Middle East Respiratory Syndrome Coronavirus (MERS-CoV)

FACT SHEET 13-022-0519

What is MERS-CoV, and where is it found?

Middle East Respiratory Syndrome Coronavirus (MERS-CoV) was first identified in Saudi Arabia in 2012. The virus causes a respiratory illness. Although about 30% of cases are fatal, mild and asymptomatic infections have been reported.

Laboratory-confirmed cases of MERS-CoV have been found in the Arabian Peninsula (see map), with the majority of cases occurring in Saudi Arabia. In addition, a number of countries outside the Arabian Peninsula have identified travel-associated cases.

MERS-CoV may have originated in camels and bats, but this has not been confirmed. MERS-CoV is not caused by the same coronavirus that caused Severe Acute Respiratory Syndrome (SARS) in 2003.

How are people infected with MERS-CoV?

It is unknown how MERS-CoV spreads, though the environment, camels, and bats may play a role. In some cases, MERS-CoV has been shown to spread between close contacts, such as those who provided care for or who spent an extended period of time with an ill individual. There is no evidence of sustained spread of MERS-CoV in community settings. Older persons, those with comorbidities and healthcare workers appear to be at higher risk for contracting MERS-CoV.

What are the symptoms of MERS-CoV infection?

The symptoms of MERS-CoV are similar to those of other severe acute respiratory illnesses. Fever, cough, and shortness of breath are typically present. Not all cases are accompanied by severe illness, as some patients have reported mild respiratory symptoms.

Is there a treatment for MERS-CoV infection?

No specific antiviral treatment is currently recommended, though ribavarin and interferon may be considered. Supportive medical care can help relieve symptoms. In severe cases, treatment is focused on supporting vital organ function.

Arabian Peninsula: Bahrain, Iraq, Iran, Israel, Jordan, Kuwait, Lebanon, Oman, Palestinian territories, Qatar, Saudi Arabia, Syria, the United Arab Emirates (UAE), and Yemen.

How can MERS-CoV be prevented?

There is no vaccine currently available against MERS-CoV. In order to protect yourself from respiratory illnesses, it is advised that you:

- Wash your hands often with soap and water for at least 20 seconds. If soap and water are not available, use an alcohol-based sanitizer (with >60% alcohol).
- Cover your nose and mouth when sneezing, and dispose of the used tissue. Do not reuse tissues.
- Clean and disinfect commonly used surfaces, such as doorknobs, light switches, handrails, or toys.
- Avoid close contact, such as kissing or sharing eating utensils, with sick individuals.
- Avoid touching your eyes, nose, or mouth with unwashed hands.

What should I do if I think I have MERS-CoV?

Seek medical attention immediately if you experience the symptoms described above and have traveled to one or more countries near or in the Arabian Peninsula, or if you have had close contact with someone with MERS-CoV. Be sure to tell your healthcare provider your recent travel history and whether any close contacts also have respiratory symptoms.

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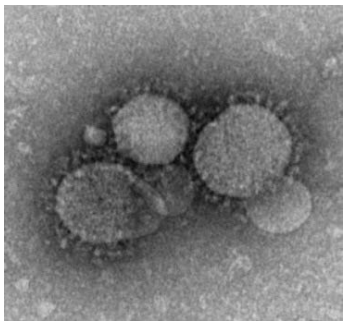
Guidance for Health Professionals:

Who should be evaluated:
Clinicians should use their best judgment when evaluating patients with recent travel to or contact with persons from the Arabian Peninsula. Patients should be managed as being potentially infectious when clinical and epidemiological clues suggest infection, even if initial testing is negative. All close contacts to any confirmed or probable patients under investigation should be monitored for any signs of fever or respiratory symptoms.



MERS-CoV particles seen by negative stain electron microscopy.

SOURCE: CDC (Goldsmith C, Metcalfe M, Tamlin A)

Case Definitions:
A *confirmed case* is a person with laboratory confirmation of MERS-CoV infection. A *probable case* is a patient under investigation with absent or inconclusive laboratory results for MERS-CoV who is a close contact of a laboratory-confirmed MERS-CoV patient.

Laboratory Testing:
A lower respiratory specimen (e.g., sputum), a nasopharygeal/oropharyngeal swab, and serum should all be obtained. A confirmed case requires positive PCR on at least two genomic targets or a single positive target with sequencing on a second. NAMRU-3, USAFSAM, NHRC, LRMC, Tripler AMC, SAAMC, WRNMMC, USAMRIID, and NIDDL (NMRC) all have the ability to test for MERS-CoV, as do all 50 state health laboratories. For additional testing guidance: http://www.cdc.gov/coronavirus/mers/case-def.html#pui.

Infection Control:
Airborne precautions should be applied when evaluating potential MERS-CoV or treating patients with probable or confirmed MERS-CoV. Patients should be placed in an airborne infection isolation room, and any healthcare personnel should wear gloves, gowns, eye protection, and a fit-tested NIOSH-certified disposable N95 filtering respirator. Standard procedures should be followed for cleaning and disinfecting patient rooms or items used while in isolation. For additional guidance: http://www.cdc.gov/coronavirus/mers/infection-prevention-control.html.

Who should be evaluated:	**Confirmed Case:** A person with laboratory confirmation of MERS-CoV infection.
ANY patient with fever (≥38°C, 100.4°F) **AND** cough or symptoms of respiratory illness **AND** either: • Has history of travel within 14 days to countries near or in the Arabian Peninsula, **OR** • Is a close contact with a symptomatic person who developed fever and acute respiratory illness within 14 days of traveling to countries near or in the Arabian Peninsula, **OR** • Is a member of a cluster of patients with severe acute respiratory illness of unknown etiology in which MERS-CoV is being evaluated. **OR ANY** close contact of a probable or confirmed case of MERS-CoV.	**Probable Case:** A patient under investigation with absent or inconclusive laboratory results for MERS-CoV who is a close contact of a laboratory-confirmed MERS-CoV case. **Close Contact:** **A.** Any person who was within the care area for a prolonged period of time while not wearing recommended personal protective equipment **OR** **B.** Any person who had direct contact with infectious secretions while not wearing recommended personal protective equipment.

Where can I get more information on MERS-CoV?

- Centers for Disease Control and Prevention (CDC) website: http://www.cdc.gov/coronavirus/mers/index.html
- World Health Organization (WHO) website: http://www.who.int/csr/disease/coronavirus_infections/en/
- APHC Disease Epidemiology email: usarmy.apg.medcom-phc.mbx.disease-epidemiologyprogram13@mail.mil