



Ulcer Disease

A peptic ulcer is a sore or break in the lining of any part within the digestive tract that contains concentrated gastric juice. The main components of gastric juice are water, mucus, hydrochloric acid, enzymes, and electrolytes. Ulcers most commonly occur in the first part of the small intestine below the stomach (duodenum) and can also occur at the lower end of the esophagus or in the stomach.

Most ulcers result from infection with *Helicobacter pylori* (*H. pylori*) bacteria. Contrary to old beliefs, neither eating spicy food nor living a stressful life cause ulcers. *H. pylori* bacteria weaken the protective mucous coating of the esophagus, stomach, or duodenum, which then allows acid to get through to the sensitive lining beneath. Once the protective coat is weakened, then both acid and *H. pylori* irritate this lining and cause a sore (ulcer) to form.

It is unclear how these bacteria spread from person to person and why only a small percentage of those who have *H. pylori* within the stomach develop peptic ulcers. Just because you have *H. pylori* bacteria populating your stomach does not mean you will get an ulcer, although most diagnosed with ulcers also have an *H. pylori* infection.

Another cause of ulcers is the regular use of pain medications called non-steroidal anti-inflammatory drugs (NSAIDs), which include aspirin, ibuprofen (Advil®, Motrin®), and naproxen (Aleve®, Naprosyn®). Frequent or long-time use of NSAIDs, especially among the elderly population, can increase the risk of developing an ulcer.

About 10% of Canadians will experience peptic ulcers at some point throughout their lives.

Symptoms/Complications

The most common symptom of an ulcer is a burning pain in the upper abdomen, somewhere between the breastbone and the navel. The pain can last anywhere from a few minutes to several hours, often occurs between meals, and can wake you from sleep. Food or antacids might temporarily relieve the discomfort. Less common symptoms of an ulcer include nausea, vomiting, lack of appetite, and weight loss.

There are three main complications of peptic ulcers: bleeding, perforation, and obstruction.

Bleeding may be the first and only symptom of an ulcer. Bleeding ulcers can cause vomiting of acidified blood that looks like 'old coffee grounds' and/or bowel movements that appear black. When an ulcer bleeds and continues to bleed without treatment, a person might become anemic.

Perforation can occur when ulcers go untreated, as gastric juices can make a hole through (perforate) the stomach and/or duodenal lining, requiring surgery to close the opening.

Obstruction is a complication that can occur when chronic inflammation from the ulcer causes swelling and scarring. Over time, this scarring may close (obstruct) the outlet of the stomach, preventing the passage of food and causing vomiting and weight loss. Surgery is required to repair obstructions.

It is important to contact a physician immediately if your ulcer symptoms worsen.

Diagnosis

The most common tests used to check for the presence of an ulcer are:

Upper GI series: You will swallow a liquid that contains barium and then a technician will take X-rays. Barium coats the esophagus, stomach, and upper part of the small intestine, which makes their outline visible on the X-ray images.

Gastroscopy: A physician passes a long flexible tube with a tiny video camera on the end (endoscope) through the mouth and down the esophagus to the stomach to look for the presence of inflammation or ulcers. If necessary, the physician removes a small sample of tissue (biopsy) for further testing.

Tests for *H. pylori*: There are several tests available to detect *Helicobacter pylori* infection. These include a simple breath test, checking the blood for antibodies to the bacteria, or examination of stomach biopsies.

Management

Dietary and Lifestyle Modifications

Your physician might recommend lifestyle and dietary changes in addition to medications until the ulcers completely heal. It is best to avoid certain foods and beverages such as chocolate, coffee, alcohol, fatty foods, peppermint, citrus fruits and juices, tomato products, pepper, mustard, and vinegar

during healing. Eating smaller meals more frequently may also help control symptoms. Smoking cessation is important, as smoking inhibits ulcer healing. You should also avoid NSAIDs (non-steroidal anti-inflammatories), such as aspirin, ibuprofen, or naproxen because they can cause further damage to stomach tissue. Your physician will probably lift any dietary restrictions once your ulcers have healed.

Medications

The cause of your ulcer will determine the type of medical treatment that your physician recommends. If caused by NSAID use, then your doctor may discontinue prescribing NSAID medication, suggest a different pain medication, or continue NSAID use and add another medication to protect your stomach and duodenum, such as a proton pump inhibitor (PPI), which reduces stomach acid production.

If *H. pylori* infection is the cause, then your doctor may prescribe a treatment plan to kill the infection while reducing the acid in your stomach. Usually, this is a combination of one or more antibiotics (to kill the bacteria) plus a PPI. It is important to follow the treatment plan exactly as your doctor prescribes.

Some of the common antibiotic medications prescribed for treatment of ulcers caused by *H. pylori* infection include amoxicillin, clarithromycin, tetracycline, and metronidazole. It is important to take antibiotic prescriptions until they are complete. This helps prevent the growth of superbugs (more resistant bacteria) that might make subsequent infections more difficult to treat.

Along with the antibiotic, your physician will likely prescribe a PPI. PPIs work by blocking an enzyme necessary for acid secretion. These include omeprazole (Losec®), lansoprazole (Prevacid®), pantoprazole sodium (Pantoloc®), esomeprazole (Nexium®), rabeprazole (Pariet®), pantoprazole magnesium (Tecta®), and dexlansoprazole (Dexilant®).

Outlook

Acquiring *H. pylori* infection during childhood is common and individuals carry it throughout their lives, often without consequence. Transmission within a family is very rare, so indiscriminate screening for *H. pylori* is unnecessary.

To help ensure that you remain ulcer-free, it is important to take all of your medication exactly as your physician prescribes, even if you begin to feel better part way through treatment. Re-infection after successful eradication of *H. pylori* is uncommon.

About the Gastrointestinal Society

The GI (Gastrointestinal) Society is a registered Canadian charity committed to improving the lives of people with gastrointestinal and liver conditions, supporting research, advocating for appropriate patient access to healthcare, and promoting gastrointestinal and liver health.

Want to learn more on this subject? The *Inside Tract*®, the GI Society's quarterly newsletter, provides the latest on digestive and liver research, disease and disorder treatments (e.g., medications, nutrition), and a whole lot more. If you have any kind of digestive problem, then you will want this timely, informative publication. **Subscribe today!**

This pamphlet was produced in partnership with the Canadian Society of Intestinal Research under the guidance of affiliated healthcare professionals. This document is not intended to replace the knowledge, diagnosis, or care of your physician. © GI Society 2023. All rights reserved.

Subscription/Donation Form

Purchase Information

I enclose a donation of \$ _____ (Eligible for a Canadian tax receipt)

I enclose a \$20 annual subscription fee (\$30 outside Canada)

Total \$ _____

Name (Mr./Mrs./Ms./Dr./Other _____ Please circle one)

Company Name (Optional)

Street Address

City, Province, Postal Code

Daytime Phone

Email

Patient Friend/Family Member Professional

Diagnosis/Area of Interest (This optional information helps us to determine which topics might be of interest to you and is kept strictly confidential. We never sell our lists.)

Would you like more information? Please list your topics.

Payment: Visa Mastercard Cheque Enclosed*

Credit Card Number

Expiry Date

*Make cheque payable to the **GI Society**.

Gastrointestinal Society
231-3665 Kingsway
Vancouver, BC V5R 5W2

Phone: 604-873-4876
Toll-free: 1-866-600-4875
Fax: 1-855-875-4429
Email: info@badgut.org
Website: www.badgut.org



Charitable Registration Number: 817065352RR0001