

October 2010

## **Influenza and Other Respiratory Viral Testing for 2010-2011 influenza season (November 1, 2010 to April 30, 2011)**

To Health Care Providers:

The Ontario Agency for Health Protection and Promotion (OAHPP) public health laboratories (PHL) continue to support influenza and other respiratory viral testing for patients across Ontario. This Labstract addresses three issues: the current testing algorithm, influenza susceptibility testing, and new services to allow OAHPP to better serve you.

### **Respiratory Viral Testing Algorithm**

**For this influenza season, tests provided will primarily be based on patient setting (see table page 3).** For non-hospitalized patients virus culture will be performed.

To allow appropriate test assignment and to minimize turn around time, sufficient patient clinical information must be provided (including patient setting) on the current version of the PHL laboratory requisition form (updated November, 2009) available at <http://www.oahpp.ca/resources/requisitions.html>.

**Please check expiry dates of specimen collection kits before use. Specimens collected in kits that have expired will be rejected.**

### **Antiviral Influenza Susceptibility Testing**

Antiviral susceptibility testing is available at OAHPP. Currently pandemic H1N1 2009 (pH1N1) is universally amantadine resistant and almost exclusively oseltamivir susceptible – although resistance has been documented, it is rare. All five cases of oseltamivir resistance in pH1N1 documented to date in Ontario occurred in immunocompromised patients.

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 non-responding to antiviral therapy
- pH1N1-positive outbreak samples (will be routinely tested at PHL)

## Influenza and Other Respiratory Viral Testing for 2010-2011 (Continued)

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

The Canadian Public Health Laboratory Network guidelines for susceptibility testing of pH1N1 are available at [http://www.nml-lnm.gc.ca/new-nouv/assets/pdf/EN\\_H1N1\\_Best\\_Practice.pdf](http://www.nml-lnm.gc.ca/new-nouv/assets/pdf/EN_H1N1_Best_Practice.pdf) (page 8 of document).

Seasonal 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 OAHPP 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.
- OAHPP has commenced producing a **Laboratory-Based Respiratory Pathogen Surveillance Report** (weekly during influenza season) which summarizes all respiratory viral testing done at PHL. 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. This report replaces the previously produced OAHPP public health laboratories pH1N1 surveillance reports and is available at: <http://oahpp.ca/resources/laboratory-materials.html>. Ontario VE study information can be found at: <http://www.oahpp.ca/resources/studies/vestudy/index.html>

For further information or queries, please contact the Toronto public health laboratory at 1-877-604-4567 or your local public health laboratory.

## Influenza and Other Respiratory Viral Testing for 2010-2011 (Continued)

**Table: Respiratory viral testing algorithm for samples received at OAHPP during the 2010-2011 influenza season (November 1, 2010 to April 30, 2011)**

<b>Patient Setting<sup>¶</sup> or specimen type</b>	<b>Tests Provided<sup>¶¶</sup></b>	<b>Comments</b>
<b>1. Inpatient (ICU)</b>	Influenza A/B PCR* Multiplex respiratory viral PCR <sup>µ</sup>	ICU samples in category 5 will be screened for cytomegalovirus by shell vial culture
<b>2. Inpatient (ward) or Institution</b>	Influenza A/B PCR* Viral culture	
<b>3. Physician Office/Clinic; Emergency Room (not admitted); All other ambulatory patients</b>	Viral culture	Ambulatory patients (including ER) will be tested by viral culture alone
<b>4. Outbreaks</b>	Influenza (4 samples) and RSV (2 samples) rapid testing Influenza A/B PCR* Multiplex respiratory viral PCR or viral culture	A maximum of 6 outbreak samples will undergo PCR testing <sup>∞</sup> Once a pathogen is detected in 2 patient samples, further outbreak testing is usually not necessary
<b>5. Lung tissue/biopsy specimens (regardless of patient setting)</b>	Influenza A/B PCR* Multiplex respiratory viral PCR <sup>µ</sup> Viral culture (including CMV shell vial) Mycoplasma/Chlamydia PCR Legionella DFA and culture	
<b>6. BAL, bronchial wash, pleural fluids (regardless of patient setting)</b>	Influenza A/B PCR* Multiplex respiratory viral PCR <sup>µ</sup> or viral culture	CMV shell vial culture will also be done on BAL and bronchial wash samples

### Footnotes

¶ If patient setting is not provided, sample will be tested by viral culture alone.

¶¶ Rapid RSV testing will be done on all samples from children <12 months with bronchiolitis or pneumonia

µ The current multiplex molecular panel detects Influenza A/B, rhinovirus (or rhinovirus/enterovirus), RSV, parainfluenza, adenovirus, metapneumovirus and coronaviruses. Multiplex molecular testing will not be performed on multiple submissions from the same site, or repeat submissions within 7 days of a previous sample being tested.

\*Early during influenza season, all influenza A-positive samples will be subtyped. Depending on prevalence of different subtypes and resistance patterns, subtyping may not be done on all samples tested once influenza season is well-established.

∞OAHPP's outbreak testing process is currently under review.