

TO: All Medical Staff

FROM: Elizabeth Hermsen, Pharm.D., M.B.A., BCPS-ID, Mark Rupp, M.D., and Trevor VanSchooneveld, M.D.

DATE: 08/03/09

RE: *Clostridium difficile* testing

The Microbiology Laboratory has implemented a new test for *C. difficile* as of July 14, 2009. This new test includes simultaneous testing for both glutamate dehydrogenase (GDH) antigen and toxins A & B. GDH is produced by both toxigenic and non-toxigenic *C. difficile*. The primary clinical advantage of this test is the high sensitivity of the GDH assay. Thus, if the GDH test is negative, the patient should be considered negative for *C. difficile*, and no repeat testing is required barring the exception listed below (see table).

GDH Result	Toxin Assay Result	Interpretation	Recommendations
Negative	Negative	Not infected	No further action.
Positive	Positive	Infected with toxigenic <i>C. difficile</i>	Isolate patient and begin therapy according to management algorithm.
Positive	Negative	Non-toxigenic <i>C. difficile</i> or false-negative toxin assay	Isolate the patient. Due to history of low sensitivity of toxin assay and until further performance characteristics of this new test are available, recommend repeat test x 1.
Negative	Positive	Indeterminate	Repeat test x 1.

The treatment recommendations for *C. difficile* infection can be found at www.nebraskamed.com/asp under Clinical Pathways. Please feel free to contact us with any questions.

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