

***Helicobacter pylori* Infection**

Analysis

The American Gastroenterologic Association and the American College of Gastroenterology both recommend using the urea breath test (the most sensitive and specific noninvasive test) or the stool antigen test (a close second for sensitivity and specificity) rather than serology to test for *H. pylori*.^{1,2} We recommend serology only if breath and/or stool tests are unable to be performed.

Because most of the U.S. nonimmigrant population has a low prevalence of *H. pylori*, the urea breath and stool antigen tests are also more cost effective as they result in fewer patients receiving antibiotic therapy and fewer subspecialty referrals because of the increased specificity of these tests. In populations with a prevalence of *H. pylori* below 10%, the most cost-effective treatment begins with a trial of acid-reduction therapy rather than any *H. pylori* testing.

During the analysis period, Springfield Medical ordered:

- 2 *H. pylori* breath tests
- 4 *H. pylori* stool antigen tests
- 14 *H. pylori* serum antibody tests

If clinicians choose serologic testing despite the above recommendations, IgG testing has the most clearly defined utility; however, some literature supports IgA testing. IgM measurement has no established clinical utility.

Of the above-referenced serum antibody tests, Springfield Medical ordered:

- 32 *H. pylori* antibody IgG
- 158 *H. pylori* antibody IgM

For further information on *H. pylori* testing, please see the [Helicobacter pylori](http://www.arupconsult.com) topic at www.arupconsult.com.

Patient Care Impact

The urea breath and stool antigen tests are more sensitive and specific than serology for *H. pylori* testing. A less costly alternative to testing may be an acid-reduction therapy trial, depending on prevalence of *H. pylori* in the population.

¹ Talley NJ, Vakil N, et al. Guidelines for the management of dyspepsia. *Am J Gastroenterol*. 2005; 100(10):2324-2337.

² Talley NJ, Vakil NG, Moayyedi P. American gastroenterological association technical review on the evaluation of dyspepsia. *Gastroenterology*. 2005 Nov;192(5):1756-80.

Cost Impact

Eliminating IgM testing would have saved:

- **\$1,896.00**

Replacing *H. pylori* serology orders with urea breath and/or stool antigen orders would be more expensive but more sensitive and specific, and Springfield Medical would have saved:

- **An undetermined amount of downstream expenses (excess follow-up testing, office visits, unnecessary or inappropriate therapy, etc.)**

Recommendations

We recommend that Springfield Medical:

- Identify clinicians who are ordering *H. pylori* antibody IgM tests and inform them that this test has no demonstrated clinical utility.
- Identify clinicians ordering *H. pylori* serology tests and educate them on the current ACG and AGA recommendations for urea breath and stool antigen testing.
- Provide any clinicians performing *H. pylori* testing with information that a trial of acid-reduction therapy is an alternative to first-line *H. pylori* testing, particularly in young patients from low *H. pylori* prevalence groups.

Data

During the review period, Springfield Medical ordered the following tests related to this topic:

Test #	Test Name	12 Month			
		Volume	YTD Avg.	Current	Net
0065147	Helicobacter pylori Antigen, Stool	4	\$ 53.51	\$ 53.51	\$ 214.04
0020646	Helicobacter pylori Breath Test	2	\$ 27.00	\$ 27.00	\$ 54.00
0050995	Helicobacter pylori Antibody, IgA	-	\$ -	\$ 12.00	\$ -
0099359	Helicobacter pylori Antibody, IgG	32	\$ 12.00	\$ 12.00	\$ 384.00
0098392	Helicobacter pylori Antibody, IgM	158	\$ 12.00	\$ 12.00	\$ 1,896.00
0050994	Helicobacter pylori Antibodies, IgG & IgA	-	\$ -	\$ 24.00	\$ -