| Clinical Microbiology Laboratories Procedure<br>**Collection of Nasopharyngeal Washing from Patient >13 yrs** | | | Effective: **12/03/01** |
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| **ANNUAL REVIEW** | | | |
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## CONTENTS OF TECHNICAL PROCEDURE

1.0 Principle/Purpose of Test:

Viral agents of respiratory disease colonize the mucosal epithelium of the nasopharynx. Although a nasopharyngeal (NP) swab may be acceptable for detection of viruses when large numbers are being shed, such as when children are infected with RSV, the volume of secretions on an NP swab is not adequate for detection of all viruses or for viruses present in small numbers, as may occur in adult respiratory disease. Nasopharyngeal washings collect more material and more infectious virus, thus enhancing the sensitivity of all detection methods, and are particularly useful for adults. They can be concentrated for direct fluorescent antibody testing or EIA testing. Nasopharyngeal swabs are still the specimen of choice for children and infants – i.e., all patients not yet 13 years old.

2.0 Materials

2.1 2 oz Bulb syringe (light blue) – Materials Supply ESI # 678
2.3 physiologic, non-bacteriostatic saline
2.4 sterile plastic tube with black screw cap or urine cup

3.0 Specimen

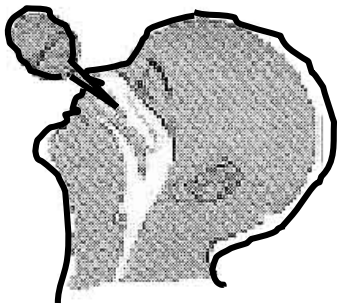
3.1 Procedure for patients >13 years old able to follow directions

3.1.1. Draw 5 ml of saline into the bulb
3.1.2. Tilt patient's head back at 70 degree angle (see diagram)
3.1.3. Insert the point of the bulb deep into the nasal turbinate, until nostril is occluded

3.1.4. Quickly and somewhat forcibly instill all of the saline into the nostril.
3.1.5. IMMEDIATELY release the bulb to aspirate the saline back into the bulb.
3.1.6. Inject the fluid into the plastic tube or urine cup. Do it slowly so as not to create aerosols or bubbles. One should attempt to recover at least the entire 5 ml of fluid.
3.1.7. If fluid does not appear cloudy, repeat in the other nostril using the same fluid.
3.1.8. If less than 5 ml recovered procedure should be repeated using additional saline for the second nostril.

3.2 Procedure for patients >13 years old unable to follow instructions. Patient should be lying on his/her side.

3.2.1 Draw 5 ml of saline into a 2 oz bulb syringe
3.2.2 Squeeze one nostril (usually the upper) closed
3.2.3 Insert the point of the bulb into the other nostril until the tip occludes the nostril
3.2.4 Quickly and somewhat forcibly instill all of the saline into the other nostril.
3.2.5 Reaspirate the saline immediately
3.2.6 Inject it into sterile plastic tube. Alternatively, catch the draining fluid from the nose in a urine cup or sterile tube.
3.2.7 If fluid does not appear cloudy, repeat in the other nostril using the same fluid.
3.2.8 If less than 5 ml recovered procedure should be repeated using additional saline for the second nostril.



3.3 Label the specimen with patient information and submit to the laboratory with appropriate requisition.

3.4 If transport time is greater than 30 minutes, refrigerate or maintain the sample on ice.

3.5 Order “Direct Viral Exam for Respiratory Viruses” or “Viral culture for Respiratory Viruses” or both.

3.6 Note: A STAT Influenza A & B and RSV enzyme immunoassay (EIA) is also available for immediate patient care decisions. Results are available within 1-2 hours, but only for the agents requested.

3.7 Explanation of the tests:

Direct Viral Exam for Respiratory Viruses is a visual examination of concentrated secretions using fluorescent monoclonal antibodies against Influenza A, Influenza B, Adenovirus, a panel of Parainfluenza viruses, Respiratory Syncytial Virus, and Cytomegalovirus. Results are available the same day as specimen received.

Viral culture will allow recovery of small numbers of viruses present in amounts too small to be detected by the visual test. Results may take as long as 2 weeks.

4.0 Sensitivity

4.1 In our lab the sensitivity of the direct viral exam (DFA) using nasopharyngeal swabs (mostly children with high viral shedding) vs. culture = 85%; we would expect the sensitivity of the test with nasopharyngeal washings to be higher in the same population but lower in adults with lower viral shedding.

4.2 Based on the literature, the sensitivity of the EIA for influenza A & B vs. culture in adults using nasopharyngeal washings is in the range of 70%.

5.0 Test availability

5.1 The DFA panel for respiratory viruses is performed twice each day, at noon and at approximately 6 pm. Results are available soon after.

5.2 The culture is set up daily but results may take days to weeks.

5.3 STAT EIA for Influenza or RSV is available 24/7. Results available within 2 hours.

6.0 References

Englund, J.A., et al. 1996. Rapid diagnosis of RSV infections in immunocompromised adults. J. Clin. Microbiol. 34:1649-53.

Yamazaki, M. et al. 2000. Clinical evaluation of rapid diagnosis kit detecting separately influenza A and B viruses. Kansenshogaku Zasshi 74:1032-37.

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