DANBURY HOSPITAL
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Technically Speaking
C.S. Guidess, Editor

Department of Pathology
& Laboratory Medicine

October 2010: VOL 4 No. 11

New Testing Methodologies for Detection of *Clostridium difficile*

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Clostridium difficile, one of the most common organisms causing health care associated infections in the United States, is associated with increased lengths of hospital stay, mortality and cost. Rapid identification of *C. difficile* infection is imperative for patient management.

On September 9, 2010, the Danbury Hospital Laboratory implemented the following two new testing methodologies for the detection of *C. difficile*:
The Wampole Inverness C. diff Quik Chek Complete is an Enzyme Immunoassay for the detection of Toxin A & B and Glutamate Dehydrogenase (GDH). Glutamate dehydrogenase is a surface associated enzyme of *C. difficile*. A positive result for GDH may indicate that *C. difficile* is present in the stool. A positive result for toxin A/B indicates that toxin A and/or B is present. This kit publishes a sensitivity of 87.8% and a specificity of 99.4%.

The second test methodology implemented is the Cepheid GeneXpert real-time PCR test for *C. difficile*. This PCR test detects sequences for Toxin B (tcdB) gene, Binary Toxin (cdt) and tcdC deletion at nucleotide 117. This kit publishes a sensitivity of 98.7% and a specificity of 90.8%. Specimens that test positive for toxin B gene, binary toxin and tcdC deletion are the presumptive hypervirulent NAP1/027/BI strain of *C. difficile.* The NAP1/027/BI strain produces high quantities of spores which disseminate easily in the hospital environment and is associated with high mortality rates and resistance to fluoroquinolones.

Due to its high cost, PCR testing for *C. difficile* will be reserved for patients on whom *C. difficile* reflex testing has been ordered who test positive for GDH and negative for toxin A and B on the Wampole Inverness C. diff Quik Chek Complete test.

Unformed stool specimens should be collected in a dry, sterile container without preservatives or transport media. Specimens should be less than 24 hours old whenever possible but may be stored at 2-8°C for up to 72 hours. Formed stool specimens and rectal swabs are not acceptable.

For further information please contact the Microbiology Laboratory at 203-739-7305 or Dr. Jessica Dodge, Medical Director of Microbiology at 203-739-7034.

Danbury Hospital Laboratory accepts GHI insurance

For a complete list of insurance carriers utilized by DH laboratory, please see below:

Plan Name	Clinical	CytoGe-netics	Cyt-ology	Biopsies	Comments
Aetna					
HMO	Yes	Yes	Yes	Yes	**Referral needed for Cytogenetics testing only.**
PPO	Yes	Yes	Yes	Yes	
Aetna Better Health - Mediciaid	Yes	Yes	Yes	Yes	**NO CHARTER OAK**
Anthem Blue Cross & Blue Shield	Yes	Yes	Yes	Yes	
Anthem MediBlue Medicare	Yes	Yes	Yes	Yes	
Beech Street	Yes	Yes	Yes	Yes	
Empire Blue Cross HMO	No	No	No	No	**Check with Plan for participating Lab. Will cover if associated with a procedure performed at DH**
Empire Blue Cross PPO	Yes	Yes	Yes	Yes	**Administered through Anthem BC/BS**
Cigna HealthCare	Yes	Yes	Yes	Yes	
Community Health Network-Medicaid	Yes	Yes	Yes	Yes	**NO CHARTER OAK**
Connecticare	Yes	Yes	Yes	Yes	
First Health (*Formerly HCVM) now Coventry	Yes	Yes	Yes	Yes	
GHI PPO and HMO	Yes	Yes	Yes	Yes	
HealthNet	Yes	Yes	Yes	Yes	
Magnacare	Yes	Yes	Yes	Yes	
Multiplan	Yes	Yes	Yes	Yes	
Oxford Health Plans	No	No	No	No	**Patients must use Lab Core. Will cover if associated with a procedure performed at DH.**
PHCS (Private HealthCare Systems)	Yes	Yes	Yes	Yes	
POMCO	Yes	Yes	Yes	Yes	
Prime Health	Yes	Yes	Yes	Yes	
United Health Care	Yes	Yes	Yes	Yes	
AmeriChoice - Medicaid	Yes	Yes	Yes	Yes	**NO CHARTER OAK**

Questions may be directed to Sandi Smith, Customer Service Representative, at 203-739-7800.