

Laboratory testing update

On July 16, 2007, the UMHS Clinical Microbiology and Virology Laboratories implemented two new tests: *Bordetella pertussis/parapertussis* DNA by PCR, Qualitative (PCRBP), and Enterovirus RNA by PCR, Qualitative (PCREV).

Pertussis can be caused by the bacteria *Bordetella pertussis* (Bp) or *Bordetella parapertussis* (Bpp), which historically have been detected in nasopharyngeal specimens using direct fluorescent antibody (DFA) testing of smears, or culture of specimens on selective growth media. Both of these methods are very insensitive and result in high false-negative rates. The new test uses PCR to detect Bp and Bpp in clinical specimens directly and has both a greater sensitivity, as well as a much shorter turn-around-time for reporting results. Appropriate specimens are nasopharyngeal swabs submitted in aerobic transport or dry in a sterile tube. Testing is being performed 1X/day, Monday – Friday.

LIMITATIONS: This test is sensitive enough to detect Bp/Bpp colonizing the respiratory tract of asymptomatic carriers, so it should only be used on patients with clinical presentations consistent with pertussis. It should not be used to screen people exposed to potentially infected individuals during outbreak investigations. The assay also detects *Bordetella holmesii*, which is rarely recovered from human specimens and is of unknown clinical significance.

Enteroviruses are the primary cause of relatively benign viral/aseptic meningitis, which is difficult to distinguish from potentially fatal bacterial meningitis because of the overlap in clinical presentations and CSF laboratory values. In addition, recovery of enteroviruses from CSF by culture is insensitive and can take up to one week. The test for enterovirus detection by PCR is more sensitive than culture and will shorten the time to detection, thereby promoting an earlier discharge of these patients. The appropriate specimen is 1 ml of CSF submitted directly to the Microbiology Laboratory. Freeze the specimen and transport frozen if there will be a delay in submission. Testing is being performed 1X/day, Monday – Saturday.

More information regarding these tests can be found in the Pathology Handbook online:

<http://www.pathology.med.umich.edu/handbook/>

Questions can be directed to the Clinical Microbiology and Virology Laboratories at 734-936-6877.