



## **Coronavirus disease 2019 (COVID-19): Fact Sheet for Respiratory Therapists**

This information sheet should not replace local policies and procedures, clinical guidelines or the clinical judgement of the health care provider. It summarizes some key information relating to the coronavirus disease 2019. Please refer to the referenced documents for additional details.

This document uses the updated name for this virus, as per the February 11, 2020 renaming by the World Health Organization. Where external documents continue to use “novel coronavirus”, “2019-nCoV” or “nCoV”, this has not been altered.

### **What are coronaviruses?<sup>1, 12</sup>**

Coronaviruses are common viruses globally, and seven types have been identified as those that can cause diseases in humans. Typically, coronaviruses cause mild to moderate illness. Three types have been known to cause severe respiratory illness: Severe Acute Respiratory Syndrome (SARS-CoV, SARS), Middle East Respiratory Syndrome (MERS-CoV, MERS) and the 2019 coronavirus disease 2019 (COVID-19). Coronaviruses are transmitted via respiratory droplets, close personal contact and contact with contaminated surfaces.

### **What is the coronavirus disease 2019 (COVID-19)?<sup>2</sup>**

This is a newly discovered strain of coronavirus. This coronavirus disease 2019 was discovered in December 2019 in association with a pneumonia outbreak in Wuhan City, China. It is believed that transmission may occur via contact and through respiratory droplets as it does with SARS and MERS, however further data is required to confirm the means of transmission. Originally thought to have spread solely from animal to human, person-to-person transmission has occurred.

### **When should I suspect someone may be infected with COVID-19?**

There is limited data on the range of clinical illness associated with COVID-19 infection, however the World Health Organization (WHO) and Public Health Agency of Canada note that persons infected with COVID-19 may present with mild to severe pneumonia, ARDS, sepsis and septic shock.<sup>3</sup> Most people present with a fever and a dry cough.<sup>12, 17</sup> Malaise, shortness of breath and respiratory distress are also symptoms. The US Centers for Disease Control (CDC) notes that fever may be subjective or confirmed.<sup>4</sup>

Less commonly-seen symptoms of COVID-19 include nasal congestion, aches and pains, headache, conjunctivitis, sore throat, gastrointestinal symptoms, loss of taste or smell, skin rash or discoloration of fingers and toes.<sup>23</sup>



Recent literature suggests that COVID-19 lung disease presents in a manner similar to high altitude pulmonary edema (HAPE),<sup>18</sup> but other front line clinicians have responded that COVID-19 lung disease is not purely HAPE and may therefore require a different treatment approach.<sup>19</sup> The Toronto Centre of Excellence in Mechanical Ventilation has a good discussion of this in its [COVID-19 Message to Respiratory Therapists](#).<sup>20</sup>

A detailed travel history should be taken in people presenting with symptoms of COVID-19 infection. Evidence indicates that symptoms may appear for up to 14 days after exposure to the virus.<sup>16</sup>

Case definitions have changed throughout the global response to the COVID-10 outbreak. For current case definitions are available via the [World Health Organization](#)<sup>5</sup>, [Health Canada](#)<sup>10</sup> and provincial governments. (Click [here](#) for links to provincial sites.)

#### **How is COVID-19 death defined?**<sup>21</sup>

The World Health Organization defines COVID-19 death as, “a death resulting from a clinically compatible illness in a probable or confirmed COVID-19 case, unless there is a clear alternative cause of death that cannot be related to COVID disease (e.g. trauma). There should be no period of complete recovery between the illness and death.” This definition is used for disease surveillance purposes.

#### **What infection prevention and control precautions should be taken?**<sup>6, 12</sup>

*The CSRT recommends involving your local infection prevention and control resources and Public Health when managing a patient with suspected or confirmed nCoV. Your institution should have processes in place to ensure these important steps are taken.*

Early recognition and isolation of suspected cases of COVID-19 is encouraged by the WHO. Patients/suspected patients should wear surgical masks and be placed in private rooms with the door closed. Strict Hand and Respiratory hygiene measures (cover cough/sneeze with bent elbow or tissue, hand washing after contact with respiratory secretions) should be employed.

People with suspected or confirmed infection should be cared for in private, ventilated rooms. Cohorting with other people with COVID-19 may be employed when private rooms are not available.

Health care workers (as well as family and visitors, and those transporting the patient) should employ standard precautions, contact precautions and droplet precautions and use eye protection.

The WHO notes that aerosol-generating procedures may have increased the transmission of MERS and SARS. Such procedures include CPR, intubation, manual ventilation prior to



intubation, non-invasive ventilation, tracheostomy and bronchoscopy. Health care workers performing these procedures should use the following PPE: N95 mask (or particulate respirators offering higher protection); eye protection; gloves and clean (non-sterile) long-sleeved, fluid-resistant gowns. The CSRT [Position Statement on Procedures Creating a Heightened Risk of Infection During an Outbreak of a Communicable Respiratory Disease](#) on Procedures Creating a Heightened Risk of Infection During an Outbreak of a Communicable Respiratory Disease has practice recommendations relating to aerosol-generating procedures and appropriate PPE.<sup>21</sup>

The WHO presents detailed infection prevention and control information in its publication [Infection prevention and control during health care when novel coronavirus \(nCoV\) infection is suspected](#). Other infection prevention and control publications are available in the [CSRT Coronavirus resources page](#).

The WHO has also developed a self-paced online [course](#) for health care professionals relating to infection prevention and control.<sup>14</sup> Other courses relating to the pandemic are listed on the [CSRT Coronavirus resources page](#).

#### **How is COVID-19 infection confirmed?**<sup>7</sup>

Lab testing is required to confirm a diagnosis. The Public Health Agency of Canada notes that specimens may be collected from the upper respiratory tract, the lower respiratory tract and serum for testing, and nasal swabs are commonly used for testing purposes. The CSRT recommends referring to your local infectious disease testing procedures, and to the Government of Canada document [Protocol for Microbiological Investigations of Severe Acute Respiratory Infections](#)<sup>13</sup> for information and details on specimen collection and handling.

“Presumptive confirmed cases” refer to those where laboratory screening was positive when tested locally. “Confirmed cases” refer to those where laboratory testing has been confirmed by the National Microbiology Laboratory.<sup>11</sup> Labs in other provinces are also able to perform confirmatory laboratory diagnostics.<sup>15</sup>

#### **What are the treatment options?**<sup>8, 12</sup>

There is not currently a vaccine for COVID-19, nor is there a specific treatment. Treatment is supportive. The WHO provides detailed guidance for the treatment of severe acute respiratory infection when COVID-19 is suspected in its publication [Clinical management of severe acute respiratory infection when novel coronavirus \(nCoV\) infection is suspected](#). This guide includes (but is not limited to) the following:

- Prompt oxygen therapy for patients with severe acute respiratory illness (SARI) and respiratory distress, hypoxemia, or shock
- Conservative use of fluid management in the absence of shock
- Vigilant monitoring for signs of deteriorating cardiorespiratory status, including severe hypoxemic respiratory failure



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- If intubation is required, it should be performed under airborne precautions by a trained and experienced provider.

The WHO guidelines include further guidance for the management of septic shock and ARDS due to COVID-19, as does the Toronto Centre of Excellence in Mechanical Ventilation.<sup>20</sup>

People with mild symptoms may be cared for at home in some circumstances.<sup>9</sup> These are detailed in the WHO's publication [\*Homecare for patients with suspected novel coronavirus \(nCoV\) infection presenting with mild symptoms and management of contacts.\*](#)

A list of clinical management resources is available on the [CSRT Coronavirus resources page](#).

### **Does tobacco use impact the severity of COVID-19 disease?<sup>22</sup>**

The WHO released a statement on tobacco use and COVID-19 on May 11, 2020 after convening public health experts to review the available evidence. This statement notes that, compared to non-smokers, smokers are more likely to develop severe disease and cautions against sharing unproven claims that tobacco or nicotine can prevent or treat COVID-19. The [WHO statement](#) further concludes that tobacco users should take prompt action to cease tobacco use, and that evidence-based methods should be used to support cessation.

### **Where can I go for more information?**

The World Health Organization, Centers for Disease Control and Health Canada are all monitoring the COVID-19 outbreak and are frequently updating their sites:

- [Health Canada](#)
- [US Centers for Disease Control](#)
- [World Health Organization](#)

The CSRT has developed a list of resources to provide respiratory therapists with information relating to COVID-19. This can be viewed on the CSRT website and includes information from provincial health agencies.



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