

MIDDLE EAST RESPIRATORY SYNDROME (MERS)

MERS is considered an emerging disease, caused by a novel virus (one that has not been identified before), that was first identified in September of 2012. It is caused by a coronavirus, the same type of virus that caused SARS and about 20% of all colds. Although much has been learned about it since it was first diagnosed in a patient, there are still significant gaps in that knowledge. These gaps include how it was introduced, what the source was/is, how it spreads, and how to control and treat it. Until there is a complete understanding of the virus, it will be difficult to completely manage it. Since this is a novel virus, it is of world wide concern since this is the type of disease to cause an outbreak that can become a pandemic.

To date, there have only been two (2) cases of MERS in the U.S., both in 2014 and in health care workers that traveled from Saudi Arabia where they practiced to the U.S. Both were hospitalized with no spread to anyone else and recovered completely. The CDC has developed a case definition to determine when someone needs to be isolated and tested to prevent further spread here or abroad. See the definition here: <https://www.cdc.gov/coronavirus/mers/case-def.html>

World-wide, according to the World Health Organization (WHO), to date there have been a total of 2,123 human cases reported from 27 different countries^{*}; 740 of those have died. MERS infected patients either live in or around the Arabian Peninsula[^] or have traveled to and/or from it. Ten (10) of these countries^{*} are considered to be in the primary area of infection, the remaining 17 countries^{*} are the result of an infected patient traveling. Although some infected patients are found to have had direct contact with camels or camel products such as milk, the exact origin of the virus has not been identified; it is likely to be from an animal, though more research has to be done. There also human-to-human transmission for some of those that have had close contact with or take care of infected people. Some of this person-to-person spread has occurred in hospitals or other health care settings, to other patients, or to staff caring for infected patients. The current case fatality rate is between 30 and 40%. Most of the deaths are in patients with underlying conditions such as heart or lung disease, cancer, diabetes, kidney disease, or other immunocompromise. Anyone can get MERS but those that have these underlying illnesses are more likely to get it or have a more severe case. Cases have had an age range from infants to 99 years old. There is currently no vaccine and no cure; treatment is supportive.

According to the data currently available, the time between exposure and the first signs/symptoms is usually 5-6 days but, in some cases, has ranged from 2-14 days. Transmission between humans is likely to be by the respiratory secretions of an infected person such as coughing or singing or in the handling of those secretions such as housekeeping, suctioning or sampling.

The majority of patients infected with the MERS virus (MERS-CoV) develop a severe respiratory illness that occurs suddenly, although some patients have tested positive for the virus but remain well. Signs & symptoms often include fever, chills/rigors, headache, muscle aches, non-productive cough, shortness of breath/difficulty breathing, although some may not be febrile (i.e. immunocompromised, the very young or old or those on certain meds). Some patients may also present with sore throat, sinus/chest congestion, dizziness, nausea/vomiting, diarrhea, and/or abdominal pain. After the initial presentation of signs & symptoms, many may develop severe complications such as pneumonia and renal (kidney) failure. Some infected patients have very mild symptoms like a cold, a mild upper respiratory infection (URI), or are asymptomatic (no apparent symptoms). Asymptomatic patients are likely still infectious (capable of spreading the disease to another person who becomes infected).

***Countries with MERS cases in/around the Arabian Peninsula (10):** Bahrain, Iran, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, United Arab Emirates (UAE), and Yemen

***Other countries with MERS cases (17):** Algeria, Austria, China, Egypt, France, Germany, Greece, Italy, Malaysia, Netherlands, Philippines, South Korea, Thailand, Tunisia, Turkey, United Kingdom, and the USA

^Countries considered in / around the Arabian Peninsula: Bahrain, Iraq, Iran, Israel, the West Bank & Gaza, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Syria, United Arab Emirates (UAE), and Yemen



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General info about MERS from the CDC:

<https://www.cdc.gov/coronavirus/mers/about/index.html>

General info about MERS from the WHO:

<http://www.who.int/emergencies/mers-cov/en/#content>

FAQ (Frequently Asked Questions & Answers from the CDC:

<https://www.cdc.gov/coronavirus/mers/faq.html>

MERS information for Healthcare Professionals, including EMS specific recommendations:

<https://www.cdc.gov/coronavirus/mers/hcp.html>

<https://www.cdc.gov/coronavirus/mers/hcp/monitoring-movement-guidance.html>

https://www.osha.gov/SLTC/mers/control_prevention.html

<https://www.cdc.gov/coronavirus/mers/preparedness/checklist-provider-preparedness.html>

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