeking the advice of your physician is important.

<http://www.cdhf.ca/en/videos/video/6>

Please note: The information contained in this digestive disorder guide is not a substitute for medical care and the advice of your physician. There may be variations in treatment that your physician may recommend based on your individual facts and circumstances. Always consult with your physician when you have concerns about your health.

UNDERSTAND.

TAKE CONTROL.

LIVE BETTER.