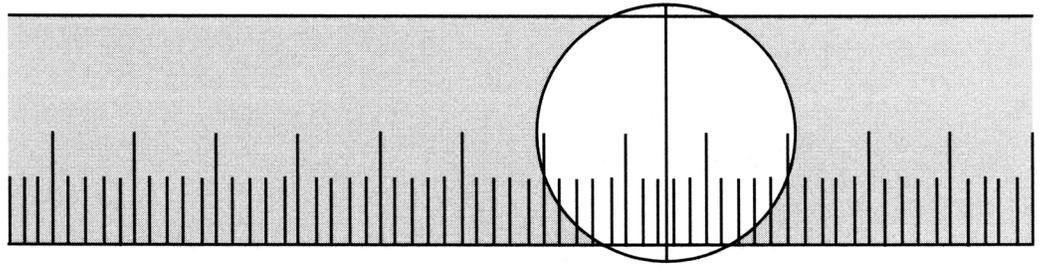


LAB NEWS



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Clinical Virology Laboratory Newsletter

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Influenza Virus Test Protocol at YNHH, 2010-2011 Season

In 2009-2010, a novel H1N1 influenza A virus emerged, resulting in a worldwide pandemic. At present it appears that 2009 H1N1 has replaced seasonal H1N1, which is no longer circulating. Since seasonal H1N1 had become oseltamivir (tamiflu) resistant in 2008, its replacement by the oseltamivir-sensitive 2009 H1N1 is very fortunate. 2009 H1N1 is now included in the 2010-11 influenza vaccine, in addition to H3N2 and influenza B strains.

The last 2009 H1N1 positive at YNHH was detected in March 2010. In October 2010 two influenza A/H3N2 virus infections were identified. For the latest viral respiratory results from the Clinical Virology Laboratory, please see: <http://labmed.yale.edu/virology/services/viruses/index.aspx>. For the latest influenza information from the CDC, consult <http://www.cdc.gov/flu/professionals/index.htm>.

Below is the Influenza Test Protocol at YNHH for the upcoming season. This will be posted on Clinical Workstations and updated as needed.

I. TEST PROTOCOL

- For inpatients, order DFA (for speed) and PCR (for sensitivity) for influenza-like illness. Do NOT order culture.
- For outpatients, DFA is the routine test. PCR will be done on outpatients only when testing will impact clinical care, infection control, or management of close contacts.

PCR is the most sensitive test, but is expensive and is usually done once only a day. The CDC Influenza Real-time PCR protocol is used at YNHH. The CDC periodically modifies the protocol to better detect circulating strains. All changes are promptly incorporated into the YNHH PCR test.

II. DFA SENSITIVITY

Both rapid influenza tests and direct immunofluorescence assays (DFA) were found to be less sensitive for 2009 H1N1 than for seasonal influenza. In 2009, DFA detected 84.6% of H1N1 PCR positives overall, and 92.6% of positives in children less than 5 years of age.

Clinicians must be aware that **false negative DFA tests occur** and that test performance can vary from year to year depending on genetic and antigenic changes in the virus.

III. INFLUENZA A SUBTYPING

Influenza subtyping in the 2010-11 season will not change patient management, treatment or infection control practices. 2009 H1N1 will be managed the same as seasonal influenza. Therefore, at this time influenza subtyping will be confined to samples from hospitalized patients, and done by periodic batch testing for epidemiologic purposes only.

IV. RAPID INFLUENZA TESTING AT YNHH

Rapid flu tests are done in the Core Laboratory for Adult ED patients during the night shift when Virology is closed. A positive rapid test will aid in bed allocation for admitted patients during peak flu season.

Rapid flu tests are also performed at the Shoreline Medical Center. Rapid flu tests are simple lateral flow immunoassays that detect approximately half of the positives detected by DFA.

V. VIROLOGY LABORATORY HOURS

Routine hours:

- Mon-Fri 7:00 AM to 8:30 PM
- Sat and Sun 8:00 AM to 4:30 PM

Beginning Nov. 27, 2010, Sat and Sun hours will be extended to 8:30 PM.

At the end of December, hours will be extended to 12:30 AM, 7 days a week. A notice will be posted when hours change.

VI. TIME TO RESULTS

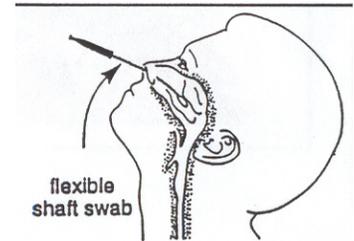
- DFA results are available in 2-3 hrs of receipt when is Virology open.
- Samples for DFA must be in the lab 1.5-2 hrs prior to closing for same day results.
- PCR is currently done once a day, Monday through Friday, and on Sunday.
- Samples for PCR must be in the lab by 8 AM for same day results.

VII. SAMPLE COLLECTION

A positive test result correlates with the amount of virus in the sample.

To enhance the amount of virus:

- Collect deep NP swabs; gently rub nasal turbinates to collect ciliated epithelial cells
- To increase yield, collect one swab from each nostril and combine the two swabs in one vial
- If patient is intubated, collect an endotracheal aspirate or a BAL



NOTE: Some patients are negative by DFA and PCR very early in infection, but are strongly positive when a repeat sample is collected 8 to 24 hrs later.

For questions or concerns, call Marie L. Landry, MD, the Virology Laboratory Director at 688-3475 (marie.landry@yale.edu), or David Ferguson, the Laboratory Manager at 688-3524.

References

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