



## OSPHL Instructions:

### Virus Isolation, Rapid Culture with Reflex

The purpose of the information below is to help facilities submitting Virus Isolation specimens to the Oregon State Public Health Laboratory (OSPHL) know the acceptable practices for ordering, collecting, storing and transporting specimens to the OSPHL. Detail is provided for each specimen type accepted by the OSPHL. Please contact the Virology section at the OSPHL with questions at 503-693-4100.

#### How to Order the Test

- Use the Virology/Immunology Request Form (Form 42), check the “Virus Isolation” box under “Virus Isolation.” Complete the “Suspected agent” and “Illness onset.”
- Check or write in the appropriate specimen source.

#### To order Virus Culture Specimen Collection Kits and Supplies:

Complete the OSPHL Stockroom Order Request form at: [www.bit.ly/PHLStockOrder](http://www.bit.ly/PHLStockOrder) (pdf).

The following are available upon request:

- Regular and nasopharyngeal flocced swabs,
  - Other acceptable swabs are polyester or nylon tipped swabs with plastic or aluminum shafts.
- Universal transport media (UTM); optimal volume (1 – 3 ml)
  - Other acceptable transport media that support viruses such as BD™ Universal Viral Transport Media (UVT), Quest VCM media, Remel M4;

#### Specimen Collection by Specimen Source:

*Cerebrospinal Fluid (CSF)* – Ideally collect at least 2ml in a sterile tube and seal tightly. Do not dilute CSF or add to viral transport media (UTM).

*Bronchial wash* – Inject saline in segmental bronchus, suction out into a sterile container. The wash may be transferred into a sterile tube containing UTM.

*Bronchoalveolar lavage* – Inject saline in sub-segmental bronchus and then suction out into a sterile container. The lavage may be transferred into a tube containing UTM

*Eye swab* – Swab lower conjunctiva with flexible, fine-shafted Dacron/nylon/flocced swab pre-moistened with sterile saline. Use one swab per eye and insert swabs(s) in one UTM tube. Do not remove the swab from the container before sending to OSPHL.

*Misc. Body Fluids* – (pleural, amniotic, pericardial, etc.) – Collect at least 2ml into a sterile container. Do not dilute with UTM. Blood, blood components and bone marrow are NOT accepted.

*Nasal swab* – Tilt patient's head back 70 degrees. Insert swab into each nostril (less than one inch), leave in place for several seconds and transfer to tube containing UTM. If sampling from both nares, you may insert both swabs into a single VTM tube. **Do not remove the swab from the container before sending to OSPHL.**

*Nasal/Nasopharyngeal Aspirate* – Attach catheter to suction apparatus. Tilt patient's head back 70 degrees. Insert catheter into nostril/nasopharynx and apply gentle suction. Leave catheter in place a few seconds, then gently withdraw catheter while rotating it. Flush tubing with 1 to 3ml of VTM and transfer contents to original UTM tube.

*Nasal / Nasopharyngeal wash* – Attach catheter to suction apparatus. Tilt patient's head back 70 degrees. Insert several drops (up to 5ml) of sterile normal saline into each nostril. Insert catheter into nostril/nasopharynx. Apply gentle suction and gently withdraw catheter while rotating it. Transfer wash to UTM.

*Nasopharyngeal swab* – Tilt patient's head back 70 degrees. Insert **NP swab** into posterior nasopharynx. Rotate swab several times and leave in place 10 to 15 seconds. Gently remove swab while rotating it and place into VTM. If sampling from both nares, you may insert both swabs into a single UTM tube. **Do not remove the swab from the container before sending to OSPHL.**

*Skin/Genital Lesion swab* – Aseptically unroof the lesion with a sterile beveled hypodermic needle. Using a swab, scrub the base of the opened lesion with sufficient force to ensure that cells are collected on the swab. Insert swab in UTM. **Do not remove the swab from the container before sending to OSPHL.**

*Rectal swab* – DO NOT USE LUBRICANT. Insert swab about 2 inches into rectum, rotate swab to collect fecal material, and carefully remove the swab from rectum. Insert swab in tube containing UTM. **Do not remove the swab from the container before sending to OSPHL.**

*Sputum* – If possible, patient should rinse mouth and gargle first. Collect 3 to 5ml deep cough expectorant into sterile screw-capped container. Submission in UTM is optional.

*Stool* – Collect 2g to 10g (navy bean to walnut size) into a sterile leak-proof container that should be sealed tightly to prevent leakage, such as a urine collection container. DO NOT Use preservatives.

*Throat swab* – Moisten plastic swab with physiological saline and vigorously rub against tonsils and posterior pharynx. Submit swab on UTM. Place the swab in the tube containing UTM. **Do not remove the swab from the container before sending to OSPHL.**

*Throat wash* – Patient should clear mucus and post nasal secretions from throat and mouth. Patient gargles 30 to 60 seconds with 2ml – 3ml physiological saline and spits wash into sterile container. Transfer wash to UTM.

*Tissue (Autopsy or Biopsy)* – Collect tissue aseptically, using a separate set of instruments for each tissue and placing each in a separate sterile container containing viral transport media. Avoid cross-contamination with collection sites. Autopsy specimen should be collected with 24 hours of death if possible.

*Tissue Cell cultures for Identification* – Select a tissue culture tube that exhibits 2+ or 3+ CPE (if possible), fill it with tissue culture media, seal tightly, and ship to OSPHL as soon as possible. **Viral cell cultures for identification must not be refrigerated, frozen or heated above 37°C at any time prior to their receipt by OSPHL.**

*Tracheal aspirate* – Use a fine catheter with suction trap. Insert catheter through endotracheal tubes. Apply suction and withdraw catheter once specimen is collected. Flush catheter with 2 to 3 ml UTM and transfer contents to original UTM tube.

*Urine* – Collect 2 to 15 ml of clean-catch midstream (first morning void preferred) urine into sterile container and seal tightly. DO NOT add UTM. Transport to arrive at OSPHL with 24 hours. **Do not freeze.**

#### Specimen Transport, *Unless Otherwise Stated Above:*

- Refrigerate all specimens<sup>1</sup> at 2-8°C immediately after collection.
- Transport the specimen(s) as soon as possible on cold pack(s)<sup>1</sup> to maintain refrigerated temperatures.
- If the specimen will be held more than 1 week, it should be frozen<sup>2</sup>, preferably at -70°C (-20°C if ultracold storage is not available), and shipped frozen on dry ice as soon as possible.

#### Specimen Transport Exceptions:

<sup>1</sup> *Cell cultures should be maintained and transported at 20-37°C and not refrigerated or frozen.*

<sup>2</sup> *Do not freeze specimens that have been collected for **Cytomegalovirus (CMV)**, **Respiratory Syncytial Virus (RSV)**, or **Varicella Zoster Virus (VZV)** isolation.*

#### *Unacceptable Specimens for Virus Culture include:*

- Specimens not transported at appropriate temperatures.
- Insufficient specimen volume (less than 0.8 mL).
- Dried out or desiccated specimens.
- Submitted in unsuitable media. (e.g., bacterial collection kits and preservatives such as formalin or alcohols)
- Collected more than 14 days after illness onset.
- Calcium alginate swabs, cotton-tipped swabs, or wooden shafted swabs.
- Blood, blood components, and bone marrow.

Additional Specimen Acceptance Criteria can be found on the OSPHL website at: <http://bit.ly/SpecimenCriteria>.

#### *Reference:*

<http://www.cdc.gov/flu/pdf/freeresources/healthcare/flu-specimen-collection-poster.pdf>