UNC HOSPITALS

MEMORANDUM # 128

TO: UNC Hospitals Attending Physicians, Housestaff, Nursing Coordinators, Department Heads and Supervisors

FROM: Melissa B. Miller, PhD, Director, Molecular Microbiology Laboratory
Peter H. Gilligan, PhD, Director, Microbiology-Immunology Laboratory
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DATE: December 3, 2008

SUBJECT: Laboratory Diagnosis of Respiratory Viruses- CHANGES IN TESTING

Effective December 8, 2008, the Molecular Microbiology Laboratory will begin offering a molecular test that will detect multiple respiratory viruses from the same respiratory sample (Luminex xTAG Respiratory Viral Panel, RVP). Details on this assay can be found online at http://www.luminexcorp.com/rvp/overview.html. The RVP assay is FDA-cleared for the detection of influenza A and B (including H1 and H3 subtyping), respiratory syncytial virus, parainfluenza 1,2 and 3, metapneumovirus, rhinovirus/enterovirus, and adenovirus.

The Respiratory Viral Panel can be ordered in SMS as [9193, "Respiratory Viral Group, NAA"]. The preferred specimen for the RVP assay is a nasopharyngeal swab, but other acceptable specimens include nasopharyngeal aspirates, bronchoalveolar lavages, bronchial washings, expectorated and induced sputa, and tracheal aspirates. Specimens should be transported to the Microbiology laboratory as soon as possible, but no later than 2 hours post-collection. The assay will initially be performed daily Monday through Friday. Implementation of the RVP assay will allow for more accurate results with a more rapid turn-around-time (2 d during the week).

Previously, the laboratory detection of a "panel" of respiratory viruses relied on viral culture which had a 10 d turn-around-time. Further, metapneumovirus and rhinovirus/enterovirus were not routinely recovered by culture. Our in-house validation studies showed the RVP assay detected a 13% increase in the detection of respiratory viral infections, including previously undetected co-infections. Importantly, in our hands, the sensitivity of the RVP assay to detect adenovirus is 50% compared to our real-time PCR assay. **Therefore, we highly recommend for patients in which it is critical to detect adenovirus, that negative adenovirus results obtained by the RVP assay be followed up with Adenovirus real-time PCR** [SMS, 9308, Adenovirus PCR]. Specimen-in-lab add-on requests must be made within 96 h of specimen collection. The RVP assay is very specific (100% in our studies), though it cannot differentiate between rhinovirus and enterovirus.

Molecular detection of respiratory viruses is replacing culture-based methods of detection. Routine viral cultures will no longer be available.

Additional information can be found on the McLendon Clinical Laboratories website (http://labs.unchealthcare.org/). Questions not answered by the website can be directed to the Molecular Microbiology Laboratory at 966-6101 or Dr. Melissa Miller at 966-3723.