Influenza & RSV Specimen Collection Procedure

Objective:

To describe the evidence-based specimen collection process for Influenza PCR Panel and RSV Antigen tests.

Supporting Literature:

The Influenza Real time RT-PCR is a molecular assay test that is designed to accurately identify influenza A (including 2009 H1N1 subtype) and B viral RNA by using conserved gene targets, the matrix gene for Influenza A, and Hemagglutinin gene for Influenza B and 2009 H1N1. The detection accuracy is much higher than Influenza antigen testing. The preferred method of collection is Nasopharyngeal swab for the adult population, and Nasopharyngeal swab or Nasal/Nasopharyngeal wash/aspirate for the pediatric population.

RSV antigens are identified by testing the epithelial cells from the nasal/nasopharyngeal lining (not nasal secretions). Accurate technique for obtaining specimens is necessary to enable reliable results. Evidence in the literature supports the use of mechanical suction for obtaining nasal wash or nasopharyngeal specimens for RSV antigen testing.

Scope:

RNs, LPNs as directed by the RN

Indications:

1. Adult patients:
   a. Utilize nasopharyngeal swab collection for Influenza RT-PCR testing.
   b. Utilize nasal/nasopharyngeal wash/aspirate method for RSV antigen testing
2. Pediatric patients:
   a. Utilize the nasopharyngeal wash/aspirate method for testing RSV antigen alone or with Influenza
   b. May utilize same collection chamber for both RSV and Influenza specimens combined
   c. May utilize nasopharyngeal swab collection method for testing influenza alone.

Nasopharyngeal Swab

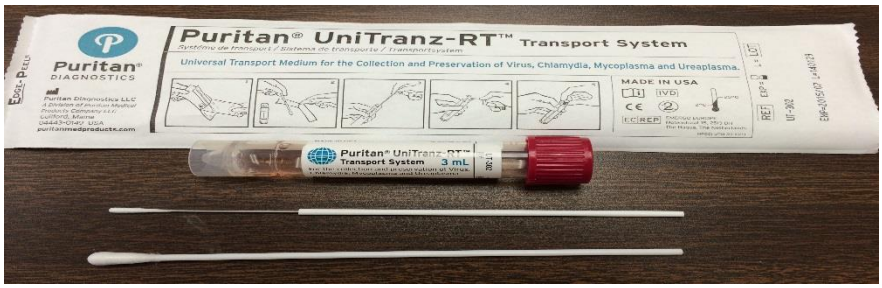
Equipment list

- Gloves
- Gown/Goggles/ Mask if suspect influenza (goggles optional)
- Plastic bag
- Paraffin wrap
- 2 Labels w/patient's identification
- Nasopharyngeal swab/BD Universal Viral Transport System (provided by Laboratory Services

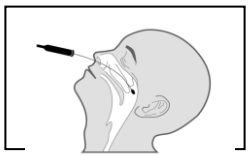
Procedure:

1. **Wash** hands
2. **Assemble** and prepare supplies
3. **Explain** procedure to patient and family if applicable
4. **Apply** appropriate protective equipment (gown & gloves – masks if droplet isolation; goggles optional)

5. **Have** additional staff member available (if testing a child) to hold and stabilize head
6. **Determine** need for suctioning thick or crusted secretions **prior** to obtaining specimen (or if able, have older child or adult blow their nose)



7. **Clear** excess nasal secretions from nostril with larger swab from kit
8. **Insert** smaller swab into nostril, gently rotating the swab inward until resistance is met at the level of the turbinates (distance from nostril to external opening of the ear)



9. **Rotate** the swab a few times against the nasopharyngeal wall to extract epithelial cells
10. **Withdraw** swab and **place** in container with transport medium
11. **Break** off end of swab to enable cap to cover and secure in place
12. **Write** date, time and initials of person collecting the specimen and name of test on the patient labels. **Apply** to specimen container and plastic bag
13. **Wrap** paraffin around specimen container cover, **place** in plastic bag, and **send** to the laboratory
14. **Remove** gloves and wash hands
15. **Provide** comfort/reassurance as needed

Nasal/Nasopharyngeal Wash/Aspirate with Mechanical Suction

Equipment list

- Sterile nasal aspirator
- Sterile specimen container
- Suction tubing
- Mechanical (wall) suction device
- Gown/Goggles/Mask if suspect influenza (goggles optional)
- Paraffin wrap
- Plastic bag
- 2 Labels w/patient's identification
- 1ml. non-preservative sterile normal saline
- Gloves

Procedure:

1. **Wash** hands
2. **Assemble** and prepare supplies, connecting the sterile nasal aspirator to the sterile specimen container, and the sterile specimen container to wall suction tubing.
3. **Explain** procedure to patient and family if applicable
4. **Apply** appropriate protective equipment (gown & gloves; mask if suspect influenza; goggles optional)
5. **Have** additional staff member available (if testing a child) to hold and stabilize head.
6. **Determine** need for suctioning thick or crusted secretions **prior** to obtaining specimen

7. Instill 1ml normal saline into <u>one</u> nostril, **ensuring** that normal saline "washes over" the surrounding nasal wall
8. **Place** nasal aspirator firmly against the nasal opening
9. **Aspirate** nasal secretions into sterile collection container. **Note:** A bloody specimen cannot be used (may yield false-positive result)
10. If 1ml of nasal secretions wasn't obtained, **repeat** process with the other nostril
11. If 1ml of nasal secretions still wasn't obtained, **repeat** process with 6Fr sterile suction catheter, suctioning by nasopharyngeal route
12. **Write** date, time and initials of person collecting the specimen and name of test on the patient labels. Apply to specimen container and plastic bag.
13. **Wrap** paraffin around specimen container cover, **place** in plastic bag, and **send** to the laboratory
14. **Remove** gloves and wash hands.
15. **Provide** comfort/reassurance as needed

Nasal Wash

Equipment list

- Sterile specimen container
- Gown/Goggles/Mask if suspect influenza (goggles optional)
- Gloves
- Paraffin wrap
- Plastic bag
- 2 Labels w/patient's identification
- 1ml. non-preservative sterile normal saline

Procedure:

1. **Wash** hands
2. **Assemble** supplies
3. **Explain** procedure to patient and family if applicable
4. **Don** appropriate protective equipment (gown & gloves; mask if suspect influenza; goggles optional)
5. **Have** additional staff member available (if testing a child) to hold and stabilize head
6. **Determine** need for patient to "blow their nose" **prior** to obtaining specimen
7. **Instill** 1ml normal saline into <u>one</u> nostril, **ensuring** that normal saline "washes over" the surrounding nasal wall
8. **Place** sterile specimen container under nose and **instruct** the patient lean forward and expel the saline solution into the container. **Note:** A bloody specimen cannot be used (may yield false-positive result)
9. If 1ml of nasal secretions wasn't obtained, **repeat** process with the other nostril
10. If 1ml of nasal secretions still wasn't obtained, **repeat** process via the nasal/nasopharyngeal wash/aspirate with mechanical suction procedure
11. **Write** date, time and initials of person collecting the specimen and name of test on the patient labels. Apply to specimen container and plastic bag.
12. **Wrap** paraffin around specimen container cover, **place** in plastic bag, and **send** to the laboratory
13. **Remove** gloves and wash hands
14. **Provide** comfort/reassurance as needed

References:

Center for Disease Control and Prevention. (2013, July). Guidance for Clinicians on the Use of RT-PCR and Other Molecular Assays for Diagnosis of Influenza Virus Infection. Retrieved from http://www.cdc.gov/flu/professionals/diagnosis/molecular-assays.htm

Perry, S. E., Hockenberry, M. J., Lowdermilk, D. L.., & Wilson. (2010). *Maternal Child Nursing Care.* 4th Ed. Maryland Heights, MO: Mosby Elsevier.

Macfarlane, P., Denham, J., Assous, J., & Hughes, C. (2005). RSV testing in bronchiolitis: witch nasal sampling method is best? *Archives of Diseases in Children. 90,* 634-635. doi: 10.1136/adc.2004.065144.

Related Policies, Procedures, Guidelines, Order Sets:

Infection Prevention Policy – Criteria for Isolation Precautions
Pediatric Bronchiolitis (< 1 yr) Order Set

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