

Labstract – October 2011

Influenza and Other Respiratory Viral Testing for 2011-2012 Influenza Season (November 1, 2011 to April 30, 2012)

To Health Care Providers:

Public Health Ontario's (PHO) Public Health Laboratories (PHL) continues to support influenza and other respiratory viral testing for patients across Ontario. This Labstract addresses:

1. The testing algorithm for winter 2011-2012, to be implemented as of November 1, 2011.
2. Influenza susceptibility testing

1. Respiratory Viral Testing Algorithm

For this influenza season, tests provided will primarily be based on patient setting.

To allow appropriate test assignment and minimize turn around time, sufficient patient clinical information must be provided (including patient setting) on the current version of the PHL laboratory requisition form available at <http://www.oahpp.ca/resources/requisitions.html>.

Please check expiry dates of specimen collection kits before use. Expiry dates on collection swabs and transport media may not be identical – please check both dates. Specimens collected in kits that have expired will be rejected.

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Table: Respiratory viral testing algorithm for samples received at PHO during the 2011-2012 Influenza Season (November 1, 2011 to April 30, 2012)

Patient Setting** or Specimen Type	Tests Provided	Comments
1. Inpatient ICU	<ul style="list-style-type: none"> Influenza A/B PCR[€] 	<ul style="list-style-type: none"> Influenza negative samples will be further tested by multiplex respiratory viral PCR.
2. Inpatient (ward) or Institution	<ul style="list-style-type: none"> Influenza A/B PCR[€] Viral culture 	<ul style="list-style-type: none"> If influenza A/B PCR is the only virology test requested, viral culture will not be performed.
3. Physician office/clinic Emergency room (not admitted) All other ambulatory	<ul style="list-style-type: none"> Viral culture 	
4. Outbreaks	<ul style="list-style-type: none"> Influenza rapid testing (4 samples) Influenza A/B PCR[¥] 	<ul style="list-style-type: none"> Once a sample from an individual outbreak is influenza-positive, no further testing will occur on samples from that outbreak. Influenza negative outbreaks will be tested by multiplex respiratory viral PCR.
5. Lung Tissue/biopsy specimens and pleural fluids regardless of patient setting	<ul style="list-style-type: none"> Influenza A/B PCR[€] Multiplex respiratory viral PCR 	<p>The following are available on request:</p> <ul style="list-style-type: none"> <i>Legionella</i> DFA and culture <i>Chlamydomphila pneumoniae</i> PCR <i>Mycoplasma pneumoniae</i> PCR <i>Streptococcus pneumoniae</i> PCR <i>Staphylococcus aureus</i> PCR
6. BAL and bronchial wash regardless of patient setting	<ul style="list-style-type: none"> Influenza A/B PCR[€] Multiplex respiratory viral PCR CMV shell vial culture 	

** If patient setting is not provided, sample will be tested for viral culture alone.

Note: Flu A/B RT PCR and Multiplex respiratory viral PCR testing will not be performed on multiple submissions from the same site or repeat submissions within 7 days of a previous sample.

Organisms that can be detected through multiplex respiratory viral PCR:

- | | |
|-----------------------------------|-------------------------|
| ○ Influenza A/B | ○ Parainfluenza 1 to 4. |
| ○ Rhinovirus A/B/C | ○ Adenovirus |
| ○ Respiratory syncytial virus A/B | ○ Metapneumovirus |
| ○ Enterovirus | ○ Coronaviruses |

€ All influenza A positive samples will be subtyped.

¥ At least one sample from influenza A positive outbreaks will be subtyped.

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2. Antiviral Influenza Susceptibility Testing

Antiviral susceptibility testing is available at PHO. Currently pandemic H1N1 2009 (pH1N1) is universally amantadine resistant and almost exclusively oseltamivir susceptible – although resistance has been documented, it is rare.

Recommended criteria for antiviral susceptibility testing in Ontario for pH1N1 are:

- Influenza developing after or during oseltamivir or zanamivir prophylaxis
- Severely-ill patients (ICU) not responding to therapy
- Fatalities
- Persistent viral shedding, defined as a repeat PCR test positive after 7 days or more of treatment. This could be undertaken for:
 - Immunocompromised patients
 - Patients not responding to antiviral therapy
- pH1N1-positive outbreak samples (will be routinely tested at PHL)
- Positive test for Influenza A in a traveller returning from area where resistance is endemic

In addition, a proportion of influenza A-positive samples will be forwarded to the National Microbiology laboratory for strain typing and antiviral resistance testing.

The Canadian Public Health Laboratory Network guidelines for susceptibility testing of pH1N1 are available at http://www.cphln.ca/documents/EN_Influenza_Seasonal_Best_Practices_2010-2011.pdf (page 8 of document).

H3N2 influenza is amantadine resistant. Due to the current near-universal H3N2 oseltamivir susceptibility routine resistance testing is not required for clinical care.

Seasonal H1N1 has not been detected in Ontario since mid-2009. It is known to be amantadine susceptible, and almost universally oseltamivir resistant.

If requesting susceptibility testing, please indicate on the lab requisition if your patient fits any of the above criteria. To request on a sample already at PHL, please contact the Toronto public health laboratory at 1-877-604-4567 or your local public health laboratory.

New services provided by PHO to assist you:

- **Get results faster by registering for Autofax** – which enables us to provide you with PHL reports by fax directly from our laboratory information system as soon as they are released. To register, please contact the Toronto public health laboratory at 1-877-604-4567 or your local public health laboratory.

PHO has commenced producing a **Laboratory-Based Respiratory Pathogen Surveillance Report** (weekly during influenza season) which summarizes all respiratory viral testing done at PHL. It is available at: <http://www.oahpp.ca/resources/laboratory-materials.html>.

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The report also contains community respiratory viral surveillance data obtained from Ontario's participants in the CIHR-funded influenza Vaccine Effectiveness (VE) Study which performs PCR testing on patients with influenza-like-illness visiting sentinels across Ontario. Ontario VE study information can be found at: <http://www.oahpp.ca/resources/studies/vestudy/index.html> . The **Ontario Influenza Bulletin** is available at: <http://www.oahpp.ca/resources/flubulletin.html>.

For further information:

- PHO Customer Service Centre in Toronto at **416-235-6556** or toll free at **1-877-604-4567**
- For the PHO Specimen Collection Guide and previous Lababstracts, refer to <http://www.oahpp.ca/services/public-health-laboratories.html>
- Subscribe to lababstracts, please e-mail lababstracts@oahpp.ca

Please note: Public Health Ontario is the new operating name for the Ontario Agency for Health Protection and Promotion.