NL Health Services

Memorandum

To: All Healthcare Providers in Newfoundland and Labrador

From: Public Health Microbiology Laboratory

Date: December 12, 2023

Re: Respiratory Testing Memorandum- 2023

Patients/Clients/Residents presenting with influenza-like illness (**ILI)*** will be tested with lab-based respiratory panels when the **information provided** to the laboratory in the **Meditech order or requisition** indicates a **high-risk population/setting** or where **clinical indication** meets the following criteria:

HIGH-RISK POPULATION/SETTING
• Inpatients
• ER inpatients
• ER patients intended for admission
• Institutional/congregate living facility residents
• Children ≤2 years old in any setting
• Elderly >75 years old in any setting
• Outbreak (indicating setting as per above): a minimum of 3 nasopharyngeal swabs on initial cases (to a maximum of 10, more if needed) until a result is confirmed (3 confirmed positive for the same virus). It is at the discretion of IPAC (in consultation with ID and/or Regional MOH as needed) to determine if additional testing is required.
• Patient/client/resident not included in the above settings with the following co-morbidities: ° Complicated medical history/multiple co-morbidities ° Chronic pulmonary/lung disease/asthma ° Pneumonia/ critical respiratory failure ° Severe cardiac disease ° Chronic kidney disease on dialysis ° Severely immunocompromised (post-transplant patients, patients on chemotherapy or other significant immunosuppressive therapy).

ILI* definition: acute onset of respiratory illness with fever **and** cough **and** one or more of the following: sore throat, arthralgia, myalgia or prostration, which could be due to influenza virus (In children under 5, gastrointestinal symptoms may also be present; in patients under 5 or 65 and older, fever may not be prominent).

Test Methodology

Two lab-based respiratory testing panels are available (using test mnemonic **RESVIP**) in the province to test seasonal influenza (Flu), respiratory syncytial virus (RSV), SARS-CoV-2 (COVID-19) and other respiratory infectious agents. In addition to the full multiplex respiratory panel (referred to herein as LDT) at the Public Health Microbiology Laboratory (PHML), the GeneXpert Xpress CoV-2/FluA&B/RSV plus test (referred to herein as GeneXpert) is available at most regional zone laboratories. Rapid testing technologies for SARS-CoV-2 testing are also available at all sites as point-of-care testing (POCT).

LDT Method

The LDT is a real-time multiplex PCR which detects multiple respiratory pathogens, including SARS-CoV-2 (COVID-19), influenza A/ B (Flu A/B), RSV, *Mycoplasma pneumoniae*, human metapneumovirus (hMPV), parainfluenza virus, rhinovirus/enterovirus, parechovirus, bocavirus, adenovirus, seasonal coronaviruses, *Bordetella pertussis/parapertussis* and *Chlamydophila pneumoniae*.

GeneXpert

The GeneXpert is a rapid, multiplexed real-time reverse transcription polymerase chain reaction (RT-PCR) test intended for the simultaneous qualitative detection and differentiation of RNA from SARS-CoV-2, Flu A, Flu B, and/or RSV in respiratory tract specimens.

Supplemental H subtyping is performed on a proportion of positive Flu A specimens for national surveillance (FluWatch Canada) and in any patients flagged to CDC/Public Health for having risk factors of being potentially infected with an emerging Flu subtype.

The LDT is the recommended testing for patients meeting the testing criteria in the above table. However, as an alternative to mitigate potential delays in specimen processing in situations such as weekends or statutory holidays when routine specimen transport to PHML may not be available, the GeneXpert can be used for

- patients with severe respiratory distress or
- initial investigation of query respiratory outbreak to aid immediate inpatient management and Infection Prevention and Control (IPAC).

When a patient's GeneXpert result is negative for all four viruses (SARS-CoV-2, Flu A, Flu B, and RSV), the MRP may request for referral of the swab to be tested by the LDT method at the PHML by contacting the Regional Zone Laboratory, this **does not** require Microbiologist approval.

PHML Testing Service

PHML makes every effort to report results within 24 hours of specimen receipt by the laboratory. Urgent requests will require MOC approval by calling 709-777-6300 (request to speak to the microbiologist on call) or emailing microbiologistoncall@easternhealth.ca

Recommended Respiratory Specimens

- **A nasopharyngeal swab** or **nasal wash/aspirate** is the preferred specimen. Anterior nasal swabs are also acceptable.
- An endotracheal aspirate or bronchoalveolar lavage (BAL) submitted in a sterile screw-capped container is acceptable for intubated patients.

Specimen Collection, Storage and Shipping

- Specimens should be collected using a non-expired **flocked swab** and submitted in non-expired transport media validated and provided by the PHML. ALLTM or UTM is the preferred transport media widely available throughout the province.
- Arrange for refrigerated transport to the PHML, which accepts specimens 24 hours a day, seven days a week. If shipping transportation does not allow for specimen receipt by PHML within 72 hours of collection, frozen specimens are acceptable.

Step-by-Step Instructions for Nasopharyngeal Swab Collection

Ensure the testing requisitions include all clinically relevant information.

1. Use a NON-EXPIRED flocked swab supplied with the collection transport media.
2. In LEGIBLE PRINTING: label the tube with CLIENT IDENTIFIERS.
3. Explain the procedure to the client.
4. The collector must wear the appropriate PPE in accordance with their local Infection Control policy.
5. **When a lot of mucus is present in the nose, it can interfere with the collection of cells. Ask the patient to use a tissue to gently clean out visible nasal mucus or clean the nostril with a cotton swab (e.g., the collector may use a Q-Tip).**
6. To estimate the distance to the nasopharynx: Prior to insertion, measure the distance from the corner of the nose to the front of the ear and insert the shaft approximately 2/3 of this length.
7. Comfortably seat the client, tilting the head back slightly to straighten the passage from the front of the nose to the nasopharynx, making the swab insertion easier.
8. Insert the swab along the medial part of the spectrum, along the nose floor, until it reaches the posterior nares; gentle rotation of the swab may be helpful. (If resistance is encountered, try the other nostril; the client may have a deviated septum.)
9. Allow the swab to remain in place for 5-10 seconds.
10. Rotate the swab several times to dislodge the columnar epithelial cells. Note: Insertion of the swab may induce coughing.
11. Withdraw the swab and place it in the collection tube. Break the swab shaft along the score line. Replace the cap securely. Do not remove any of the media.
12. Place the tube in a biohazard bag.
13. Remove gloves and wash hands.
14. Attach the completed requisition.
15. Arrange for transportation to PHML.

For a video on the collection of an NP swab, please see: http://www.youtube.com/watch?v=TFwSefezIHU

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