



**What is Helicobacter pylori (*H. pylori*)?** This bacterium infects the lining of the stomach and thrives in the mucous environment. It is common worldwide and especially impacts the elderly, the very young, and those in Third World countries where sanitation is problematic. However, just because you have been exposed to *H. pylori* doesn't necessarily mean you will be affected by its presence. Often *H. pylori* does not cause any symptoms. Approximately 50 percent of people in the United States have it.

**How is *H. pylori* infection diagnosed?** Your physician can use a blood test, a breath test, or an endoscopy to see if you have *H. pylori*.

**Blood test** - Your physician sends a sample of your blood to a lab to confirm if you have *H. pylori*.

**Breath test** - In this test you drink a special liquid, and in less than an hour, a sample of your breath is tested for a chemical reaction caused by *H. pylori*.

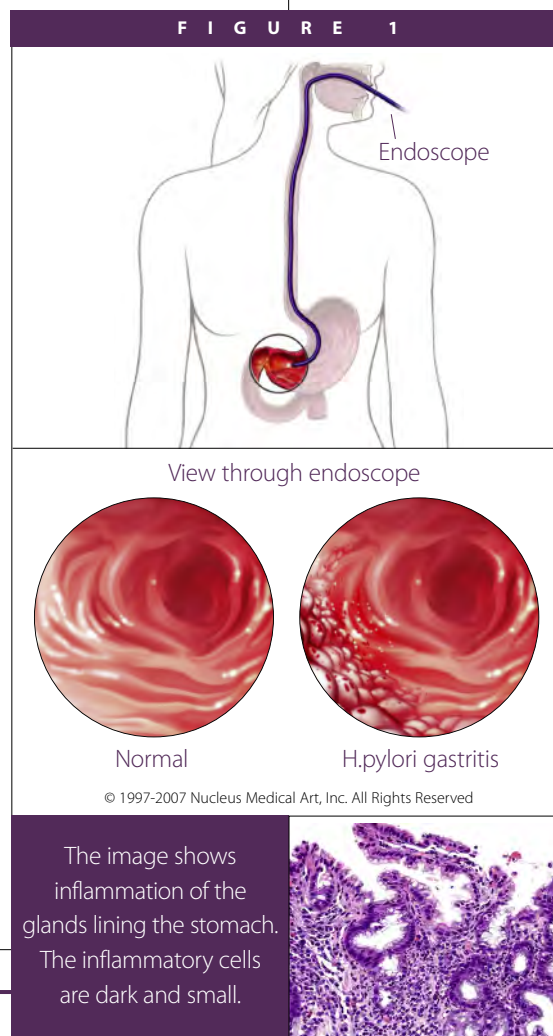
**Endoscopy** - A small tube with a camera inside is inserted through the mouth or nose, passing into the stomach to look for inflammation and ulcers (See Figure 1). During the procedure, a biopsy, or small sample of the stomach lining, can be obtained. This biopsy will be examined under a microscope by a surgical pathologist, preferably one specializing in gastrointestinal pathology, and a diagnosis of *H. pylori* infection or other unexpected abnormality can be established or excluded.

**What are the risks of having *H. pylori*?** For many years, physicians thought ulcers in the upper gastrointestinal tract were related to stress, 'Type A' personality, and non-steroidal anti-inflammatory class of med-

icines that include aspirin and other over-the-counter pain relievers commonly used for arthritis and other conditions. Recently researchers have discovered that *H. pylori* is actually the cause for many, if not most ulcers. An ulcer is a defect in the lining of an organ, in this case, the stomach or duodenum (the first portion of the small intestine). The most common ulcer symptom is a burning pain in the abdomen. The pain often happens when the stomach is empty and may be relieved by eating food or taking antacids. Sometimes ulcers bleed. If the bleeding is heavy, blood may appear in vomit or bowel movements, which may appear dark red or black.

*H. pylori* can also cause a painful inflammation of the stomach called gastritis. The symptoms of gastritis are upper-abdominal burning/pain, bloating, and discomfort.

Long-term infection of the stomach with this bacterium may lead to chronic atrophic gastritis (inflammation and damage to the lining of the stomach), which in turn is a risk factor for pre-cancerous changes and cancer of the lining of the stomach. *H. pylori* infection is also associated with another type of stomach cancer



# H. pylori



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involving white blood cells, called lymphoma. Despite these risks, the vast majority of people who carry this bacterium in their stomachs never develop cancer.

**How and when is *H. pylori* treated?** Recent studies suggest that treating *H. pylori* when ulcers are not present may actually worsen reflux disease. The *H. pylori* bacteria create a buffer zone around themselves that allows them to live in the highly acidic environment of the stomach. Medication given to eradicate *H. pylori* alone can interfere with that buffering base, causing patients to experience more reflux symptoms. If ulcers are present, a regimen of antibiotics are given to kill the bacteria and allow the ulcer to heal. Treatment with antibiotics can actually cause regression of some of the lymphomas that occur in these patients.

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#### ADDITIONAL RESOURCES:

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The Helicobacter Foundation:  
[www.helico.com](http://www.helico.com)

Centers for Disease Control and Prevention:  
[1.888.698.5237](http://1.888.698.5237) / [www.cdc.gov/ulcer](http://www.cdc.gov/ulcer)

National Institute of Diabetes and Digestive and Kidney Diseases:  
[www.digestive.niddk.nih.gov/ddiseases/pubs/hpylori/index.htm](http://www.digestive.niddk.nih.gov/ddiseases/pubs/hpylori/index.htm)

Cancer Institute:  
[1.800.4.CANCER](http://1.800.4.CANCER) / [www.cancer.gov](http://www.cancer.gov)

American College of Gastroenterology:  
[703.820.7400](http://703.820.7400) / [www.acg.gi.org/patients](http://www.acg.gi.org/patients)



8400 Esters Boulevard, Suite 190, Irving, Texas 75063  
**CarisDx.com 800.979.8292**

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