



# Laboratory Medicine Bulletin

## *Clostridium difficile* Testing Update 2017

January 30, 2017

Effective today, the Medical Microbiology Laboratory at St. Paul's Hospital will be implementing a 2-step algorithm for the diagnosis of toxigenic *Clostridium difficile* infection (CDI).

This is being done in order to increase the **positive predictive value** of testing during a period of decreased prevalence.

Unformed stools will continue to be tested for *tcdC* gene by our highly sensitive PCR assay (step 1). Samples testing positive by PCR will then be tested for the presence of free toxin by EIA (step 2), which is considered highly specific. Samples testing positive by both PCR and EIA will be reported as positive for CDI.

A small number of discordant results may ultimately be reported as "indeterminate" (see Q&A below).

### **What does an "indeterminate" CDI test result mean?**

Interpretation of an indeterminate result requires careful clinical evaluation of the patient. The following scenarios are possible:

1. The patient is a carrier of *C. difficile* and is simply colonized with the organism without infection. Symptoms may be due to some other cause.
2. The patient has *C. difficile* infection, but the organism is producing low levels of toxin below the limits of detection of the EIA toxin assay; alternatively, this scenario could represent a false-negative EIA toxin result due to other technical limitations of the assay.

### **Should I treat my patient for *C. difficile* infection?**

Other causes of diarrhea should be excluded before starting treatment. The decision to treat is ultimately a clinical decision.

### **How should patients with an indeterminate result be managed from an infection control perspective?**

All patients with diarrheal symptoms should be placed on Contact Precautions. Please contact IPAC if you feel your patient has CDI following clinical evaluation.

### **When should I retest my patient for CDI?**

Repeat testing should only be performed if there has been a significant change in the clinical status of the patient.

### **Who should I contact for more advice?**

Please contact Dr. Victor Leung, Antimicrobial Stewardship Physician, or any of the PHC Medical Microbiologists through the PHC Call Centre.