

Advice to Health Care Workers caring for patients with MERS-CoV infection

Statement of the Health Security Committee (HSC)* based on scientific input by the European Centre for Disease Prevention and Control (ECDC)

* The statement is based on Article 11 "Coordination of response" of Decision 1082/2013/EU on serious cross border health threats and can be adapted to the needs and circumstances of Member States.

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Since it was first identified in Saudi Arabia in September 2012, more than 1 000 cases of Middle East respiratory syndrome coronavirus (MERS-CoV) infection have been detected in over 20 countries. In Europe, seven countries have reported confirmed cases, all with direct or indirect connection with the Middle East. The clinical presentation of MERS coronavirus infection ranges from asymptomatic to very severe pneumonia with acute respiratory distress syndrome, septic shock and multi-organ failure resulting in death. The clinical course is more severe in immunocompromised patients. There is growing evidence that the dromedary camel is a host species for the virus and that camels play an important role as a source of human infection. Although it is likely that zoonotic transmission is the starting point of most clusters, human-to-human transmission is the dominant mode of transmission for MERS-CoV, and almost all new cases are generated in healthcare facilities or among family members. Nosocomial transmission has been a hallmark of MERS-CoV infection, and the majority of cases have been reported from hospital outbreaks in Saudi Arabia, the United Arab Emirates (UAE) and most recently in South Korea. It is expected that small numbers of cases will continue to present to health care services in the EU as a result of: (a) medical transfers of MERS-CoV infected patients into the EU for specialist care; (b) patients who acquired MERS-CoV while visiting the affected area and develop the infection in the EU; and (c) patients who are exposed to and infected with MERS-CoV through contacts with confirmed cases in the EU (secondary transmission in the EU).

Advice on infection control

This is a summary of the recommended technical measures for reducing the risk of transmission of MERS-CoV in health care settings and laboratories in the EU for consideration by national contact points. It draws on, and adapts to the EU situation, interim advice produced by WHO (Infection prevention and control during health care for probable or confirmed cases of Middle East respiratory syndrome coronavirus (MERS-CoV) infection. Interim guidance, 4 June 2015. Available from:

http://apps.who.int/iris/bitstream/10665/174652/1/WHO_MERS_IPC_15.1_eng.pdf?ua=1A). The highest risk of health care associated transmission is in the absence of standard precautions, when basic infection prevention and control measures for respiratory infections are not in place, and before MERS-CoV infection has been confirmed. The summary of the advice follows:

Standard precautions (hand hygiene and use of personal protective equipment (PPE) to avoid direct contact with patients' blood, non-intact skin, body fluids and secretions, including respiratory secretions) should be applied for all patients.

Early detection of MERS-CoV infection among travellers exposed to camels or healthcare facilities in the Middle East remains essential. The outbreak in South Korea highlighted the continued risk of healthcare-associated transmission and the need for timely diagnosis and implementation of prevention and control measures, although the public health measures taken have now been effective in interrupting the chains of transmission and controlling the outbreak in South Korea.

Travellers returning from the Middle East should be made aware that if they develop respiratory symptoms or diarrhoea, either during travel or up to 14 days after their return, they should seek medical attention and report their travel history.

A patient presenting with severe acute respiratory disease in the EU and having in the last 14 days been in contact with MERS patients, healthcare services or camels in the Middle East should be investigated for MERS-CoV infection. The patient should be separated from other patients in waiting areas and in-patient settings and wear a disposable surgical or medical procedure mask.

Cases of MERS-CoV infection requiring admission should be admitted directly to negative-pressure single rooms, if available. If this is not possible, then a single room with en-suite facilities should be used. Positive pressure rooms should not be used.

Health care personnel providing care for cases of MERS-CoV infection should:

- Use personal protective equipment that is appropriate for the exposure risk defined by a pre-assessment of the workplace and the planned interventions: if airborne exposure cannot be ruled out PPE should include respiratory protection by use of filters with a specification of FFP2 or FFP3; if only droplet exposure is expected and respirators are not available a surgical or medical procedure mask with the additional classification IIR (splash resistance to blood and body fluids) can be considered,
- Use eye protection (i.e. goggles or face shield),
- Use gown and gloves;
- Self-monitor for symptoms.

The WHO interim guidance on Infection prevention and control during health care for probable or confirmed cases of Middle East respiratory syndrome coronavirus (MERS-CoV) infection (4 June 2015) should be consulted for more detailed guidance on other aspects of infection control. Available from: http://apps.who.int/iris/bitstream/10665/174652/1/WHO_MERS_IPC_15.1_eng.pdf?ua=1A.

A record of all staff providing care for **confirmed** MERS-CoV cases must be maintained. Staff providing care to confirmed MERS-CoV cases and staff who have been exposed to cases before implementation of infection control measures, should be vigilant for any respiratory symptoms in the 14 days following the last exposure to a **confirmed** case, and should seek testing and thereafter self-isolate if they become unwell.

Aerosol-generating procedures including all airway management procedures, such as tracheal intubation, broncho-alveolar lavage, other diagnostic airway procedures and manual ventilation, require particular protection measures. The number of persons in the room should be limited to a minimum during such procedures and all persons present should wear:

- A well-fitted FFP3 respirator;
- Tight-fitting eye protection;
- Gloves;
- Long-sleeved impermeable protective gowns.

All specimens collected for laboratory investigation should be regarded as potentially infectious, and health care workers who collect or transport clinical specimens should adhere rigorously to Standard Precautions to minimize the possibility of exposure to pathogens. The WHO Aide-memoire on Standard Precautions in Health Care is available from: http://www.who.int/csr/resources/publications/EPR_AM2_E7.pdf

Laboratories should adhere to guidance in these two documents:

The European Committee for Standardisation: CWA15793 Laboratory Biorisk Management, 2011, available from: <http://www.cen.eu/CEN/sectors/technicalcommitteesworkshops/workshops/Pages/ws31.aspx>, and

The World Health Organization: Laboratory testing for Middle East Respiratory Syndrome Coronavirus. Interim guidance of June 2015, available from:

http://www.who.int/iris/bitstream/10665/176982/http://apps.who.int/iris/bitstream/10665/176982/1/WHO_MERS_LAB_15.1_eng.pdf?ua=1

The duration of infectivity for MERS-CoV patients remain unknown. Critically ill patients can shed MERS-CoV for long periods and viral detection tests should assist in the decision on when to discontinue additional precautions for hospitalised patients.

The Health Security Committee will re-evaluate the evidence and situation on a regular basis and revise this statement accordingly.