

Helicobacter Pylori

What is *Helicobacter pylori* (H. pylori)?

H. pylori is a spiral-shaped bacterium found in the stomach, which (along with acid secretion) damages stomach and duodenal tissue, causing inflammation and peptic ulcers. Approximately 30 to 40 percent of the U.S. population is thought to have *H. pylori*, but fortunately, most people don't develop ulcers. Even so, according to the National Institute of Diabetes and Digestive and Kidney Diseases, *H. pylori* is a leading cause of ulcers among those who develop them.

How does H. pylori cause damage?

It is believed that *H. pylori's* shape and characteristics cause the damage that leads to ulcers.

Because of their shape and the way, they move, the bacteria can penetrate the stomach's protective mucous lining where they produce the enzyme urease, which generates substances that neutralize the stomach's acids. This weakens the stomach's protective mucus, makes the stomach cells more susceptible to the damaging effects of acid and pepsin, and leads to sores or ulcers in the stomach or duodenum (first part of the small intestine). The bacteria can also attach to stomach cells, further weakening the stomach's defensive mechanisms and producing local inflammation. For reasons not completely understood, *H. pylori* can also stimulate the stomach to produce more acid.

What are the symptoms of H. pylori-related ulcers?

The following are the most common symptoms of ulcers. However, each individual may experience symptoms differently.

Soon after being infected with *H. pylori*, most people develop gastritis--an inflammation of the stomach lining. However, most people will never have symptoms or problems related to the infection. When symptoms are present, they may include:

- Abdominal discomfort, which may:
 - Be a dull, gnawing pain.
 - Occur two to three hours after a meal.
 - Come and go for several days or weeks.
 - Occur in the middle of the night when stomach is empty.
 - Be relieved by eating or taking antacid medication.
- Weight loss
- Loss of appetite
- Bloating
- Burping
- Nausea
- Vomiting

The symptoms of ulcers may resemble other medical conditions or problems. Always consult your doctor for a diagnosis.

What causes H. pylori infection?

Researchers do not yet know what causes certain people to develop *H. pylori*-related symptoms or ulcers. It is believed that *H. pylori* is transmitted orally from person to person through close contact (kissing) or through fecal-oral contact. Most people are first exposed to *H. pylori* during childhood.

How is *H. pylori* diagnosed?

In addition to a complete medical history and physical examination, diagnostic procedures for *H. pylori* may include the following:

- Blood tests**--to identify antibodies that indicate the presence of the bacterium
- Stool culture**--to check for the presence of abnormal bacteria in the digestive tract that may cause diarrhea and other problems. A small sample of stool is collected and sent to a laboratory by your doctor's office. In two or three days, the test will show whether abnormal bacteria are present.
- Breath tests**--to determine if carbon is present after swallowing a urea capsule--the presence of carbon signals the release of urease by *H. pylori*
- Esophagogastroduodenoscopy (also called EGD or upper endoscopy)**--a procedure that allows the doctor to examine the inside of the esophagus, stomach, and duodenum. A thin, flexible, lighted tube called an endoscope is guided into the mouth and throat, then into the esophagus, stomach, and duodenum. The endoscope allows the doctor to view the inside of this area of the body, as well as to insert instruments through a scope for the removal of a sample of tissue for biopsy (if necessary). Tissue removed during an endoscopy is used to detect the presence of the enzyme urease and examine the bacteria that is present.

Treatment for H. pylori ulcers:

Specific treatment for *H. pylori* ulcers will be determined by your doctor based on:

- Your age, overall health, and medical history
- Extent of the disease
- Your tolerance for specific medications, procedures, or therapies
- Expectations for the course of the disease
- Your opinion or preference

Treatment may include:

Antibiotics (to kill the bacteria)

Medications (to suppress acid production), including the following:

H2-blockers (to reduce the amount of acid in the stomach by blocking histamine, a powerful stimulant of acid secretion)

Proton pump inhibitors (to more completely block stomach acid production by stopping the stomach's acid pump--the final step of acid secretion)

Stomach-lining protectors (to protect the stomach lining from acid and help kill the bacteria)

This information is not intended as a substitute for professional medical care. Always follow your healthcare professional's instructions.