



MEMORANDUM #133

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

FROM: *MB* Melissa B. Miller, PhD, Director, Clinical Molecular Microbiology Laboratory
PHG Peter H. Gilligan, PhD, Director, Clinical Microbiology-Immunology Laboratory
HCW Herbert C. Whinna, MD, PhD, Director, McLendon Clinical Laboratories
DJW David J. Weber, MD, MPH, Associate Chief of Staff, UNC Health Care

DATE: December 20, 2010

SUBJECT: **Laboratory Diagnosis of Influenza**

The Clinical Microbiology-Immunology Laboratory currently has three options for influenza testing; the characteristics of each are outlined below. Rapid antigen testing and viral culture are no longer offered.

Test Name (SMS)	Influenza A and B Detected	Influenza A Typing	Other* Respiratory Viruses Detected	Acceptable Specimens	Sensitivity	Specificity	Turn-around-time	Testing Schedule
Rapid Influenza PCR	Yes	H1N1 (2009) only	No	NP swab NP aspirate	A/H1N1 (2009): 80% A/Seasonal H1: 99-100% A/H3: 99-100% B: 99-100%	100%	90 min	24/7
Influenza Virus, PCR	Yes	No	No	Upper and lower respiratory	Reference method	Reference method	24 hours (max)	Daily [†]
Respiratory Virus Group, NAA	Yes	Seasonal H1 and H3 only	Yes*	Upper and lower respiratory	A: 93-96% B: 99-100%	96-100%	24-96 hours	M-F [‡]

*Other viruses detected include: respiratory syncytial virus, parainfluenza 1/2/3, metapneumovirus, rhinovirus/enterovirus, and adenovirus (50% sensitivity).

[†]Currently, 2 runs per day M-F, and one run per weekend day. See website for updates to testing schedule

as the respiratory season progresses:

http://labs.unchealthcare.org/labstestinfo/i_tests/influenza_pcr.htm

[‡]See website for reporting schedule based on time received into the laboratory:

http://labs.unchealthcare.org/labstestinfo/r_tests/rpv_naa.htm

Beginning December 20, 2010 the Clinical Microbiology Laboratory will begin offering a new "rapid" PCR test for the detection of influenza A and B viruses. Results will be available 7 days a week, 24 hours a day with a targeted turnaround time of 90 minutes upon receipt of the specimen in the laboratory. Due to the decrease in sensitivity for the detection of H1N1 (2009) influenza A virus relative to our traditional influenza A/B PCR (performed 2X/day M-F; 1X/day weekends), the "rapid"

PCR test will be reserved for the Emergency Department and on-campus clinic locations as medically necessary.

Sensitivity for all of these tests is dependent on the stage of the illness (<5 days most sensitive) and the proper collection of the nasopharyngeal swab. For a demonstration of proper collection technique please review the NEJM video at: <http://www.youtube.com/watch?v=DVJNWefmHjE>

A nasopharyngeal swab is the specimen of choice for acute upper respiratory tract infection and should be transported to the laboratory as soon as possible in universal transport media (UTM). For off-campus locations, swabs in UTM should be refrigerated until delivery to the laboratory. Details for ordering NP swabs with UTM can be found here: http://labs.unchealthcare.org/forms/naso_wall_chart.pdf

For more information, consult the McLendon Clinical Laboratories website at <http://labs.unchealthcare.org/> or contact Dr. Melissa Miller at pager 216-6131.