

Information about MERS for health professionals

6 June 2024

Health professionals should be alert to the possibility of Middle East respiratory syndrome (MERS) in unwell travellers returning from the Middle East and obtain a full travel and exposure history. Apply appropriate infection control measures as soon as you suspect MERS and contact your local public health unit immediately.

About MERS

MERS coronavirus (MERS-CoV) is a zoonotic virus that has repeatedly entered the human population via infected dromedary camels in the Middle East. Person-to-person transmission is known to occur, particularly in healthcare settings, and particular attention to infection control is required.

At the end of April 2024, the World Health Organization (WHO) global case count for MERS was **2613** laboratory-confirmed cases since the first cases were reported in April 2012. There have been **941 deaths** (case-fatality ratio of 36%) though this may be an overestimate as mild cases may be missed by existing surveillance systems. The latest situation updates can be found on the [WHO website](#).

All cases have been linked with travel to or residence in Middle Eastern countries.

There is no evidence of ongoing community transmission in any country and only occasional instances of household transmission.

What is MERS-CoV and how does it spread?

MERS-CoV is a zoonotic virus that has repeatedly entered the human population via direct or indirect contact with infected dromedary camels in the Arabian Peninsula, although the mechanism of spread is unclear. MERS-CoV is genetically distinct from other zoonotic coronaviruses, including the severe acute respiratory syndrome coronavirus (SARS-CoV) and the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and appears to behave differently.

Many confirmed cases have occurred in healthcare-associated clusters, and there have been cases in healthcare workers, mainly in hospital settings. Secondary infections have most frequently been associated with healthcare settings but have also occurred amongst family and workplace contacts.

The virus does not seem to transmit easily, unless there is close contact, such as occurs when providing unprotected care to a patient. The conditions or procedures that lead to transmission in hospital are not well known. From observational studies, transmission in health-care settings is believed to have occurred before adequate infection prevention and control procedures were applied and cases were isolated. A joint mission to the Republic of Korea (where in 2015, the only large outbreak outside of the Middle East occurred) assessed that factors contributing to the outbreak were a lack of awareness about MERS, sub-optimal infection control, overcrowding in emergency departments, multi-bedrooms, the practice of doctor-shopping

or seeking care at multiple hospitals and the practice of having many visitors including family members staying in the room as carers.

MERS has so far not been demonstrated to transmit from asymptomatic cases to their contacts.

Health professionals are encouraged to follow the recommended infection prevention measures as soon as MERS is suspected so as to minimise the risk of transmission.

Symptoms

Sporadic infections have typically presented with, or later developed, severe acute lower respiratory disease, with radiological, clinical or histopathological evidence of pneumonia and pneumonitis. Symptoms have included fever, cough, shortness of breath, and breathing difficulties. Sporadic cases have predominantly been adult males with underlying medical conditions that may have predisposed them to infection, or may have increased the severity of the disease, including diabetes, kidney disease, hypertension, asthma and lung diseases, cancer and cardiovascular disease. Health professionals should be aware of the possibility of atypical presentations including fever, diarrhoea, muscle pain, nausea and vomiting.

Secondary infections acquired through person-to-person spread have occurred in people of all ages, may frequently have mild influenza-like symptoms or be asymptomatic.

Approximately 36% of patients with MERS have died, but this may be an overestimate of the true mortality rate, as mild cases of MERS may be missed by existing surveillance systems. Until more is known about the disease, the case fatality rates are counted only amongst laboratory-confirmed cases.

Pre-travel advice, travel restrictions, periods of peak travel

The WHO does not currently recommend any restrictions to travel due to MERS.

Umrah and Hajj including vaccination recommendations

Health professionals should be aware that many Muslims from Australia travel to Saudi Arabia to undertake the Umrah throughout the year but particularly during the period at the end of Ramadan and for the Hajj, currently around June/July.

The Saudi Arabian Ministry of Health has [specific vaccination requirements](#) for Umrah and Hajj pilgrims. In addition to these requirements, the Australian Government Department of Health and Aged Care recommends all travellers are up to date with vaccinations, including routine vaccinations (such as tetanus, diphtheria, pertussis, measles, mumps, rubella, influenza and polio vaccinations), and vaccines required for occupational risk, lifestyle risks or underlying medical conditions.

There is no vaccine available for MERS.

Pre-travel advice

All people travelling to the Middle East should take general precautions when visiting farms and markets where camels might be present. Travellers should wash their hands often, including before eating, and after touching animals and adhere to food safety and hygiene measures. Hand sanitiser may be used when soap and water is not available. Close contact with people or animals that are unwell should be avoided. In addition to the usual food and water precautions, travellers should avoid consuming raw or unpasteurised camel products, including milk, urine and meat.

People with underlying illnesses (such as diabetes, renal failure, chronic lung disease, and the immunocompromised) are considered at high risk of severe disease from MERS and should consult their health care provider before travelling to discuss the risks. In addition to the advice for all travellers, this group of people should avoid all contact with dromedary camels.

See www.health.gov.au/MERS for an information card for travellers.

Anyone travelling to affected areas to work or volunteer in a healthcare setting should seek advice and ensure they are fully informed about infection control procedures and recommendations.

Who should be tested for MERS

The likelihood of a case of pneumonia or pneumonitis in Australia being due to MERS is very low, and health professionals should investigate as usual, but be aware of the possibility of MERS in patients with a compatible exposure history.

Testing and initial infection control and public health actions for MERS should be undertaken for persons with:

Fever AND pneumonia or pneumonitis or acute respiratory distress syndrome (ARDS) AND

- history of travel from or residence in affected countries in the Middle East¹ within 14 days before symptom onset, OR
- contact (within the incubation period of 14 days) with a symptomatic traveller who developed fever and acute respiratory illness of unknown aetiology within 14 days after travelling from affected countries in the Middle East, OR
- contact (within the incubation period of 14 days) with a symptomatic traveller who developed fever and acute respiratory illness of unknown aetiology within 14 days after travelling from a region with a known MERS outbreak at that time

OR

- Fever AND symptoms of respiratory illness (e.g. cough, shortness of breath) AND
- being in a healthcare facility (as a patient, worker, or visitor) in a country or territory in which recent healthcare-associated cases of MERS have been identified³ within 14 days before symptom onset, OR
- being in contact with camels or raw camel products within affected countries in the Middle East within 14 days before symptom onset.

OR

- Fever OR acute symptoms compatible with MERS AND onset within 14 days after contact with a probable or confirmed MERS case while the case was ill.

OR

- Testing and initial infection control and public health actions for MERS should also be considered, in consultation with the public health unit, where there is a cluster of patients with severe acute respiratory illness of unknown aetiology following routine microbiological investigation, particularly where the cluster includes health care workers.

Further information

See our information on how to manage a suspected MERS case in a [general practice setting](#).

¹ <http://www.emro.who.int/health-topics/mers-cov/mers-outbreaks.html>