



**North Carolina Department of Health and Human Services
State Laboratory of Public Health**

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NC SLPH MERS-CoV Specimen Collection and Testing Guidelines, 6/12/15

Testing Criteria for Middle East Respiratory Syndrome Coronavirus (MERS-CoV): All suspect or probable cases of MERS-CoV infections should be reported to the **NC DPH Communicable Disease Branch at (919) 733-3419 for prior approval for laboratory testing.** A Patient Under Investigation (PUI) is a person with:

A. Fever ($\geq 38^{\circ}\text{C}$, 100.4°F) and pneumonia or acute respiratory distress syndrome (based on clinical or radiological evidence) AND EITHER:

- History of travel from countries in or near the Arabian Peninsula within 14 days before symptom onset; OR
- Close contact with a symptomatic traveler who developed fever and acute respiratory illness (not necessarily pneumonia) within 14 days after traveling from countries in or near the Arabian Peninsula; OR
- Is a member of a cluster of patients with severe acute respiratory illness (e.g. fever and pneumonia requiring hospitalization) of unknown etiology in which MERS-CoV is being evaluated, in consultation with state and local health departments.

OR

B. Fever AND symptoms of respiratory illness (not necessarily pneumonia; e.g. cough, shortness of breath) AND being in a healthcare facility (as a patient, worker, or visitor) within 14 days before symptom onset in a country or territory in or near the Arabian Peninsula in which recent healthcare-associated cases of MERS have been identified.

Testing Employed: The NCSLPH has implemented the CDC MERS-CoV rRT-PCR assay that has been granted FDA Emergency Use Authorization. Specimens testing presumptive positive with this assay will be forwarded to the CDC for confirmation. The estimated turn-around-time for negative and presumptive positive results is 5 – 48 hrs.

USE APPROPRIATE PRECAUTIONS (link below) WHEN COLLECTING SPECIMENS FOR MERS-CoV TESTING
<http://www.cdc.gov/coronavirus/mers/infection-prevention-control.html>

Appropriate Specimens for MERS-CoV rRT-PCR Testing at NCSLPH

Specimen	Optimal Collection Time	Specimen Volume	Shipment
Lower Respiratory (preferred specimen): Bronchoalveolar lavage and/or sputum (patient should rinse mouth with H ₂ O prior to collection)	Respiratory specimens should be collected as soon as possible after symptoms begin and before antiviral medication.	2–3 mL fluid contained in a sterile leak-proof cup	Refrigerated (4°C), placed on cold packs if shipment is to be received within 72 h of collection. For delays exceeding 72 h, freeze at -70°C & ship on dry ice.
Upper Respiratory: NP and OP swabs (synthetic tip with plastic shaft recommended) in viral transport media or NP wash/aspirate or nasal aspirates		NP and OP swabs can be combined in 2 – 3 mls viral transport media	
Serum	Optimally during 1 st week post-onset, preferably within 3-4 days	Adults: 3–5 mL Infants: 0.5-1 mL	
Appropriate Specimens for MERS-CoV Testing Conducted at the CDC			
Serum (research/surveillance purposes, not diagnostic)	Acute: 1-14 days post onset and Convalescent: ≥ 3 wks post-acute	Adults: 3–5 mL Infants: 0.5-1 mL	See above

All specimen submissions **must** have a completed BTEP Specimen Submission Form found at:
<http://slph.ncpublichealth.com/Forms/DHHS-5010-BTEmergingPathogens-0313.pdf>

CONTACT THE BTEP UNIT (919-807-8600) PRIOR TO ANY SHIPMENT OR IF YOU HAVE QUESTIONS.

Address all specimen shipments as follows: Attention: Bioterrorism & Emerging Pathogens Unit (BTEP)
North Carolina State Laboratory of Public Health
4312 District Drive
Raleigh, NC 27607-5490

Additional Information:

- Use **CDC Guidelines** for more detailed information: <http://www.cdc.gov/coronavirus/mers/guidelines-clinical-specimens.html>
- **NC Division of Public Health Epidemiology Section Information:** <http://epi.publichealth.nc.gov/cd/diseases/merscov.html>

www.ncdhhs.gov • www.publichealth.nc.gov • http://slph.ncpublichealth.com

Location: 4312 District Drive • Raleigh, NC 27607 • Tel 919-733-7834 • Fax 919-733-8695

Mailing Address: 1918 Mail Service Center • PO Box 28047, Raleigh, NC 27611-8047

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