

April 2009

Influenza A Sub-typing - Utilization of real-time reverse transcriptase PCR

To Health Care Providers:

Background

The Public Health Laboratories (PHL) have recently developed a new capacity to identify Influenza A sub-types by real-time reverse transcriptase PCR (RT-PCR). This means that Ontario has access to a more sensitive and quicker technology than previous phenotypic sub-typing methods carried out at the National Microbiology Laboratory in Winnipeg. At this time, testing is only performed at the Public Health Laboratory in Toronto.

Testing Scenarios

The following scenarios are appropriate for submitting specimens for Influenza A sub-typing to PHL-Toronto:

1. As part of an ongoing surveillance program of Influenza A-positive cases in declared respiratory outbreaks from long-term care facilities. In the case of a specimen being detected as an Influenza A in these settings, the primary testing laboratory should send one laboratory confirmed Influenza A positive specimen from each outbreak directly to the PHL-Toronto for sub-type analysis. If that specimen sub-types as Influenza A (H1N1), the PHL will also test the specimen for the H275Y mutation associated with oseltamivir resistance.
2. Apart from ongoing surveillance programs, specimens can be sent directly to PHL-Toronto for Influenza A sub-typing only after consultation with a PHL Microbiologist.

Influenza A Sub-typing

- **Utilization of real-time reverse transcriptase PCR** (Continued)

Appropriate Specimens

Appropriate specimens include nasopharyngeal swabs, nasopharyngeal washes, lower respiratory tract specimens or Influenza A-positive viral culture material. At least 300 ul of specimen is required for testing; specimens should be stored at 4°C and transported on ice. There is currently no restriction on the length of usability of specimens for sub-type analysis.

Documentation and Packaging

On the requisition write the following: “Attention Molecular Diagnostics Laboratory, Influenza A Sub-typing by RT-PCR”. Label package and specimens according to Transportation of Dangerous Goods Guidelines and address the label to “Molecular Diagnostics”.

Testing and Results Availability

The Influenza A sub-typing service is available Monday to Friday and subtype results are usually available by the business day after the specimen is received at the PHL-Toronto.

For Further Information:

- Ms Joanne Blair, Head Technologist of Molecular Diagnostics Laboratory at **416-235-5866**
- Public Health Laboratory Helpline **1-800-640-7221**
- For the Specimen Collection Guide and previous Lababstracts refer to the Ontario Agency for Health Protection and Promotion website: www.oahpp.ca