



Tennessee Department of Health  
 Division of Laboratory Services  
**MERS Coronavirus (MERS CO-V)**  
 Submission Requisition  
 \*Indicates Required Fields

**Place State Lab Accession Label Here**  
 (TDH use only)

**Suspected MERS CoV: Call 615-741-7247 for medical consultation & testing approval**

**SPECIMEN COLLECTION INFORMATION**

*Last Name:	*First Name:	MI:
*DOB:	*Gender: <input type="checkbox"/> Male <input type="checkbox"/> Female	Ethnicity: <input type="checkbox"/> Hispanic <input type="checkbox"/> Non Hispanic
Race: <input type="checkbox"/> American Indian <input type="checkbox"/> Asian <input type="checkbox"/> Black <input type="checkbox"/> Hawaiian/Pacific islander <input type="checkbox"/> White <input type="checkbox"/> Other (_____)		
Address:		
City:	*County of Residence:	State: Zip : If Non-US resident: Country:

**SUBMITTER INFORMATION**

*Submitting Facility:	Medical Record Number:
*Address:	
*City:	*State: Zip Code:
*Phone Number:	Fax Number:

**SPECIMEN INFORMATION**

*Date of Collection: __/__/__	<b>Specimen Type:</b> _____ <b>*Specimen Source:</b> <input type="checkbox"/> Sputum <input type="checkbox"/> BAL <input type="checkbox"/> Tracheal aspirate <input type="checkbox"/> Pleural fluid <input type="checkbox"/> NP <input type="checkbox"/> OP <input type="checkbox"/> NP/OP <input type="checkbox"/> Blood/Serum <input type="checkbox"/> Other _____
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**MEDICAL HISTORY\***

Date of Symptom Onset: __/__/__	Have the patient's symptoms resolved? <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> Unk.
Signs and Symptoms: (check all that apply) <input type="checkbox"/> Feverish <input type="checkbox"/> Fever (>38°C, 100.4°F) <input type="checkbox"/> Dry cough <input type="checkbox"/> Productive cough <input type="checkbox"/> Chills <input type="checkbox"/> Sore throat <input type="checkbox"/> Headache <input type="checkbox"/> Muscle aches <input type="checkbox"/> Shortness of breath <input type="checkbox"/> Vomiting <input type="checkbox"/> Abdominal pain <input type="checkbox"/> Diarrhea <input type="checkbox"/> Clinical signs of Pneumonia or ARDS <input type="checkbox"/> Other _____	
CXR: <input type="checkbox"/> Abnormal Chest X-Ray (CXR) consistent with (c/w) Pneumonia <input type="checkbox"/> CXR c/w Acute Respiratory Distress Syndrome (ARDS)	
Concurrent risk factors: (check all that apply) <input type="checkbox"/> Immunocompromised <input type="checkbox"/> Pregnant <input type="checkbox"/> Renal failure <input type="checkbox"/> Other _____ <input type="checkbox"/> Unk.	
Was the patient hospitalized for this illness? <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> Unk. If yes, was the patient admitted to the intensive care unit? <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> Unk.	
Did patient die from this illness? <input type="checkbox"/> No <input type="checkbox"/> Yes (Date: __/__/__) <input type="checkbox"/> Unk.	

**MERS CORONAVIRUS EPIDEMIOLOGY**

**MUST ANSWER "YES" TO AT LEAST ONE.**

- \* Patient traveled within 14 days of onset to an area reporting human MERS CoV:  No  Yes  Unk.  
 If Yes: Name of Countries visited in the Arabian Peninsula\* \_\_\_\_\_  
 Dates of travel to/from the Arabian Peninsula\* or neighboring countries: To: \_\_/\_\_/\_\_ From: \_\_/\_\_/\_\_
- \* In 14 days before symptom onset, patient was a close contact with an ill person with a history of recent travel to the Arabian Peninsula or neighboring countries:  No  Yes  Unk.
- \* Patient was a close contact to a known or suspected case of MERS CoV:  No  Yes  Unk.
- \* Patient had direct contact with camels; or exposure to/ingested raw camel milk, meat, urine  No  Yes  Unk.
- \* Patient was visitor/patient/healthcare worker in a healthcare facility in area reporting MERS Co-V  No  Yes  Unk
- \* Patient is a healthcare worker who has cared for patients with Severe Acute Respiratory Illness [SARI], particularly patients requiring ICU care  No  Yes  Unk.
- \* Patient is part of a cluster of SARI [fever and cough requiring hospitalization, cause unknown]. "Cluster" is defined as 2 or more patients with onset of disease within a 2-week period among people linked by a specific setting (e.g., hospital, workplace, household, classroom, family group, camp, dormitory)  No  Yes  Unk.
  - \* Is the patient (check all that apply):  Health care worker  US military  Flight crew  Other \_\_\_\_\_
  - \* During illness, was patient associated with any of the following (check all that apply)
    - Flight  Childcare/daycare Facility  Long-term Care Facility  Correctional Facility  Hospital
    - School Please provide name(s): \_\_\_\_\_

**ADDITIONAL INFORMATION:**

Do **not** submit swab that has been used for rapid testing.

Nashville Laboratory: P.O.Box 305130, Nashville, TN 37230 (USPS) OR 630 Hart Lane, Nashville, TN 37216 (FedEx, UPS, courier delivery)

\*Arabian Peninsula and Neighboring Countries include: Bahrain; Iraq; Iran, Israel, the West Bank, and Gaza; Jordan; Kuwait; Lebanon; Oman; Palestinian territories; Qatar; Saudi Arabia; Syria, the United Arab Emirates (UAE), and Yemen.



**SPECIMEN COMMENTS: Please send multiple specimens! Aim: Sputum/BAL plus serum plus NP/OP swab**

- Lower respiratory specimens are preferred specimens and should be collected within 7 days after illness onset and before antiviral medications are administered. However, if more than a week has passed and the patient is still symptomatic, respiratory specimens should still be collected.
- Collecting nasopharyngeal and oropharyngeal (NP/OP) and serum specimens are strongly recommended depending on the length of time between symptom onset and specimen collection. Serum specimens should be collected during the first week after symptom onset, preferably within 3-4 days.
- All specimens should be collected with appropriate infection control precautions (gowns, gloves, eye protection, N95 respirator or higher): <http://www.cdc.gov/coronavirus/mers/infection-prevention-control.html>

**Lower Respiratory Tract: (preferred)**

- **Bronchoalveolar lavage, tracheal aspirate, pleural fluid**  
Collect 2-3 mL into a sterile, leak-proof, screw-cap sputum collection cup or sterile dry container.
- **Sputum**  
Have the patient rinse the mouth with water and then expectorate deep cough sputum directly into a sterile, leak-proof, screw-cap sputum collection cup or sterile dry container.

**Upper Respiratory Tract:**

- **Nasopharyngeal AND oropharyngeal swabs (NP/OP swabs):**
  - Use only synthetic fiber swabs with plastic shafts. Do not use calcium alginate swabs or swabs with wooden shafts, as they may contain substances that inactivate some viruses and inhibit PCR testing. Place swabs immediately into sterile tubes containing 2-3 ml of viral transport media. NB/OP specimens can be combined, placing both swabs in the same vial.
    - **Nasopharyngeal (NP) swabs** -- Insert a swab into the nostril parallel to the palate. Leave the swab in place for a few seconds to absorb secretions. Swab both nasopharyngeal areas.
    - **Oropharyngeal (OP) swabs** -- Swab the posterior pharynx, avoiding the tongue.
- **Nasopharyngeal wash/aspirate or nasal aspirates**
  - Collect 2-3 ml into a sterile, leak-proof, screw-cap sputum collection cup or sterile dry container.

**Blood Components (always send serum for RT-PCR!)**

- **Serum (for rRT-PCR Testing)**
  - Children and adults: Collect 1 tube (5-10 mL) of whole blood in a serum separator tube. Allow the blood to clot, centrifuge briefly, and separate sera into sterile tube container. The minimum amount of serum required for testing is 200 µL. Refrigerate the specimen at 2-8°C and ship on-ice pack; freezing and shipment on dry ice is permissible.
  - Infants: A minimum of 1mL of whole blood is need for testing for pediatric patients. 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.
- **EDTA blood (plasma)**
  - Collect 1 tube (10 mL) of heparinized (green-top) or EDTA (purple-top) blood. Refrigerate specimen at 2-8°C and ship on ice-pack; do not freeze.

**Storage and Shipping Specifics**

- All respiratory specimens should be refrigerated at 2-8°C for up to 72 hours; if exceeding 72 hours, freeze at -70°C and ship on dry ice.
- For serum specimens, refrigerate the specimen at 2-8°C and ship on ice pack; although freezing at -70°C and shipping on dry ice is permissible. For EDTA blood specimens, refrigerate at 2-8°C and ship on ice-pack, and do not freeze.

**CDC Recommends Against the Following:**

- **Do not place** any dry ice in the “Primary Container” or “Secondary Container”, foam envelopes, ziplock bags, cryovial boxes, or hermetically sealed containers.
- **Do not place** Primary Containers sideways or upside down in ziplock bags.
- **Do not use** red top Secondary Containers for Category A Infectious Substances.
- **Do not place** any paperwork in the Secondary Containers or ziplock bags, so as not to damage the paperwork.
- **Do not use** biohazard/autoclave bags to repack your materials due to the inadequate seal of these bags.

**Additional Information:**

- <http://www.cdc.gov/coronavirus/mers/index.html>
- <http://www.cdc.gov/coronavirus/mers/guidelines-clinical-specimens.html>

