

## Infection Prevention and Control Precautions when Caring for Patients with Suspected, Probable, or Confirmed MERS-CoV Infection

(As of June 2015)

- For patients with suspected, probable, or confirmed MERS-CoV infection who are not critically ill, standard, contact, and **droplet** precautions are recommended for management.
- For patients who are critically ill (e.g. pneumonia with respiratory distress or hypoxemia), standard, contact, and **airborne precautions** are recommended due to the high likelihood of requiring aerosol-generating procedures.
- Standard, contact, and airborne precautions should be used for all (critically or non-critically ill) patients when anticipating or performing aerosol-generating procedures which may be associated with an increased risk of infection transmission (including both elective procedures such as bronchoscopy, sputum induction, elective intubation and extubation, and emergency procedures such as cardiopulmonary resuscitation, emergency intubation, open suctioning of airways, manual ventilation via umbo bagging through a mask before intubation).
- Selected components of recommended precautions for prevention of MERS-CoV transmission
- **Placement:**
  - Place patients with suspected, probable, or confirmed MERS-CoV infection who are:
    - **Not critically ill** in single patient rooms in an area that is clearly segregated from other patient-care areas. The role of HEPA filter is unproven. If available, a portable HEPA filter could be used, turned on to the maximum power, and be placed at the head side of the patient's bed.
    - Aerosol generating procedures should be performed in a negative pressure room.
    - **Critically ill** (e.g. pneumonia with respiratory distress or hypoxemia) in Airborne Infection Isolation rooms (Negative Pressure Rooms) due to the high likelihood of requiring aerosol-generating procedures.

- When negative pressure rooms are not available, place the patients in adequately ventilated single rooms. When available, a portable HEPA filter, turned on to the maximum power, should be placed at the head side of the patient's bed.
- When single rooms are not available, place patients with the same diagnosis together (cohorting). If this is not possible, place patient beds at least 1.2 meters apart.
- Avoid the movement and transport of patients out of the isolation room or area unless medically necessary. The use of designated portable X-ray, ultrasound, echocardiogram, and other important diagnostic machines is recommended when possible. If transport is required:
  - Patients should wear a surgical mask to contain secretions
  - Use routes of transport that minimize exposures of staff, other patients, and visitors.
  - Notify the receiving area of the patient's diagnosis and necessary precautions as soon as possible before the patient's arrival.
  - Ensure that healthcare workers (HCWs) who are transporting patients wear appropriate PPE and perform hand hygiene afterwards.
- **Personal Protective Equipment (PPE) for Healthcare Workers (HCWs)**
  - The following PPE should be worn by HCWs upon entry into patient rooms or care areas in the respected order:
    1. Gowns (clean, non-sterile, long-sleeved disposable gown)
    2. Surgical mask.
    3. Eye protection (goggles or face shield)
    4. Gloves
  - For patients under airborne precautions, all persons entering the patient's room should wear a fit-tested, seal checked N-95 mask instead of a medical mask. For those who failed the fit testing of N95 masks (e.g those with beards), an alternative respirator, such as a powered air-purifying respirator, should be used.
  - Upon exit from the patient room or care area, PPE should be removed and discarded.

- Except for N95 masks, remove PPE at doorway or in anteroom. Remove N95 mask after leaving patient room and closing door.
- Remove PPE in the following sequence: 1. Gloves, 2. Goggles or face shield, 3. Gown and 4. Mask or respirator.
- You should note and observe the following:
  - **Gloves**
    - Outside of gloves is contaminated
    - Grasp outside of glove with opposite gloved hand; peel off
    - Hold removed glove in gloved hand
    - Slide fingers of ungloved hand under remaining glove at wrist
    - Peel glove off over first glove
    - Discard gloves in waste container
  - **Goggles or face shield**
    - Outside of goggles or face shield is contaminated
    - To remove, handle by head band or ear pieces
    - Place in designated receptacle for reprocessing or in waste container
  - **Gown**
    - Gown front and sleeves are contaminated
    - Unfasten ties
    - Pull away from neck and shoulders, touching inside of gown only, turn gown inside out then fold or roll into a bundle and discard
  - **Surgical or N95 masks**
    - Front of mask is contaminated -DO NOT TOUCH
    - Grasp bottom, then top ties or elastics and remove
    - Discard in waste container
    - Never wear a surgical mask under the N95 mask as this prevents proper fitting and sealing of the N95 mask thus decreasing its efficacy.
    - For female staff who wear veils, the N95 mask should always be placed directly on the face behind the veil and not over the

veil. In this instance, a face-shield should also be used along with the mask to protect the veil from droplet sprays.

- Perform hand hygiene before and after contact with the patient or his/her surroundings and immediately after removal of PPE.
- If possible, use either disposable equipment or dedicated equipment (e.g. stethoscopes, blood pressure cuffs and thermometers).
- If equipment needs to be shared among patients, clean and disinfect it after each patient use.
- HCWs should refrain from touching their eyes, nose or mouth with potentially contaminated gloved or ungloved hands.
- **Environmental Infection Control**
  - Follow standard procedures, per hospital policy and manufacturers' instructions, for cleaning and/or disinfection of:
    - Environmental surfaces and equipment
    - Textiles and laundry
    - Food utensils and dishware
    - Clean and disinfect patient-contact surfaces (e.g. bed and machines) after use
  - Limit the number of HCWs, family members and visitors in contact with a patient with probable or confirmed MERS-CoV infection.
  - To the extent possible, assign probable or confirmed cases to be cared for exclusively by a group of skilled HCWs and housekeepers both for continuity of care and to reduce opportunities for inadvertent infection control breaches that could result in unprotected exposure.
  - Family members and visitors in contact with a patient should be limited to those essential for patient support and should be trained on the risk of transmission and on the use of the same infection control precautions as HCWs who are providing routine care. Further training may be needed in settings where hospitalized patients are often cared for by family members (sitters).