

Communicable Disease Advisory:**Severe Acute Respiratory Infection,
including MERS-CoV***From the Medical Officers of Health*

March 29, 2018

Context

Middle East Respiratory Syndrome (MERS-CoV), a novel coronavirus related to SARS, is an emerging viral pathogen that can cause Severe Acute Respiratory Infection (SARI).¹ Human illness from MERS-CoV was first reported in Saudi Arabia in 2012. Globally, since September 2012, the World Health Organization (WHO) has been notified of 2144 confirmed cases of MERS-CoV in 27 countries, including at least 750 related deaths, a case fatality rate of 35%. Mechanisms of respiratory transmission and the role of environmental surface contamination in transmission are still being investigated. The virus does not appear to be spread easily from person to person. Those at increased risk are household contacts, co-workers, or healthcare workers. Outbreaks in healthcare facilities continue to occur as recently as July 2017. To date, the largest outbreak outside of the Middle East still remains an outbreak in South Korea in 2015 where a single imported case initiated an outbreak with 186 cases and 36 deaths all associated with transmission in healthcare facilities. The outbreak in Korea exemplifies what can happen when recognition is delayed and appropriate infection control measures are not implemented at the outset. No cases of MERS-CoV have been reported in Canada.

Middle East Respiratory Syndrome (MERS-CoV) is only one emerging pathogen that can cause **Severe Acute Respiratory Infection (SARI)**—see www.phac-aspc.gc.ca/eri-ire/index-eng.php. Other pathogens include variant influenza strains such as H7N9 and H5N1. **Healthcare providers must be prepared to identify and institute precautions for all patients with acute respiratory infection and consider SARI in returned travellers or individuals in contact with them. Note: The zone MOH is your point of first contact in all suspect MERS-CoV and variant influenza cases.**

SARI Clinical Presentation:

Illness criteria: Fever (over 38.0°C) AND new onset (or exacerbation of chronic) cough or breathing difficulty AND clinical and radiological evidence of pulmonary parenchymal disease requiring hospitalization.

Exposure criteria: History of travel to countries where emerging respiratory illnesses such as MERS-CoV¹ or variant influenza strains have been reported OR close contact² with a confirmed or probable case within the 10-14 days prior to symptom onset.

Actions:

- Implement Infection Prevention and Control (IPC) measures **immediately**, including **contact and droplet precautions**³ for any patient meeting the exposure and illness criteria.
- Implement **airborne precautions**⁴ if **aerosol-generating medical procedures (AGMP)**⁵ are performed. Wear fit-tested and fit-checked N95 respirator/mask and use engineering controls (negative pressure room).
- **Contact your Zone Medical Officer of Health (MOH)** for notification and testing.

Laboratory testing:

- **All requests for SARI testing at ProVLab must be coordinated through the local MOH.** You will be advised about specimen transport accordingly.
- Collect the appropriate clinical specimens and write “Suspect MERS-CoV” or “Suspect variant influenza” on ProVLab requisitions:
 - One nasopharyngeal swab (in viral transport media) for respiratory panel
 - One throat swab (in viral transport media)
 - One or more lower respiratory specimens as clinically indicated and possible: Sputum (consider induced sputum (using airborne precautions) if patients do not have a productive cough and cannot produce a sputum sample), or endotracheal secretions or bronchoalveolar lavage (BAL) in sealed sterile containers. Do not send specimens in traps with tubing.
- Refer to ProVLab Guide to Services for more information: <http://www.albertahealthservices.ca/assets/wf/plab/wf-provlab-guide-to-services.pdf>

¹ **MERS CoV**:. Latest updates: see WHO website at <http://www.who.int/emergencies/mers-cov/en/>. For a map of confirmed global cases see Maps and Epicurves under General Information which can also be found at: http://www.who.int/csr/disease/coronavirus_infections/maps-epicurves/en/

² A **close contact** is defined as a person who provided care for the patient, including health care workers, family members or other caregivers, or who had other similarly close physical contact **OR** who stayed at the same place (e.g. lived with or otherwise had close prolonged contact within two metres) as a probable or confirmed case while the case was ill.

³ **Contact and Droplet precautions:** see <http://www.albertahealthservices.ca/ipc/hi-ipc-contact-and-droplet-precautions-info.pdf>

⁴ **Airborne and Contact Precautions:** see <https://www.albertahealthservices.ca/ipc/hi-ipc-airborne-and-contact-precautions-info.pdf>

⁵ **AGMP Procedures:** see <https://www.albertahealthservices.ca/assets/healthinfo/diseases/hi-dis-flu-pcra-algorithm-poster.pdf>