

Clinical Policy: Helicobacter Pylori Serology Testing

Reference Number: NC.CP.MP.153

Date of Last Revision: 01/2023

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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 health plans affiliated with Carolina Complete Health that H. pylori serology testing is **not medically necessary** for diagnosing infection or evaluating treatment effectiveness. Special consideration may be given for use of H. pylori serology in the setting of screening for members who meet ALL of the following criteria:
 - Are actively taking PPIs
 - Have no known history of H. pylori infection
 - Have potential access concerns such as in unavailability of UBT or barriers to successful completion of stool antigen testing.
- II. Have potential access concerns such as in availability of UBT or barriers to successful completion of stool antigen testing. It is the policy of health plans affiliated with Carolina Complete Health that the following noninvasive testing methods are considered **medically necessary** for diagnosing and evaluating treatment effectiveness for Helicobacter pylori (H. pylori) infection. The appropriate choice of test depends on the clinical situation.
 - H. pylori stool antigen (HpSA)
 - Urea breath testing

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. The American Gastroenterological Association (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 per the AGA.

The urea breath test is the noninvasive test of choice for the diagnosis of *H. pylori*, with high sensitivity (95%) and specificity (95% to 100%) for the detection of active *H. pylori* infections.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 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.

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.

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

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.³ 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
83013	H pylori; breath test analysis for unease activity, non-radioactive isotope; C13

HCPCS Codes	Description
N/A	

ICD-10-CM Diagnosis Codes that Support Coverage Criteria

ICD-10-CM Code	Description
N/A	

Reviews, Revisions, and Approvals	Revision Date	Approval Date
Policy developed	12/17	12/17
Removed from background of policy the statement “Serology testing is useful in screening and epidemiological studies.” and indications for testing in individuals without alarm symptoms.	04/18	
References reviewed and updated.	11/18	11/18
References reviewed and updated.	11/19	11/19
References reviewed and updated. Replaced “member” with “member/enrollee” in all instances.	10/20	10/20
Policy language edited. Policy attested to by MAC as a CCH plan policy.	11/21	11/21
Adapted corporate policy updates and phrase/format revisions. References reviewed and updated. Changed “Last Review Date” in header to “Date of Last Revision” and changed “Date” in Revision log to “Revision Date”.	12/21	12/21
Added special consideration criteria for H. pylori serology testing in Policy/Criteria section; effective date 11/16/2022	01/23	11/22

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Important Reminder

This clinical policy has been developed by appropriately experienced and licensed health care professionals based on a review and consideration of currently available generally accepted standards of medical practice; peer-reviewed medical literature; government agency/program approval status; evidence-based guidelines and positions of leading national health professional organizations; views of physicians practicing in relevant clinical areas affected by this clinical policy; and other available clinical information. The Health Plan makes no representations and accepts no liability with respect to the content of any external information used or relied upon in developing this clinical policy. This clinical policy is consistent with standards of medical

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Note: For Medicaid member/enrollees, when state Medicaid coverage provisions conflict with the coverage provisions in this clinical policy, state Medicaid coverage provisions take precedence. Please refer to the state Medicaid manual for any coverage provisions pertaining to this clinical policy.

Note: For Medicare member/enrollees, to ensure consistency with the Medicare National Coverage Determinations (NCD) and Local Coverage Determinations (LCD), all applicable NCDs, LCDs, and Medicare Coverage Articles should be reviewed prior to applying the criteria

set forth in this clinical policy. Refer to the CMS website at <http://www.cms.gov> for additional information.

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