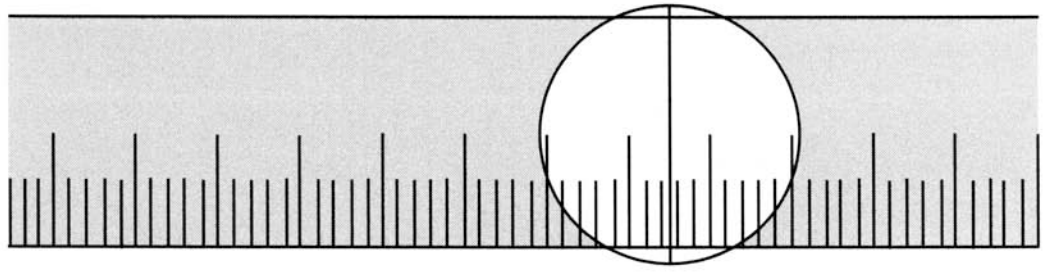


LAB NEWS



From the Department of Laboratory Medicine - Yale-New Haven Hospital Medical Center

Clinical Virology Laboratory Newsletter

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New Respiratory Virus Tests for HMPV, RSV and Rhinoviruses

The Clinical Virology Laboratory has introduced three new respiratory virus tests in the 2007-08 season. Guidelines for use are given below:

Human metapneumovirus (HMPV) direct immunofluorescence (DFA)

Sensitivity compared to other methods: HMPV DFA is 85% sensitive compared to RT-PCR. Culture is poor and is not offered.

Clinical indications: Use HMPV DFA when **Respiratory Virus Screen DFA (RSV, Flu A, Flu B, Paraflu 1-3, adenovirus)** is negative or when HMPV is suspected. Peak season for HMPV is February to May in CT. HMPV PCR is more sensitive than HMPV DFA, and can provide information on viral load, but is reserved for inpatients.

[Respiratory Virus Screen DFA is a separate test and should be ordered before or simultaneously with HMPV DFA, as clinical symptoms of HMPV are not distinctive.](#)

Sample types: Nasopharyngeal (NP) swab or aspirate; tracheal aspirate, BAL.

Availability: Once a day, Monday-Sunday. DFA results are available in 2-3 hrs when Virology is open.

Reference: Landry ML, Cohen S, Ferguson D. Prospective study of human metapneumovirus detection in clinical samples using Light Diagnostics™ direct immunofluorescence reagent and real-time PCR. J Clin Microbiol 46:1098-1100, 2008.

Respiratory Syncytial Virus subgroups A and B RT-PCR

Sensitivity compared to other methods: DFA, the main diagnostic test at YNHH, is about 93% sensitive compared to RT-PCR for RSV. Culture for RSV is slow and insensitive.

Clinical indications: RSV PCR can be ordered on inpatients only, who are negative by respiratory virus screen DFA (which includes RSV). PCR may be more useful in adults who shed 100-1000 fold less RSV than children. Annually, 13-18% of RSV positives at YNHH are in adults. PCR can also provide an estimate of viral load in respiratory secretions. RSV has a very long season, from October to May (usually peaking December-February), but can be detected year-round.

Sample type: Nasopharyngeal (NP) swab or aspirate; tracheal aspirate, BAL.

Availability: Once a day, Monday-Friday.

Reference: van Elden LJR et al, J Clin Microbiol 41:4378-4381, 2003; van Elden LJR et al, J Clin Microbiol,43:4308, 2005.

Rhinovirus RT-PCR (detects over 100 serotypes)

Sensitivity compared to other methods: Rhinovirus RT-PCR is much more sensitive and more rapid than culture, detecting 2-3-times as many positives. DFA is not available.

Clinical indications: Rhinoviruses are increasingly recognized as important causes of lower respiratory tract disease in all ages and as perhaps the major cause of decompensations in COPD and exacerbations of asthma. PCR is reserved for inpatients in whom respiratory DFA is negative. Rhinoviruses peak in fall and spring, but can be detected year-round.

Sample type: Nasopharyngeal (NP) swab or aspirate; tracheal aspirate, BAL.

Availability: Once a day, Monday-Friday.

Reference: Assay modified from Templeton et al, J Clin Virol 35:51-58, 2006.

Note: A recent case of possible “avian influenza” admitted to YNHH was determined to be **Rhinovirus** on the day of admission by using PCR.

Other respiratory virus PCR tests available at YNHH include Influenza A and B, Adenovirus and HMPV PCR. All respiratory virus PCR tests are confined to inpatients.

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