



Middle East Respiratory Syndrome Coronavirus (MERS-CoV) Testing at Washington State Public Health Laboratories

First described in April 2012, [MERS-CoV](#) causes severe respiratory illnesses. As of May 7, 2021, a total of 2589 laboratory-confirmed cases of MERS-CoV and 940 associated deaths have been reported to the World Health Organization (WHO) by 27 countries. More than 2100 cases (~85%) have occurred in Saudi Arabia. The year 2014 had the highest number of reported cases which have declined each year since then. In the US, there have been only 2 imported cases, both diagnosed in May 2014. The virus can spread from person to person and has caused outbreaks in healthcare settings. Approximately 35% of cases have been fatal. The information below addresses laboratory testing.

Testing at Washington State Public Health Laboratories (PHL)

All testing must be discussed with and approved by [local public health](#) before submission to PHL. PHL will test specimens from patients who meet the criteria for [Patient Under Investigation \(PUI\)](#) (PUI). The criteria are:

- A. Fever AND pneumonia or acute respiratory distress syndrome (based on clinical or radiologic evidence) AND EITHER:
 - A 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
 - 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,
- B. Fever AND symptoms of respiratory illness (not necessarily pneumonia; e.g., cough, shortness of breath) AND
 - A history of 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, OR
- C. Fever OR symptoms of respiratory illness (not necessarily pneumonia; e.g., cough, shortness of breath) AND
 - Close contact with a confirmed MERS case while the case was ill.

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

Close contact is defined as: a) being within approximately 6 feet (2 meters), or within the room or care area, of a confirmed MDRS case for a prolonged period of time (such as caring for, living with, visiting, or sharing a healthcare waiting area or room with a confirmed MDRS case) while not wearing recommended personal protective equipment (e.g., gowns, gloves, NIOSH-certified disposable N95 respirator, eye protection) or b) having direct contact with infectious secretions (e.g., being coughed on) of a confirmed MDRS case while not wearing recommended personal protective equipment. See CDC's [Interim Infection Prevention and Control Recommendations for Hospitalized Patients with Middle East Respiratory Syndrome Coronavirus \(MERS-CoV\)](#) for more detail. Data to inform the definition of close contact are limited; considerations when assessing close contact include the duration of exposure (e.g., longer exposure time likely increases exposure risk) and the clinical symptoms of the person with MERS (e.g., coughing likely increases exposure risk). Special consideration should be given to those exposed in healthcare settings. For detailed information regarding healthcare personnel (HCP) please review CDC's [Interim U.S. Guidance for Monitoring and Movement of Persons with Potential Middle East Respiratory Syndrome Coronavirus \(MERS-CoV\)](#). Transient interactions, such as walking by a person with MERS, are not thought to constitute an exposure; however, final determination should be made in consultation with public health authorities.

Laboratory Testing

PHL use a PCR assay from Centers for Disease Control and Prevention (CDC) to detect MERS-CoV in respiratory and serum (and in whole blood from infants only) with confirmatory testing performed at CDC. Serologic testing for MERS antibodies is currently available only at CDC upon request and approval and is performed if more timely testing is not available.

Use appropriate infection control precautions when collecting specimens for MERS testing.

Refer to "MERS-CoV, rRT-PCR" in the [PHL Microbiology Laboratory Test Menu](#) for detailed instructions on specimen collection and submission instructions.