

INVESTIGATION AND PUBLIC HEALTH MANAGEMENT OF POSSIBLE CASES OF SEVERE ACUTE RESPIRATORY ILLNESS ASSOCIATED WITH MERS-CoV

POSSIBLE CASE

Any person with severe acute respiratory infection: Symptoms of fever ($\geq 38^{\circ}\text{C}$) or history of fever, and cough

AND

With evidence of pulmonary parenchymal disease (e.g. clinical or radiological evidence of pneumonia or Acute Respiratory Distress Syndrome (ARDS))

AND

Not already explained by any other infection or aetiology¹ (all clinically indicated tests for community/hospital acquired pneumonia performed²). Clinicians should be alert to the possibility of atypical presentations of MERS-CoV in patients who are immunocompromised.

OR

Other severe/life threatening illness suggestive of an infectious process

AND AT LEAST ONE OF THE FOLLOWING:

1. History of travel to, or residence in an area where infection with MERS-CoV could have been acquired³ in the 14 days before symptom onset

OR

2. Close contact⁴ during the 14 days before onset of illness with a confirmed case of MERS-CoV infection while the case was symptomatic

OR

3. Healthcare worker based in ICU caring for patients with severe acute respiratory infection, regardless of place of residence or history of travel or use of PPE

OR

4. Part of a cluster⁵ of two or more epidemiologically linked cases within a two week period requiring ICU admission, regardless of place of residence or history of travel, and not already explained by other infection or aetiology.

MEETS POSSIBLE CASE DEFINITION

Hospitalise possible cases

Clinician/Microbiologist

- A risk assessment should be undertaken on each possible case. Use clinical judgement to assess the level of risk.
- notify local Department of Public Health and the National Virus Reference Laboratory (NVRL)
- manage the patient according to infection prevention and control guidance*
- ensure nose and throat swabs in viral transport media (VTM), and sputum sample are collected and sent to the NVRL*

Regional Department of Public Health

- Undertake a risk assessment
- if a cluster is suspected, establish if there is an epidemiological link between cases
- inform HPSC by phone
- collect possible case data set (CASE Form P1&2) and fax form to HPSC @ 01-8561299

NVRL INITIAL TEST
NEGATIVE FOR MERS-CoV

NOT A
CASE

NVRL INITIAL TEST POSITIVE FOR MERS-CoV

•NVRL - inform clinician, regional Department of Public Health and HPSC

•Clinician/Microbiologist - Manage the patient according to infection prevention and control advice*
- Discuss with the National Isolation Unit (NIU). Contact switch at Mater Hospital 01 8032000 & ask for ID consultant on call.

•Regional Department of Public Health

- inform HPSC of positive test result by phone
- identify and collate list of close contacts* and
- send list via encrypted email to HPSC (healthprotectionhpsc@hse.ie)

NVRL CONFIRMATORY TEST
NEGATIVE FOR MERS-CoV

NOT A
CASE

ADDITIONALLY FOLLOW "HPSC MERS-CoV CLOSE CONTACT ALGORITHM"

NVRL CONFIRMATORY TEST POSITIVE FOR MERS-CoV = CONFIRMED CASE

•Clinician/Microbiologist - collect appropriate samples (upper & lower resp tract samples, serum & EDTA blood, and in addition, for hospitalised patients, urine & faeces) and send to NVRL.

•Regional Department of Public Health - complete confirmed case form (CASE Form p1-4) and fax form to HPSC @ 01-8561299.

FOLLOW UP

•Clinician/Microbiologist - ensure appropriate sequential follow up samples are taken after discussion with the incident control team, and sent to NVRL.

•Regional Department of Public Health - complete confirmed case follow-up (CASE Form p4) 14-21 days after 1st exposure - and fax form to HPSC @ 01-8561299

¹ If the patient has an alternative aetiology, but this does not fully explain the presentation and/or clinical course, then the patient should be considered a possible case and tested for MERS-CoV.

² Testing should be according to local guidance for management of community acquired pneumonia. Examples of other aetiologies include *S. pneumoniae*, *L. pneumophila*, other recognised primary bacterial pneumonias, influenza and RSV. It is not necessary to wait for all test results for other pathogens before testing for MERS-CoV.

³ Bahrain, Egypt, Iran, Iraq, Jordan, Kingdom of Saudi Arabia, Kuwait, Lebanon, Oman, Qatar, United Arab Emirates and Yemen

⁴ Close contact is defined as:

- prolonged face-to-face contact (>15 minutes) with a symptomatic confirmed case in a household or other closed setting OR
- healthcare worker who provided direct clinical or personal care or examination of a symptomatic confirmed case OR
- Hospital visitor, to a possible/confirmed case. Contacts will be identified following a risk assessment.

⁵ A cluster is defined as: 2 or more people with onset of symptoms in the same 14 day period and who are associated with a specific setting, such as a classroom, workplace, household, extended family, hospital or other residential institution.

For all email contact with HPSC,
please use
healthprotectionhpsc@hse.ie

ALGORITHM FOR PUBLIC HEALTH INVESTIGATION AND MANAGEMENT OF CLOSE CONTACTS OF MERS-CoV CASES

CLOSE CONTACT¹ OF A CONFIRMED CASE OF MERS-CoV

BASELINE
Contact **CURRENTLY ILL** with
acute respiratory symptoms (fever
or cough) that developed **WITHIN**
14 DAYS OF EXPOSURE

**TREAT AS A SYMPTOMATIC
CONTACT²**

BASELINE Contact **IS NOT CURRENTLY ILL**
with acute respiratory symptoms that developed
within 14 days of exposure

- **Regional Departments of Public Health**
- collect baseline data on close contacts¹
(**CONTACT Form p1&2**)
- **send via encrypted email** to HPSC
(healthprotectionhpsc@hse.ie)
- discuss with HPSC whether baseline clotted
blood sample is required. If so, ensure sample is
collected and sent to NVRL.

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Baseline clotted blood sample
should be taken asap and ideally
within 7 days of exposure.
Follow-up sample should be taken
at least 21 days after baseline
sample.
If more than 28 days have passed
since exposure, only a single
serological sample is required.
NB: serological samples are not
required from children aged under
5yrs.

Contact **becomes ill with acute respiratory
symptoms** (fever or cough) **within 14 days
of last exposure** with confirmed case
TREAT AS A SYMPTOMATIC CONTACT²

Contact **remains free of respiratory
symptoms** in 14 days since last exposure to
confirmed case

SYMPTOMATIC CONTACT

- Treat as a possible case
- Ensure patient self isolates if hospital admission not required
- Inform HPSC by phone and **encrypted email** (healthprotectionhpsc@hse.ie)
- Collect baseline data if not already completed (**CONTACT Form p3**) - **send via encrypted email** to HPSC (healthprotectionhpsc@hse.ie)
- If hospitalised follow infection prevention and control precautions for a confirmed MERS-CoV case until testing results available
- ensure the following samples are collected (see lab guidance³) using appropriate **PPE*** (see infection prevention and control advice³)
 - nose and throat swabs in viral transport media (VTM), and sputum sample; send to NVRL (warn by telephone) for seasonal respiratory virus screen and MERS-CoV testing
 - baseline clotted blood, if not already taken; send to NVRL

IF POSITIVE FOR MERS-CoV, PATIENT BECOMES A CONFIRMED CASE - FOLLOW "HPSC CASE MANAGEMENT ALGORITHM"

**IF NEGATIVE
FOR
MERS-CoV**

FOLLOW UP
• Complete contact follow-up
(**CONTACT Form p3**) **14 days since
last exposure** and **send via
encrypted email** to HPSC
(healthprotectionhpsc@hse.ie)

- If required ensure clotted blood
sample is taken **at least 21 days
since baseline sample** and sent to
NVRL.

¹ Close contact definition (from date of illness onset in index case and throughout their symptomatic period).
² Any person who had prolonged face-to-face contact (>15 minutes) with a symptomatic confirmed case of MERS-CoV in a household or other closed setting.
³ Health care worker who provided direct clinical or personal care or examination of a symptomatic confirmed case of MERS-CoV.
⁴ Hospital visitor, to a confirmed case.
⁵ NB: If there is no possibility of laboratory confirmation because the patient or samples are not available and the symptoms are not already explained by any other infection or aetiology, the symptomatic contact becomes a probable case (see WHO interim recommendations for further details) http://www.who.int/csr/disease/coronavirus_infections/InterimRevisedSurveillanceRecommendations_nCoVInfection_03Dec12.pdf
⁶ MERS-CoV guidance available at: <http://www.hpsc.ie/hpsc/A-Z/Respiratory/CoronavirusInfections/Guidance/>
⁷ PPE: Surgical mask, eye protection, long sleeved fluid repellent gown and gloves