

SPECIMEN COLLECTION FOR MERS TESTING

ODH Lab can test specimens for MERS virus by PCR. Before collecting specimens, please contact:
The Bureau of Infectious Diseases, Outbreak Response and Bioterrorism Investigation Team 24/7 at
(614)722-7221

What to collect: (listed in order of priority)

A. Lower respiratory tract

Bronchoalveolar lavage, tracheal aspirate, pleural fluid

Collect 2-3 mL into a sterile, leak-proof, screw-cap sputum collection cup or sterile dry container. Refrigerate specimen at 2-8°C up to 72 hours; if exceeding 72 hours, freeze at -70°C and ship on dry ice.

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. Refrigerate specimen at 2-8°C up to 72 hours; if exceeding 72 hours, freeze at -70°C and ship on dry ice.

B. 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. NP/OP specimens can be combined, placing both swabs in the same vial. Refrigerate specimen at 2-8°C up to 72 hours; if exceeding 72 hours, freeze at -70°C and ship on dry ice.

Nasopharyngeal 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 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. Refrigerate specimen at 2-8°C up to 72 hours; if exceeding 72 hours, freeze at -70°C and ship on dry ice.

Note: Swabs need to be in viral transport medium in order to be tested.

C. Serum for virus detection

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 1 mL of whole blood is needed for testing of 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.

D. Stool

Collect 2-5 grams of stool specimen (formed or liquid) in sterile, leak-proof, screw-cap sputum collection cup or sterile dry container. Refrigerate specimen at 2-8°C up to 72 hours; if exceeding 72 hours, freeze at -70°C and ship on dry ice.

Submission form:

Complete the ODH Microbiology form and enclose with the specimen:

<http://www.odh.ohio.gov/pdf/IDCM/frm2530.pdf> Under Virology, request MERS-PCR and the respiratory virus panel.

How to Ship:

Specimens from suspected MERS cases must be packaged, shipped, and transported according to the current edition of the International Air Transport Association (IATA) Dangerous Goods Regulations at

[https://www.iata.org/whatwedo/cargo/dgr/Documents/DGR52_InfectiousSubstances\(DGR362\).pdf](https://www.iata.org/whatwedo/cargo/dgr/Documents/DGR52_InfectiousSubstances(DGR362).pdf) .

Specimens for MERS testing are Category B.

Specimens should be stored and shipped at the temperatures indicated above. *Where refrigerator temperature is indicated, ship on frozen freeze packs.* If samples are unable to be shipped within 72 hours of collection, they should be stored at -70°C and shipped on dry ice.

All specimens must be pre-packed to prevent breakage and spillage. Specimen containers should be sealed with Parafilm® and placed in ziplock bags. Place enough absorbent material to absorb the entire contents of the Secondary Container (containing Primary Container) and separate the Primary Containers (containing specimen) to prevent breakage. Send specimens with cold packs or other refrigerant blocks that are self-contained, not actual wet ice.

Please Note:

- 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 place any paperwork in the Secondary Containers or ziplock bags, so as not to damage the paperwork.
- Do not use biohazard/autoclave bags to prepack your materials due to the inadequate seal of these bags.

Where to ship:

Ship for next day delivery to:

Attention: Specimen Receiving
Ohio Dept of Health Laboratory, Building 22
8995 E. Main Street
Reynoldsburg OH 43068

For more details on specimen collecting and shipping, see:

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

For questions about MERS antibody testing, isolation procedures, or other questions relating to MERS, please contact ORBIT at (614)995-5599.