

## Enteric Pathogens by PCR Replacing Stool Culture

Effective August 18, 2016, the Spectrum Health Regional Laboratory Microbiology Department will begin offering the Verigene® Enteric Pathogens Test, a new rapid molecular test that simultaneously detects and identifies the following pathogenic enteric bacteria, viruses, and toxins that commonly cause acute community-acquired diarrhea. Testing occurs directly from stool in Cary-Blair preservative with a 1 day turnaround time (2-3 days faster than current methods).

### Bacteria

*Campylobacter* Group (*C. coli*, *C. jejuni* and *C. lari*)

*Salmonella* spp.

*Shigella* spp.

*Vibrio* Group (*V. cholerae* and *V. parahaemolyticus*)

*Yersinia enterocolitica*

### Viruses

Norovirus (GI and GII)

Rotavirus

### Toxins

Shiga Toxin 1 (*stx1*)

Shiga Toxin 2 (*stx2*)

This [Enteric Pathogens by PCR](#) orderable replaces the [Stool Culture](#) orderable (Test #8873, Epic code #LAB223) as it provides several clinical benefits including more rapid turnaround time, increased sensitivity, expanded coverage, and the possibility for improved antimicrobial stewardship. The stool culture previously performed in the lab required 3-4 days of incubation time to confirm negativity while this new molecular method allows for definitive positive and negative results within 1 day. The availability of rapid results may be particularly important for the management of immunocompromised patients.<sup>1</sup> While the cost of the Enteric Pathogens panel is slightly higher than traditional stool culture, this molecular approach is more sensitive than stool culture methods, which in conjunction with expanded coverage of organisms, helps to establish a definitive diagnosis so the costs of additional testing or procedures may be avoided.<sup>2</sup> A major advantage of the Enteric Pathogens test is its ability to detect Norovirus – one of the most common causes of community-acquired diarrhea for which the microbiology lab was previously unable to test. The rapid detection of a viral etiology supports refrain from the administration of antibiotics. In cases where antibiotic therapy is indicated (i.e., Shigellosis), a more rapid result will expedite proper treatment regimens for these patients. This new Enteric Pathogens molecular panel will allow healthcare providers to make more informed decisions regarding isolation of patients and regulate the judicious use of antibiotics.

### Utilization:

Since most cases of infectious diarrhea are self-limiting, testing is generally not indicated unless the duration of diarrhea is greater than 7 days, it contains blood, or is accompanied by fever or severe dehydration. Following a positive result, subsequent testing for resolution of infection is unnecessary. For cases of hospital-onset diarrhea, consider testing for *Clostridium difficile* infection.

### Order Information:

[Enteric Pathogens by PCR](#)      Test Code: 7122      Epic Code: LAB3618      CPT: 87506      Price: \$145.37

Enteric Pathogens by PCR will be performed at Spectrum Health Regional Laboratory (Grand Rapids). Stool Culture will no longer be available to order as of August 31, 2016, at all Spectrum Health Laboratory locations. Any orders received for Stool Culture will be changed to Enteric Pathogen by PCR when received by Spectrum Health Laboratory.

Please direct questions to Mary Coram, Manager of SHRL Microbiology at 616.267.2696 or Dr. Adam Caulfield, PhD Director of SHRL Microbiology at 616.267.2635 or email [LaboratoryServices@spectrumhealth.org](mailto:LaboratoryServices@spectrumhealth.org).

### References:

1. Liesman RL and Binnicker MJ. (2016) The Role of Multiplex Molecular Panels for the Diagnosis of Gastrointestinal Infections in Immunocompromised Patients. *Curr Opin Infect Dis* 4:359-65. <http://www.ncbi.nlm.nih.gov/pubmed/27191200>
2. Binnicker MJ. (2015) Multiplex Molecular Panels for Diagnosis of Gastrointestinal Infection: Performance, Result Interpretation, and Cost-Effectiveness. *J Clin Microbiol* 53:3723-8. <http://www.ncbi.nlm.nih.gov/pubmed/26311866>