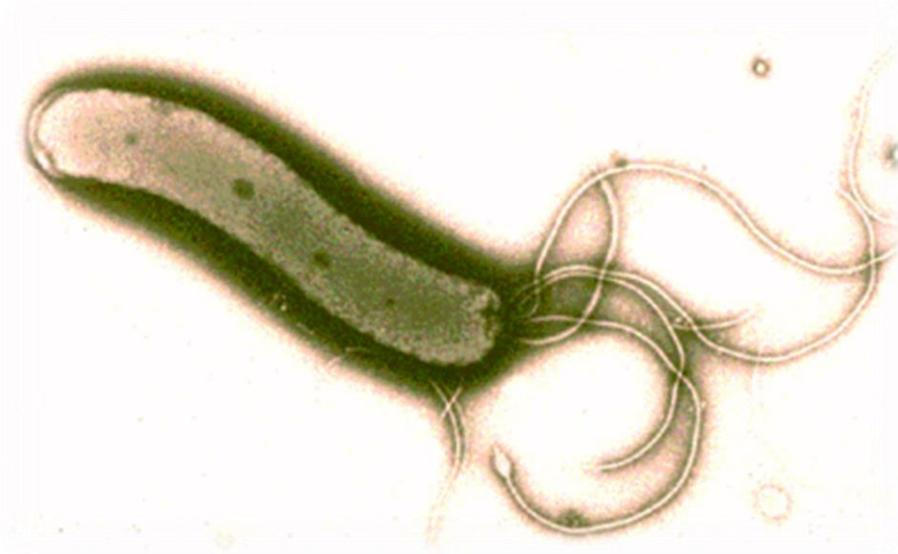


Helicobacter pylori Testing



Since 1982, *Helicobacter pylori* has been shown to be the cause of a variety of gastroduodenal diseases in humans, including peptic ulcers and gastric cancer. Recently, the American College of Gastroenterology (ACG) has recommended the discontinued use of *H. pylori* IgG testing in the United States for the purposes of diagnosing active disease and verifying cure post-treatment. In place of this test, Interpath Laboratory offers two diagnostic options:

- Urea Breath Test (UBT) #94067 for adults #94198 for pediatrics
- *H. pylori* Stool Antigen Assay (HpSA) #94079

Both have been shown to be accurate, reliable tests.

In line with current ACG guidelines,

we will be discontinuing the *H. pylori* IgG test (#2658) in the near future.

Helicobacter pylori

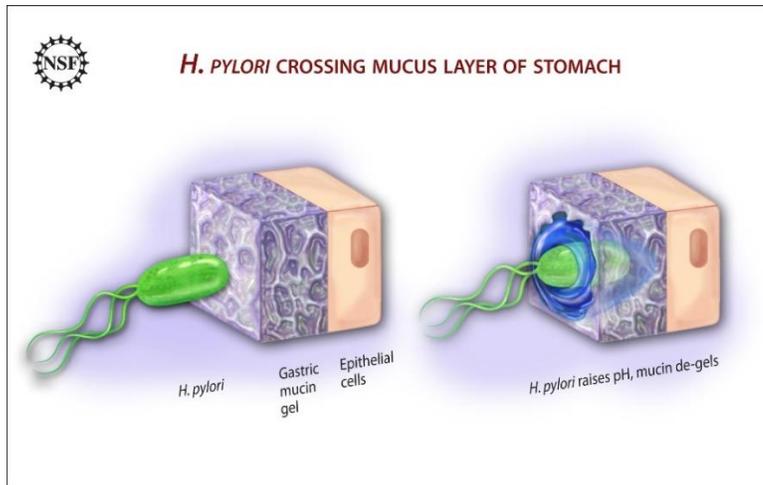
H. pylori is a spiral-shaped, Gram-negative bacterium commonly found in the stomach of humans. Because of its unique ability to create a “cloud” of high pH immediately surrounding itself, it is able to survive the normally toxic low pH of the stomach and initiate infection in the mucus layer (see figure below). These infections can cause significant gastroduodenal disease in humans, including

peptic ulcer diseases, mucosa associated lymphoid tissue (MALT) lymphoma and non-cardiac gastric cancer¹. Thus, the use of accurate, non-invasive tests is key in the effective diagnosis of acute *H. pylori* infection and in the verification of cure post-treatment.

Laboratory Diagnosis

For patients <55 years of age showing no “alarm” symptoms (e.g., bleeding, anemia, unexplained weight loss, family history of GI cancer), non-invasive *H. pylori* diagnostic testing is indicated.

Though IgG serologies have been a mainstay in the past, the American College of Gastroenterology (ACG) has



determined its clinical utility in a low prevalence population (such as the United States) to be poor. Thus, they recommend that this test be avoided altogether or all positive tests be confirmed with more accurate testing². This recommendation applies to both the initial diagnosis of *H. pylori* infection and post-treatment proof of cure.

Urea Breath Test (UBT)

The UBT has been around for more than 30 years. The patient ingests a drink containing urea labeled with ¹³C or ¹⁴C. If *H. pylori* is present in the stomach, it quickly breaks down the urea, releasing CO₂ which is then absorbed in the blood stream and exhaled by the patient when he/she breathes. The diagnostic specimen is collected as the patient breathes into a “balloon” and tested for higher than normal levels of labeled CO₂ (<https://www.breathtek.com/patients/test-information/features-of-breathtek-ubt>). In meta-analysis the UBT demonstrated very good sensitivity (95-97%) and specificity (91-94%)³.

H. pylori Stool Antigen (HpSA)

The *H. pylori* stool antigen (HpSA) assay simply detects the presence of *H. pylori* in a patient’s stool. Though this does have the disadvantage of decreased patient compliance, in meta-analysis the HpSA assay was shown to be 93-95% sensitive and 96-98% specific⁴.

Conclusion

Interpath Laboratory will in the future discontinue the use of *H. pylori* IgG (test #2658) as a diagnostic test for active infection or proof of cure. The UBT (test #94067 for adults; test #94198 for pediatrics) or HpSA (test #94079) are both excellent tests that should be used to fill this diagnostic gap.

References

1. Y-K. Wang, et al. Diagnosis of *Helicobacter pylori* infection: Current options and developments. World J Gastroenterol. 2015 Oct 28; 21(40): 11221–11235.
2. <http://gi.org/guideline/management-of-helicobacter-pylori-infection>
3. M. Ferwana, et al. Accuracy of urea breath test in *Helicobacter pylori* infection: meta-analysis. World J Gastroenterol. 2015;21:1305–1314.
4. J. P. Gisbert, et al. Accuracy of monoclonal stool antigen test for the diagnosis of *H. pylori* infection: a systematic review and meta-analysis. Am J Gastroenterol. 2006 Aug;101(8):1921-30. Epub 2006 Jun 16.