Respiratory Virus Testing Guidelines  
for Providence Health & Services Oregon Laboratories

Each year at this time we provide you with a review of Providence Health & Services Regional Laboratory test offerings for the respiratory virus season. The typical “Flu season” varies by year, but usually begins by December and ends by April in the Pacific Northwest. Rapid and early diagnosis of respiratory disease is desirable. Antiviral therapy, if appropriate, can be instituted and antibacterial therapy avoided.

Since many viral respiratory infections present in a similar fashion, Providence Regional Laboratory offers a variety of testing options for the detection of Influenza A & B, RSV, Adenovirus, Metapneumovirus, Rhinovirus and Parainfluenza 1, 2, & 3. As in previous years, clinicians may request testing for single viruses or screening by a reflex panel algorithm.

- **Respiratory Virus Reflex Panel**: includes PCR for Influenza A & B, RSV, Adenovirus, Metapneumovirus and Rhinovirus. If all tests are negative, respiratory viral culture will be performed.

- **RSV Reflex panel**: includes direct antigen testing for Respiratory Syncytial Virus. If RSV antigen is positive, no further testing will be performed. If RSV antigen is negative, PCR for Influenza A & B, RSV, Adenovirus, Metapneumovirus and Rhinovirus will be performed. If all PCR tests are negative, respiratory viral culture will be performed.

  NOTE: Respiratory Virus Culture is less sensitive than PCR. Respiratory virus culture detects Influenza A & B, RSV, Adenovirus and Parainfluenza 1, 2, & 3. If other viruses such as CMV, Enterovirus or HSV are suspected, PCR for the specific virus must be requested.

PHS Laboratory does not offer direct Influenza antigen testing for Influenza A & B. Sensitivities of Influenza rapid tests are 25-60% when compared with PCR, and produce frequent false-negative results.

Please see the separate document entitled “Respiratory Virus Testing PH&S 2014-2015” included with this update for a complete listing of tests, reflex panels, sample requirements and turnaround times.

**CPT Codes:**

- RSV direct antigen: 87400
- PCR: 87798 (for each virus tested by PCR) OR 87502 for Influenza A & B
- Respiratory Virus Culture: 87254 x 1; (Add 87140 x 7 if positive)

**Turnaround times:**

- RSV direct antigen: one hour from receipt in PSVMC, PPMC, PMMC, PSH & PHR Labs.
- PCR: Batched Monday through Friday. Reported 24 to 72 hours from receipt in Regional Core Laboratory

  NOTE: Additional PCR runs may be performed during peak respiratory viral illness periods.

- Respiratory Virus Culture: Preliminary report: 1-2 days; Final Report in 3-6 days.

**Stability:**

- Ambient: 1 hour
- Refrigerated (2-8°C): 3 days
- Frozen: 2 months for PCR. Frozen is unacceptable for Respiratory Virus Culture

**Transport:** to the Regional Core Laboratory refrigerated at 2-8°C.
Supplies needed: Appropriate nasopharyngeal swabs and Viral Transport Media (VTM) may be obtained from the PH&S Lab Supplies department at (503) 215-3484. Wooden shafted, calcium alginate or cotton-tipped swabs may not be used for this testing.

SPECIMEN COLLECTION:

*Nasopharyngeal aspirate* (Preferred): Collect samples using a sterile suction apparatus (i.e. Luken’s trap, syringe or bulb). Tilt patient’s head to 70° angle. Attach catheter to suction apparatus. Instill several drops of sterile saline into each nostril. Place catheter through nostril to posterior nasopharynx (same distance as from nostrils to external opening of ear), and apply gentle suction. Using rotating motion, slowly withdraw catheter. For optimal sample, repeat procedure with other nostril. With the viral transport medium, rinse secretions through the catheter into the sterile, leak-proof container.

*Nasopharyngeal wire swabs* (Preferred): Use only sterile Dacron or rayon swabs with wire shafts. Tilt patient’s head to 70° angle. Bend the flexible-shaft, wire swab to follow curve of nasopharynx and insert swab into patient’s nostril parallel with the palate, along the floor of the nasal passage until reaching the posterior wall of the nasopharynx (same distance as from nostril to external opening of ear). NOTE: Do not force swab - if an obstruction is encountered, try patient’s other nostril. Gently rotate and leave the swab in place for a few seconds. For optimal sample, repeat procedure on both nostrils. Place the entire swab in viral transport media (VTM) and secure the cap. **Bend or cut the shaft so that lid can close properly without interfering with the thread on the rim. Failure to do so will result in transport medium leakage, and the sample will be rejected.**

*Nasal wash*: Tilting patient’s head back to a 70° angle, instill 5 ml of sterile saline alternately into each nostril. Instruct patient to pronounce “car”, which closes the airway, and not to swallow. Patient may return head to upright position to avoid saline draining down the throat. Aspirate with a bulb syringe and place contents into a sterile, screw-capped specimen container.

*Throat or nasal swabs*: Vigorously swab patient’s pharynx with a sterile Dacron or rayon swab. Place the swab in VTM and secure the cap. Place the entire swab in VTM and secure the cap. **Bend or cut the shaft to allow lid to close properly without interfering with the thread on the rim. Failure to do so will result in transport medium leakage and a rejected sample.**

*Bronchial washes or sputum*: Place sample into a sterile, screw-capped specimen container.

For more information, please contact Providence Lab Services at (503) 215-6660 or the Regional Molecular Diagnostics Laboratory at (503) 893-7788.