TECHNICAL NOTICE
SOUTH BEND MEDICAL FOUNDATION

February 2010

Respiratory Syncytial Virus by RT-PCR (Panel includes Influenza A & B)

Effective Date: January 4, 2010 **Performing Department:** • Molecular Pathology

Overview:

Several different types of laboratory tests are currently available for the diagnosis of Respiratory Syncytial Virus (RSV) infection. Rapid diagnostic assays, utilizing antigen detection tests such as Enzyme Immunoassay (EIA) and Direct Fluorescent Antibody (DFA), are performed on respiratory specimens. When compared to culture results, the sensitivity of antigen detection testing generally ranges from 80% to 90%.

Reverse Transcription Polymerase Chain Reaction (RT-PCR) assays for RSV are now available. RT-PCR sensitivity exceeds that of culture and antigen detection methods. RT-PCR testing is highly recommended for older children and adults, because these patients may have low viral loads in their respiratory specimens.

The new RT-PCR test for RSV will replace the Direct Fluorescent Antibody (DFA) RSV test, as either a confirmatory or stand-alone test. EIA testing will continue to be available as a screening test if a rapid turnaround time (1–2 hours) is needed, or as a screening test for young children.

Note: The RT-PCR assay for RSV is part of a multi-probe procedure that the reagent manufacturer has packaged with probes for Influenza A and B. Testing for all 3 viruses must be automatically performed and all results will be reported. The lab expense and test charge for the 3 assays is the same as for a single viral assay.

Method: • Real-Time Reverse Transcription Polymerase Chain Reaction (RT-PCR) • Enzyme Immunoassay (EIA)

Use: • Detection of Respiratory Syncytial Virus (RSV)

Reference Range: • No detectable Respiratory Syncytial Virus nucleic acid (NA) by NA amplification

***Cautions*:**

- Results vary with specimen quality/collection/handling, time of year, age of population, geographic location, etc.
- A negative test does not exclude infection, so that the results should be used in conjunction with clinical findings in order to make an accurate diagnosis.
- Both viable and nonviable viruses will be detected by this test.

Specimen Requirements and Collection:

Preferred Specimen: • Nasopharyngeal (NP) aspirate, NP washing, or flocked swab in M4, M6 or UTM transport media

Collection:

- Insert flocked nasopharyngeal swab into patient's nasal passage until a slight resistance is met
- Rotate swab 2-3 times and hold swab in place for 5 seconds to ensure maximum absorbency
- Withdraw swab and repeat procedure in other nares with the same swab
- Remove swab, place in vial of viral transport media (M4, M6 or UTM), and break off shaft at molded breakpoint

Stability: • 3 days (72 hours) refrigerated (2–8°C)

Storage/Transport: • Refrigerated

Rejection Criteria: • Specimen not refrigerated and not received by testing site within 72 hours of collection

Testing Schedule: • Daily • Result available within 24 hours

Order:

- **RSV, by EIA** ..... Test #: **21133** ... CPT: • 87807
- **RSV, by EIA, with RSV <u>plus</u> Influenza A & B by RT-PCR if Indicated** .. Test #: **21114** ... CPT: • 87807
  If RT-PCR confirmation indicated, add: • 87801
- **Influenza A, Influenza B, and RSV Panel, by RT-PCR** ..... Test #: **36154** ... CPT: • 87801

Please direct questions or comments regarding this notice to C. Kurtis Kim, M.D., Deborah H. Sun, Ph.D., or Sally Cornwall of South Bend Medical Foundation, (574) 234-4176 or (800) 544-0925.