

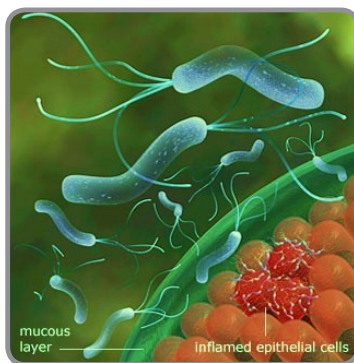
Helicobacter Pylori

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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 infection have 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 Helicobacter pylori infections. Stomach ulcers, also known as peptic ulcers, are discussed separately.



Helicobacter Pylori bacteria

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). The bacteria invades the protective tissue that lines the stomach. This leads to the release of certain enzymes and toxins. These enzymes and toxins may directly or indirectly injure the cells of the stomach or duodenum.

As a result of these changes, the stomach and duodenum are more vulnerable to damage from digestive juices, such as stomach acid. This causes chronic inflammation in the walls of the stomach (gastritis) or duodenum (duodenitis).

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

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 Diagnosis

There are several ways to diagnose H. pylori. The most commonly used tests include the following:

Blood tests — Blood tests can detect specific antibodies (proteins) that the body's immune system develops in response to the H. pylori bacterium. Unfortunately, a positive blood test does not always indicate active infection and your doctor may recommend additional testing.

Breath tests — Breath tests (known as urea breath tests) require that you drink a specialized solution containing a substance that is broken down by the *H. pylori* bacterium. The breakdown products can be detected in your breath.

Stool tests — Tests are available that detect *H. pylori* proteins in stool.

Biopsy — Although not always required, during an EGD your doctor may perform biopsies of the lining of the stomach and it is possible under the microscope to detect the bacteria.

Who Should Be Tested For H. Pylori?

If you have symptoms

Diagnostic testing for *Helicobacter pylori* infection is recommended if you have active gastric or duodenal ulcers or if you have a past history of ulcers.

Although *H. pylori* infection is the most common cause of ulcers, not all patients with ulcers have *H. pylori*. Certain medications (eg, aspirin, ibuprofen (Motrin®, Advil®), naproxen (Aleve®)) can also cause peptic ulcers.

If you do not have symptoms

H. pylori testing is usually not recommended if you have no symptoms and no past history of peptic ulcer disease.

H. Pylori Treatment

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 *Helicobacter pylori* infection. Treatment involves taking several medications for 7 to 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.
- Two antibiotics are generally recommended; this reduces the risk of treatment failure and antibiotic resistance.

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. 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.

Treatment failure

Up to 20 percent of patients with *Helicobacter pylori* infection are not cured after completing their first course of treatment. A second treatment regimen is usually recommended in this case. Retreatment usually requires that the patient take 14 days of a proton pump inhibitor and two antibiotics. At least one of the antibiotics is different from those used in the first treatment course.

Follow up

After completing *H. pylori* treatment, repeat testing is usually performed to ensure that the infection has resolved. This is typically done with a breath or stool test. Blood tests are not recommended for follow up testing; the antibody detected by the blood test often remains in the blood for four or more months after treatment, even after the infection is eliminated.