



MISSISSIPPI STATE DEPARTMENT OF HEALTH

May 19, 2014

Suspect Middle Eastern Respiratory Syndrome Coronavirus (MERS-CoV) Specimen Submission Guidelines

*Adapted from Centers for Disease Control and Prevention (CDC) Interim Guidelines version 2 dated 01/09/2014

Prior to collecting specimens from patients under investigation for MERS-CoV infection, clinicians must contact the Mississippi State Department of Health (MSDH) Office of Epidemiology for assistance with determining the patient’s optimal specimen type(s) and for testing authorization. Contact the MSDH Office of Epidemiology during normal business hours at (601) 576-7725 or after hours at (601)576-7400.

General Guidelines

- The preferred specimen type(s) for MERS-CoV testing depends on the number of days between specimen collection and symptom onset as well as the symptoms at the time of specimen collection.
The Mississippi Public Health Laboratory (MPHL) has been authorized by the CDC to test suspect specimens using the CDC MERS-CoV rRT-PCR assay. The MPHL can test the following specimen types: sputum, bronchoalveolar lavage, tracheal aspirate, nasopharyngeal and oropharyngeal swabs in viral transport media, serum and plasma.
In a patient under investigation, the CDC strongly recommends testing a lower respiratory specimen (e.g., sputum), a nasopharyngeal/oropharyngeal swab, and serum. If symptom onset was more than 14 days prior, CDC also strongly recommends the additional testing of a single serum specimen via the CDC MERS-CoV serologic assay. Currently, serologic testing is available only at the CDC upon request and approval.
Respiratory specimens should be collected as soon as possible after symptoms begin – ideally within 7 days and before antiviral medications are administered. However, if more than a week has passed since symptom onset and the patient is still symptomatic, respiratory samples should still be collected, especially lower respiratory specimens since respiratory viruses can still be detected by rRT-PCR.

Acceptable Specimens for MPHL rRT-PCR testing

Table with 3 columns: Specimen Type, Collection Instructions, Shipping Instructions. Row 1: Nasopharyngeal (NP) AND oropharyngeal (OP) swabs. * Use only synthetic swabs with plastic or metal shaft. NP- Insert swab into nostril parallel to the palate. Leave the swab in place for a few seconds to absorb secretions. Swab both nostrils. OP-Swab the posterior pharynx, avoiding the tongue. Place BOTH swabs (NP and OP) into a vial containing 2-3 mLs of Viral Transport Media. Shipping Instructions: Ship on cold packs within 72 hours of collection.

Bronchoalveolar lavage, tracheal aspirate, pleural fluid, Nasopharyngeal wash/aspirate or nasal aspirates	Collect 2-3 mL into a sterile, leak-proof, screw-cap sputum collection cup or sterile dry container	Ship on cold packs within 72 hours of collection
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	Ship on cold packs within 72 hours of collection
Serum (for virus detection)	For adults and children, collect one (1) tube of whole blood in serum separator tube (SST), centrifuge and separate. Should be collected 3-4 days after symptom onset. A minimum of 200 uL of serum is required for testing. *For infants, a minimum of 1mL of whole blood is needed. Use a SST if only 1mL can be obtained.	Ship on cold packs within 72 hours of collection
Plasma	Collect one (1) tube of heparinized (green-top) or EDTA (purple-top) blood.	Ship on cold packs within 72 hours of collection

* The CDC can also test stool specimens for the presence of MERS-CoV. If stool is determined to be the preferred specimen source for patient by the MSDH Office of Epidemiology, then 2-5 grams of stool specimen (formed or liquid) should be collected in a sterile, leak-proof, screw-cap sputum collection cup or sterile dry container and shipped to the MPHL on cold packs within 72 hours for referral to the CDC.

Laboratory Test Requisition

Complete a MSDH Form 402 (Miscellaneous Test Requisition) for each SPECIMEN submitted. A PDF of the form can be printed at (<http://msdh.ms.gov/msdhsite/static/resources/5301.pdf>).

Specimen Packaging

Label each specimen container and MSDH Form 402 with the patient's name, patient's date of birth, specimen type, and collection date. The information on the specimen and Form 402 must match. Specimen containers should be sealed with Parafilm® and placed in ziplock-type biohazard bags with adequate absorbent material to absorb the entire contents. Specimens from suspected MERS-CoV cases must be packaged in accordance with Department of Transport (DOT) regulations. Properly packaged specimens should be taken to the nearest county health department for transport to the Mississippi Public Health Laboratory (MPHL). Facilities located in the Jackson area may package and deliver specimens directly to the MPHL.

If you have any questions concerning sample collection or transport, please call (601) 576-7582 to contact Darlene Bradley, Jane Campbell, or Dr. Daphne Ware at the MPHL during normal business hours.

Testing authorization must be received from the MSDH Office of Epidemiology BEFORE MERS-CoV specimens will be accepted for testing. Contact the MSDH Office of Epidemiology during normal business hours at (601) 576-7725 or after hours at (601)576-7400.