

## FIVE THINGS TO KNOW ABOUT ...

## Middle East respiratory syndrome

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**Middle East respiratory syndrome coronavirus (MERS-CoV) is a new human coronavirus that causes severe respiratory illness**

Genetic studies suggest that MERS-CoV, which is similar to severe acute respiratory syndrome (SARS) CoV, evolved from bat coronaviruses to cause human infection in 2012.<sup>1</sup> Of the first 1082 cases, 1054 (97%) were identified in the Arabian Peninsula, with 97% occurring in the Kingdom of Saudi Arabia (Appendix 1, [www.cmaj.ca/lookup/suppl/doi:10.1503/cmaj.140951/-/DC1](http://www.cmaj.ca/lookup/suppl/doi:10.1503/cmaj.140951/-/DC1)).<sup>2</sup>

**The syndrome typically presents as a febrile respiratory illness that progresses to severe pneumonia**

Fever appears after a median incubation period of 5 (95% confidence interval 1.9–14.7) days. Pneumonia develops in about two-thirds of cases.<sup>4,6</sup> One-third of patients experience gastrointestinal symptoms.<sup>6</sup> The case fatality rate is about 40%,<sup>2</sup> with 72% of deaths occurring in patients older than 50 years<sup>6</sup> and 87% occurring in those with underlying chronic illness.<sup>4,6</sup> Disease in children is rare.<sup>6</sup>

#### Resources

- World Health Organization: [www.who.int/csr/disease/coronavirus\\_infections/en](http://www.who.int/csr/disease/coronavirus_infections/en)
- European Centre for Disease Prevention and Control: [ecdc.europa.eu/en/healthtopics/coronavirus\\_infections/Pages/index.aspx](http://ecdc.europa.eu/en/healthtopics/coronavirus_infections/Pages/index.aspx)
- Centers for Disease Control and Prevention: [www.cdc.gov/coronavirus/mers/index.html](http://www.cdc.gov/coronavirus/mers/index.html)
- Public Health Agency of Canada: [www.phac-aspc.gc.ca/eri-ire/coronavirus/index-eng.php](http://www.phac-aspc.gc.ca/eri-ire/coronavirus/index-eng.php)
- Ministry of Health, Kingdom of Saudi Arabia: [www.moh.gov.sa/en/coronanew](http://www.moh.gov.sa/en/coronanew)

**All cases of MERS have been acquired in the Arabian Peninsula or have occurred in close contacts of a person infected in the Middle East**

Travellers have imported MERS from the Arabian Peninsula into 14 countries in four continents.<sup>2</sup> Outside of the Middle East, case finding for MERS relies on eliciting a history of recent travel from the Arabian Peninsula in patients presenting with acute respiratory illness, as well as asking about travel and illness in their household contacts.<sup>6</sup>

#### References

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**Most cases of MERS have occurred as part of hospital outbreaks**

Evidence exists for infection in camels and camel-to-human transmission of MERS-CoV.<sup>3</sup> However, almost all cases are a result of transmission in hospitals from patients with unrecognized illness to other patients, visitors and health care workers who are in close contact.<sup>4</sup> Household transmission may also occur.<sup>5</sup>

**Surveillance and infection control measures are critical to the global strategy to prevent MERS**

The syndrome is diagnosed by submitting nasopharyngeal swabs, sputum or bronchoalveolar lavage specimens from patients with relevant travel or exposure histories to public health laboratories for polymerase chain reaction testing to detect MERS-CoV.<sup>4,6</sup> In health care settings, prompt diagnosis, private room accommodation, and droplet and contact precautions prevent transmission.<sup>2,4,6</sup> Community transmission is uncommon. There are no specific treatments or vaccines for MERS.

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