**Specimen Collection and Submission Instructions**

**MERS-CoV (Version 1)**

Page 1 of 3

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Collection Time</th>
<th>Collection Frequency</th>
<th>Collection Procedures</th>
<th>Transport Media</th>
<th>Shipping &amp; Handling (S&amp;H)**</th>
</tr>
</thead>
</table>
| Bronchoalveolar lavage, tracheal aspirate, pleural fluid | NA | NA | • Collect 2-3 mL in a sterile, leak-proof, screw-cap sputum cup or sterile dry container.  
  • **Minimum volume**: 2-3 ml. | NA | • **Transport device**: Sterile, leak-proof, screw-cap sputum cup or sterile dry container  
  • **Transport**: Ship cold (2-8°C) on ice packs. If previously frozen, ship on dry ice.  
  • **Storage**: Refrigerate at 2-8°C up to 72 hrs. If arriving at WAPHL ≥ 72 hrs of collection, freeze at ≤ -70°C. |

Sputum

| At illness | NA | NA | • Have the patient rinse the mouth with water.  
  • Then expectorate deep cough sputum directly into a sterile, leak-proof, screw-cap sputum collection cup or sterile dry container. | NA | • **Transport device**: Sterile, leak-proof, screw-cap sputum cup or sterile dry container  
  • **Transport**: Ship cold (2-8°C) on ice packs. If previously frozen, ship on dry ice.  
  • **Storage**: Refrigerate at 2-8°C up to 72 hrs. If arriving at WAPHL ≥ 72 hrs of collection, freeze at ≤ -70°C. |

Nasopharyngeal and Oropharyngeal swabs (NP/OP swabs)

| At illness | NA | NA | • Collect only using synthetic tip swabs (e.g. Dacron, Nylon, Polyester) with non-wooden shaft.  
  • Place swabs immediately into sterile tube containing 2-3ml viral transport media (VTM).  
  • NP/OP specimens should be combined, placing both swabs in the same vial.  
  • **Nasopharyngeal swabs** -- Insert a swab in the nostril parallel to the palate. Leave in place for a few seconds to absorb secretions. Swab both nasal areas.  
  • **Oropharyngeal swab** -- Swab the posterior pharynx, avoiding the tongue. | VTM | • **Transport device**: Sterile leak-proof container.  
  • **Transport**: Ship cold (2 - 8°C) on ice packs. If previously frozen, ship on dry ice.  
  • **Storage**: Refrigerate at 2-8°C up to 72 hrs. If arriving at WAPHL ≥ 72 hrs of collection, freeze at ≤ -70°C. |

(Additional Specimen Types on page 2)

*Preferred specimen type, if applicable  **All specimens must be shipped meeting IATA, OSHA, and USPS requirements. NA: Not Applicable  

Last Revised: March 2015
### Specimen Collection and Submission Instructions

#### MERS-CoV (Version 1)

**Page 2 of 3**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Collection Time</th>
<th>Collection Frequency</th>
<th>Collection Procedures</th>
<th>Transport Media</th>
<th>Shipping &amp; Handling (S&amp;H)**</th>
</tr>
</thead>
</table>
| Nasal aspirate | NA             | NA                   | • Collect 2-3 mL in a sterile, leak-proof, screw-cap sputum cup or sterile dry container.  
                       • **Minimum volume:** 2-3 mL. | NA              | • **Transport device:** Sterile, leak-proof, screw-cap sputum cup or sterile dry container  
                                                                       • **Transport:** Ship cold (2-8°C) on ice packs. If previously frozen, ship on dry ice.  
                                                                       • **Storage:** Refrigerate at 2-8°C up to 72 hrs. If arriving at WAPHL ≥ 72 hrs of collection, freeze at ≤ -70°C. |
| Serum (adult & children); Whole blood (infants) | Within first week of symptom onset; (3-4 days after symptom onset preferred) | NA                   | • **Adults and children:** Collect 1 tube (5-10 mL) whole blood in a serum separator tube. Allow the blood to clot, centrifuge briefly, and separate sera into sterile tube container.  
                                                                       • **Minimum volume:** 200μl of serum.  
                                                                       • **Infants:** If possible, collect 1 ml in an EDTA tube and in a serum separator tube. If only 1 ml can be obtained, use a serum separator tube.  
                                                                       • **Minimum volume:** 1ml of whole blood for pediatric patients. | VTM             | • **Transport device:** See Collection Procedures.  
                                                                       • **Transport:** Ship cold (2-8°C) on ice packs. If previously frozen, ship on dry ice.  
                                                                       • **Storage:** Refrigerate at 2-8°C up to 72 hrs. If arriving at WAPHL ≥ 72 hrs of collection, freeze at ≤ -70°C. |
| EDTA blood (plasma) |               |                      | Collect 1 tube (10 mL) of heparinized (green-top) or EDTA (purple-top) blood. | VTM             | • **Transport device:** See Collection Procedures.  
                                                                       • **Transport:** Ship cold (2-8°C) on ice packs.  
                                                                       • **Storage:** Refrigerate at 2-8°C. **Do not freeze.** |
| Stool          |               |                      | • Collect 2-5 grams of stool (formed or liquid) in sterile, leak-proof, screw-cap sputum cup or sterile dry container.  
                                                                       • **Note:** **Stool testing is currently only performed at CDC.** PHL can facilitate shipping stool specimens to CDC for MERS-CoV testing. | VTM             | • **Transport device:** Sterile, leak-proof, screw-cap sputum cup or sterile dry container.  
                                                                       • **Transport & Storage:** Please contact WAPHL. |

*Preferred specimen type, if applicable  **All specimens must be shipped meeting IATA, OSHA, and USPS requirements.  NA: Not Applicable  Last Revised: March 2015*
**General Rejection Criteria (for additional details, see S&H)**

- Unaccepted specimen type.
- Not refrigerated or frozen properly.
- Insufficient specimen volume.
- Leaky specimen.
- Did not obtain LHJ or DOH CDE approval.
- Failure to follow specific S&H requirements.

**NOTE:**
Specimens will not be processed until ALL of the following information are provided on requisition form:

- Patient name, patient's county of residence, and second identifier.
- Two matching identifiers on both the tube and the laboratory requisition form.
- Specimen type, date of collection, and test requested.
-Submitter name, address, and telephone/FAX numbers.

**Collection kit availability**

Not available.

**Comments**

- Use appropriate infection control precautions when collecting respiratory tract, serum, and stool specimens.
- Serologic testing is currently available only at CDC upon request and approval. Please consult with DOH Office of Communicable Disease Epidemiology for ideal timing of specimen collection for serologic testing. In general, for serologic testing, collect serum during acute symptoms, preferably the first week after onset of illness, and again ≥ 3 weeks later.