

H. Pylori

Helicobacter pylori, also known as *H. pylori*, is a bacterium that is commonly found in the stomach. It is present in approximately one-half of the world's population.

The vast majority of people infected with *H. pylori* has no symptoms and will never develop problems. However, *H. pylori* is capable of causing a number of digestive problems, including ulcers and, much less commonly, stomach cancer. It is not clear why some people with *H. pylori* get these conditions and others do not.

This article discusses the symptoms, testing, and treatment of *H. pylori* infections. Stomach ulcers, also known as peptic ulcers, are discussed separately.

H. PYLORI RISK FACTORS

H. pylori is probably spread by consuming food or water contaminated with fecal matter. *H. pylori* causes changes to the stomach and duodenum (the first part of the small intestine) ([figure 1](#)). The bacteria infect the protective tissue that lines the stomach. This leads to the release of certain enzymes and toxins and activation of the immune system. Together, these factors may directly or indirectly injure the cells of the stomach or duodenum. This causes chronic inflammation in the walls of the stomach (gastritis) or duodenum (duodenitis).

As a result of these changes, the stomach and duodenum are more vulnerable to damage from digestive juices, such as stomach acid.

In the United States and other developed countries, infection with *H. pylori* is unusual during childhood but becomes more common during adulthood. However, in developing countries, most children are infected with *H. pylori* before age 10.

H. PYLORI SYMPTOMS

Most individuals with chronic gastritis or duodenitis have no symptoms. However, some people develop more serious problems, including stomach or duodenal ulcers.

Ulcers can cause a variety of symptoms or no symptoms at all, with the most common ulcer symptoms including:

- Pain or discomfort (usually in the upper abdomen)
- Bloating
- Feeling full after eating a small amount of food
- Lack of appetite
- Nausea or vomiting
- Dark or tar-colored stools
- Ulcers that bleed can cause a low blood count and fatigue (see ["Patient information: Peptic ulcer disease \(Beyond the Basics\)"](#))

Less commonly, chronic gastritis causes abnormal changes in the stomach lining, which can lead to certain forms of cancer. It is uncommon to develop cancer as a result of *H. pylori* infection. Nevertheless, because so many people in the world are infected with *H. pylori*, it is considered to be an important cause of stomach cancer. People who live in countries in which *H. pylori* infection occurs at an early age are at greatest risk of stomach cancer.

H. PYLORI TREATMENT



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People with a history of peptic ulcer disease, active gastric ulcer, or active duodenal ulcer associated with *H. pylori* infection should be treated. Successful treatment of *H. pylori* can help the ulcer to heal, prevent ulcers from coming back, and reduce the risk of ulcer complications (like bleeding).

Medications — No single drug cures *H. pylori* infection. Most treatment regimens involve taking several medications for 14 days.

- Most of the treatment regimens include a medication called a proton pump inhibitor. This medication decreases the stomach's production of acid, which allows the tissues damaged by the infection to heal. Examples of proton pump inhibitors include lansoprazole (Prevacid), omeprazole (Prilosec), pantoprazole (Protonix), rabeprazole (AcipHex), dexlansoprazole (Dexilant), and esomeprazole (Nexium).
- Two antibiotics are also generally recommended; this reduces the risk of treatment failure and antibiotic resistance.
- There are increasing numbers of patients with *H. pylori* infection that is resistant to antibiotics, so it is important to take all the medications prescribed and to have a test that confirms that the infection has been cleared.

Although the optimal *H. pylori* treatment regimen continues to be investigated, the American College of Gastroenterology has recommended four specific drug regimens that use a combination of at least three medications. These regimens successfully cure infection in up to 90 percent of people. For the *H. pylori* treatment to be effective, it is important to take the entire course of all medications.

Side effects — Up to 50 percent of patients have side effects while taking *H. pylori* treatment. Side effects are usually mild, and fewer than 10 percent of patients stop treatment because of side effects. For those who do experience side effects, it may be possible to make adjustments in the dose or timing of medication. Some of the most common side effects are described below.

- Some of the treatment regimens use a medication called metronidazole (Flagyl) or clarithromycin (Biaxin). These medications can cause a metallic taste in the mouth.
- Alcoholic beverages (eg, beer, wine) should be avoided while taking metronidazole; the combination can cause skin flushing, headache, nausea, vomiting, sweating, and a rapid heart rate.
- Bismuth, which is contained in some of the regimens, causes the stool to become black and may cause constipation.
- Many of the regimens cause diarrhea and stomach cramps.