Fact Sheet: MERS

Updated Oct 2025

What is Middle East Respiratory Syndrome (MERS)

Middle East Respiratory Syndrome (MERS) is a respiratory illness caused by a virus called Middle East Respiratory Syndrome Coronavirus, or MERS-CoV. It has been reported having a wide range of clinical illness ranging from asymptomatic to having severe acute respiratory illness resulting in death, with most reported cases having more severe illness. MERS cases have been reported among children and adults of all ages, though most cases have been found in older adults. It is thought to spread from an infected person's respiratory secretions and likely came from an animal source in the Arabian Peninsula. In addition to humans, MERS-CoV has been found in camels. Countries considered in the Arabian Peninsula 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.

Clinical Presentation & Disease Summary

Transmission:

- Exact route of transmission remains unclear
- Zoonotic transmission: Direct or indirect contact with infected dromedary camels
- Human-to-human transmission: possible and has occurred predominately among close contacts and in health care settings.
- Outside of the healthcare setting, there has been no sustained human-to-human transmission documented.

Incubation Period:

- 2-14 days after exposure to infected person or camel
- Most patients develop symptoms approximately 5 days after exposure

Signs and Symptoms:

- Fever, dyspnea, non-productive cough, chills/rigors, headache, myalgia
- Other signs and symptoms can include: sore throat, coryza (runny nose and/or sneezing), productive cough, dizziness, nausea and vomiting, diarrhea, and abdominal pain.
- Chest radiographic findings: might include unilateral or bilateral patchy densities or opacities, interstitial infiltrates, consolidation, or pleural effusions.

Complications:

- Severe complications include hospitalization, admission to the ICU, rapid progression to pneumonia (within a week of illness onset).
- Rapidly progressive pneumonitis, acute respiratory syndrome (ARDS), refractory hypoxia, respiratory failure, and extrapulmonary complications, including kidney injury, hypotension, hepatitis, and septic shock.
- Hospitalized patients, the median time from onset of symptoms to hospitalization is approximately 4 days.
- Critically ill patients, the median time from onset to ICU admission is approximately 5 days, and median time from onset to death is approximately 12 days.

When to Suspect a Patient has MERS

Suspect MERS in any individual who has a fever and one or more symptoms of MERS (listed above) **AND** one or more of the following exposure risk factors within 2 weeks of symptom onset:

- Travel to / residence in a country known to have circulating MERS. Outbreak map located here
- Known/suspected exposure to ill person with suspected/confirmed MERS
- History of being in a healthcare facility (patient, worker, or visitor) in a country or territory in or near the Arabian Peninsula in which recent health care associated cases of MERS have been identified

Key Steps for Frontline Clinical Staff

Identify
- Assess the patient for signs and symptoms, travel history, and epidemiological criteria.
- For assistance, contact facility Infection Prevention and Control or on-call hospital epidemiologist.

Isolate
- Provide a mask to the patient and initiate prompt isolation and triage. Follow infection control and prevention guidance.

Inform
- Notify dept/facility leadership, Infection Prevention & Control, on-call hospital epidemiologist.
- Notify jurisdictional health department immediately (via the 24-hour Epi-On-Call contact list) and follow jurisdictional protocols for patient assessment.

Infection Prevention and Control

Hand Hygiene

- Perform hand hygiene before and after all patient contact, contact with potentially infectious material, and before putting on and upon removal of PPE, including gloves.
- Use soap and water for at least 20 seconds or use alcohol-based hand rubs. If hands are visibly soiled, use soap and water.

Patient Placement

- Place patient in a single patient **Airborne Infection Isolation Room (AIIR)**. If an AIIR is not available, isolate the patient in a private examination room. Keep the door closed, minimize entry and exit, and avoid entry without appropriate PPE.
- Limit movement of the patient outside of the room. When outside the room, **patient should wear a facemask**.

Transmission-Based Precautions & Personal Protective Equipment

- Adhere to **Airborne + Contact + Eye Protection Precautions in addition to standard precautions**. Use an N95 respirator, gloves, gown, and face shield/goggles.
- Follow Donning and Doffing Checklist
  - Example: NYC Health + Hospitals SP Level 1

Environmental Infection Control

- MERS-CoV is a **Category B infectious substance**: not in a form generally capable of causing permanent disability or life-threatening/fatal disease in healthy humans if exposure occurs.
- MERS-CoV clinical waste can be managed as **regulated medical waste**.
- To allow sufficient time for airborne contaminant removal:
  - If a negative pressure AIIR was NOT used, the room must remain vacant for at least 2 hours.
  - If a negative pressure room AIIR was used, the room should stay vacant for at least 35 minutes.
- Clean and disinfect the patient's care area using an EPA registered disinfectant for appropriate contact times that has a label claim for influenza. Management of laundry, food service utensils, and medical waste should also be performed in accordance with routine procedures.

Diagnostic Testing

- **Consultation and approval from jurisdictional health department is required for disease-specific diagnostic testing.** Call jurisdictional health department 24-hour Epi-On-Call contact.
- Collection of **lower respiratory, upper respiratory and serum specimens for testing is recommended.**

- Respiratory specimens should be collected as soon as possible after symptoms begin – ideally within 7 days.
- CDC laboratory specimen collection can be located here

Treatment and Immunization

- There is currently no specific treatment for MERS-CoV.
- Treatment includes supportive management of signs, symptoms, and complications.

Contact: SystemBiopreparedness@nychhc.org

References:

- CDC MERS Clinical Overview
- CDC MERS Infection Control
- CDC Laboratory Testing
- WHO MERS Fact Sheet