

Clinical Policy: Helicobacter Pylori Serology Testing

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Description

Helicobacter pylori (*H. pylori*) is the most prevalent chronic bacterial infection and is associated with peptic ulcer disease, chronic gastritis, gastric adenocarcinoma, and gastric mucosa associated lymphoid tissue (MALT) lymphoma. Noninvasive tests for the diagnosis of *H. pylori* include urea breath testing (UBT), stool antigen testing, and serology.¹

Policy/Criteria

- I. It is the policy of PA Health & Wellness that *H. pylori* serology testing is **not medically necessary** for diagnosing infection or evaluating treatment effectiveness.

Background

The most common causes of peptic ulcer disease (PUD) are *H. pylori* infection and use of nonsteroidal anti-inflammatory drugs (NSAIDs). *H. pylori* infection causes progressive functional and structural gastroduodenal damage.⁴ Accurate diagnosis of *H. pylori* infection is a crucial part in the effective management of many gastroduodenal diseases. Several invasive and non-invasive diagnostic tests are available for the detection of *H. pylori* and each test has its usefulness and limitations in different clinical situations.⁸

Urea breath tests and stool antigen tests are the most widely used non-invasive tests for identifying *H. pylori* infection, as well as most accurate. In addition, they can be used to confirm cure. Serologic tests are a convenient but less accurate alternative and cannot be used to confirm cure.²

The urea breath test is the noninvasive test of choice for the diagnosis of *H. pylori*, with high sensitivity (88% to 95%) and specificity (95% to 100%) for the detection of active *H. pylori* infections.^{1,4} Urea breath tests require the ingestion of urea labeled with the nonradioactive isotope carbon 13 or carbon 14. Specificity and sensitivity approach 100%. Urea breath testing is an option for test of cure and should be performed four to six weeks after completion of eradication therapy. Proton pump inhibitors (PPIs) must be stopped for at least two weeks before the test, and accuracy is lower in patients who have had distal gastrectomy.²

Stool antigen tests using monoclonal antibodies are as accurate as urea breath tests if a validated laboratory-based monoclonal test is used. Like urea breath tests, stool antigen tests detect only active infection and can also be used as a test of cure. PPIs should be stopped for two weeks before testing, but stool antigen tests are not as affected by PPI use.²

Serologic antibody testing detects immunoglobulin G specific to *H. pylori* in serum and cannot distinguish between an active infection and a past infection.² Most common serologic tests are based on an enzyme-linked immunosorbent assay (ELISA) technology. As with any test, prevalence of the *H. pylori* infection and the pretest probability influence the positive or negative predictive values. Overall, where the prevalence of *H. pylori* infection and the pretest probability

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are low, the negative predictive value of a serologic test is high whereas false positives are more frequent, with the opposite in high prevalence/high pretest probability cases (i.e., the positive predictive value is high but there is increased prevalence of false negative results).⁴ Antibody testing cannot be used as a test of cure.²

American Society for Clinical Pathology

Per the American Society for Clinical Pathology, serologic evaluation of patients to determine the presence/absence of H. pylori infection is no longer considered clinically useful. Alternative noninvasive testing methods (e.g., the urea breath test and stool antigen test) exist for detecting the presence of the bacteria and have demonstrated higher clinical utility, sensitivity, and specificity.¹¹

The American Gastroenterological Association (AGA)

The AGA no longer recommends serology-based testing for diagnosing infection or evaluating treatment effectiveness as it is unable to distinguish between active infection and previous exposure to H. pylori, does not confirm eradication and has a poor positive predictive value when compared to active infection tests such as the urea breath test or stool antigen test.⁷

The American College of Gastroenterology

The American College of Gastroenterology states that all patients with active PUD, a past history of PUD (unless previous cure of H. pylori infection has been documented), low-grade gastric MALT lymphoma, or a history of endoscopic resection of early gastric cancer should be tested for H. pylori infection. In patients with uninvestigated dyspepsia who are under the age of 60 years and without alarm features, non-endoscopic testing for H. pylori infection is a consideration. Other indications to test patients for H. pylori infection may include, patients taking long-term low-dose aspirin, patients initiating chronic treatment with an NSAID, patients with unexplained iron deficiency anemia despite an appropriate evaluation and adults with idiopathic thrombocytopenic purpura. Any individual who tests positive should be offered eradication therapy. Patients with a history of PUD who have previously been treated for H. pylori infection should undergo eradication testing with a urea breath test or fecal antigen test.³

Coding Implications

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CPT® Codes	Description
86677	Antibody; Helicobacter pylori

HCPCS Codes	Description
N/A	

Reviews, Revisions, and Approvals	Revision Date	Approval Date
Policy developed	04/18	06/18
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Annual Review. References reviewed and updated	06/2020	8/7/2020
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Annual review completed. Background updated and minor rewording with no clinical significance. Changed “Last Review Date” in header to “Date of Last Revision” and changed “Date” in Revision log to “Revision Date”. References reviewed and updated. Reviewed by specialist.	2/21/2023	
Annual review completed. Background updated and minor rewording with no clinical significance. References reviewed and updated. Reviewed by external specialist.	09/2023	

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