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## HELICOBACTER PYLORI

**INTRODUCTION** — *Helicobacter pylori*, also known as *H. pylori*, is the most common chronic bacterial infection in humans. Conservative estimates indicate that the bacteria is present in the stomach in approximately one-half of the world's population. Surprisingly, the importance of *H. pylori* was not appreciated until 1982. Later, a researcher dramatically demonstrated that the bacteria were able to cause stomach problems after he voluntarily swallowed them.

Despite this dramatic demonstration, a wealth of information has shown that the vast majority of people infected with *H. pylori* infection have no symptoms and will never develop symptoms. However, *H. pylori* is capable of causing a number of gastrointestinal disorders, including ulcers, and, much less commonly, stomach cancer. Why some people get these conditions and others do not is an area of intense research, although much has already been learned.

**HOW ARE PEOPLE INFECTED WITH H. PYLORI?** — *H. pylori* is most likely spread from person to person through oral-oral or fecal-oral exposure, since *H. pylori* may be carried in saliva and feces (stool). More specifically, infection may sometimes result from ingestion of food or water contaminated by fecal matter, such as with contaminated water supplies in developing countries. In addition, children living in less developed countries who regularly swim in pools, streams, or rivers, drink stream water, or eat uncooked vegetables are more likely to be infected.

The risk of acquiring an infection also appears to increase with close person-to-person contact, such as in certain living conditions and socioeconomic circumstances in childhood. As examples, an increased frequency of *H. pylori* infection has been linked to several such factors, including overcrowding, higher number of siblings, sharing a bed, and lack of running water.

**HOW DOES H. PYLORI INFECTION CAUSE SYMPTOMS?** — The presence of *H. pylori* causes a number of changes to the normal environment of the stomach and duodenum (the first part of the small intestine). In particular, it disrupts a protective layer of mucous and causes the release of certain enzymes and toxins that may directly or indirectly cause injury to the cells of the stomach or duodenum. The net effect of these changes is that *H. pylori* makes underlying tissues more vulnerable to damage by digestive juices, such as stomach acid. This results in chronic inflammation in the walls of the stomach (gastritis) or duodenum (duodenitis).

**WHO SHOULD BE TESTED FOR H. PYLORI?** — Diagnostic testing for *H. pylori* infection is most commonly recommended for patients with active gastric or duodenal ulcers or a past history of documented ulcers.

Although *H. pylori* infection is a primary cause of ulcers, it is important to emphasize that not all ulcer patients have *H. pylori*. Certain medications (eg, aspirin and other nonsteroidal anti-inflammatory drugs [NSAIDs]) are responsible for the majority of peptic ulcers not caused by *H. pylori*. Thus, diagnostic confirmation of the infection, even in patients with known peptic ulcer disease (including those who use NSAIDs), is appropriate.

**WHO SHOULD BE TREATED FOR H. PYLORI?** — Patients with a history of documented peptic ulcer disease, active gastric ulcer, or active duodenal ulcer associated with *H. pylori* infection should receive treatment to eradicate the infection. This is based upon overwhelming evidence suggesting that curing *H. pylori* is associated with a higher rate of ulcer healing and significantly reduces recurrence as well as potential complications such as bleeding.

**HOW IS H. PYLORI TREATED?** — No single drug effectively cures *H. pylori* infection, although research is ongoing. Thus, treatment involves taking several medications (usually one to two antibiotics along with a medication that reduces stomach acid) for 7 days to 2 weeks. These regimens can successfully cure infection in up to 90 percent of people.

Although the optimal regimen continues to be investigated, the American College of Gastroenterology (ACG), a medical professional association, has recommended four specific drug regimens that use a combination of at least three medications.

**Influences on treatment outcome** — The most important factor influencing the success of treatment is compliance with the drug regimen. Compliance refers to taking all prescribed medications as directed by the physician's instructions. Thus, it is very important that you finish all of the medications prescribed to treat the infection.

**Side effects** — Up to 50 percent of patients undergoing therapy to cure H. pylori infection experience side effects during therapy. Fortunately, side effects associated with H. pylori therapy are usually mild; fewer than 10 percent of patients stop treatment due to them. Those who do develop side effects should immediately speak with their physicians so that appropriate treatment adjustments may be made as necessary. In addition, before such therapy is initiated, it is essential that patients speak with their physicians concerning any reactions they have had to certain medications (eg, penicillin).

Some of the common side effects are described below.

- One of the drugs commonly included in the treatment regimens, metronidazole, commonly causes a metallic taste in the mouth. Metronidazole will cause headache and flushing if people drink alcohol while on therapy, so you should avoid drinking while taking it.
- Bismuth, contained in some of the regimens, will turn your stool black and can cause constipation.
- Diarrhea and cramps are commonly observed with many of the regimens.