

## Provincial Guidance on the Transmission of COVID-19

Available evidence on the routes of transmission for severe acute respiratory syndrome coronavirus 2 (SARSCoV-2) is based on COVID-19 cases and clusters that demonstrate transmission predominantly occurs at short range through direct contact with an infected person by both large and small droplets.

### Respiratory Particle Size

Respiratory particle size occurs on a spectrum influenced by source characteristics, including forceful expulsions (e.g. coughing, sneezing, singing); viral load; and pathway characteristics which include duration of exposure, ventilation, and appropriate use of personal protective equipment.

### Droplet Transmission

Droplet transmission occurs when bacteria or viruses travel on relatively large respiratory droplets that people sneeze, cough, or exhale (when talking or breathing heavily). These droplets travel only short distances (less than 2 meters) before settling onto nearby surfaces.

Droplets may be loaded with infectious particles and can infect another person if the bacteria/virus has direct contact with the eyes, nose and/or mouth of another individual. Droplets may also contaminate the immediate environment when they settle on surfaces and may contribute to contact transmission.

Once present on a surface, the SARSCoV-2 virus may be transferred onto an individual's hands which can result in infection if the individual experiences contact with their eyes, nose or mouth by contaminated hands or another contaminated surface.

The Public Health Agency of Canada (PHAC) and the World Health Organization (WHO) continue to recommend Droplet and Contact Precautions for the routine care of all patients with suspected or confirmed COVID-19.

### Aerosol Transmission

When small particles (e.g., aerosols containing droplet nuclei) with viable microorganisms are generated from an infected source and propelled (through coughing, sneezing, talking or during aerosol generating medical procedures) over short (less than 6 feet, 2 meters) or long (more than 6 feet, 2 meters) distances, they may be inhaled, resulting in transmission.

Some studies describe long-range transmission of SARS-CoV-2 under the right set of favourable conditions (e.g., prolonged exposure in crowded, poorly ventilated spaces). Guidance related to the management of potential aerosol transmission in health care environments is available at <https://sharedhealthmb.ca/files/aerosol-generating-medical-procedures-AGMPs.pdf>.

### Variants of Concern

New variants of concern (VOC) of the SARS-CoV-2 virus have been identified around the world and confirmed to be circulating in Manitoba. Current evidence points to an overall increased transmissibility (to varying degrees) of these VOC, but shows no indication of a difference in how the virus is transmitted. At this time there are no changes to current Infection Prevention & Control

measures for variants of concern.

Higher transmissibility does suggest that for a given exposure there is a greater likelihood of infection, requiring vigilant adherence to current IP&C measures.

COVID-19 vaccines are proven to be highly effective and high vaccination coverage has been identified as an integral component in protecting the population (including health-care workers), reducing the spread of COVID-19, and reducing the presence of infected patients in health care settings.

### **Point of Care Risk Assessment and Personal Protective Equipment**

A point of care risk assessment (PCRA) assesses the task, the patient and the environment, and will help determine the correct personal protective equipment (PPE) required to protect the health-care worker in their interaction with the patient and patient environment.

Details on performing a PCRA may be found at [Point of Care Risk Assessment \(PCRA\)](#).

Using the precautionary principle, [Manitoba's Provincial PPE Guidelines](#) require an N95 respirator to be provided to individuals caring for COVID-19 suspect and positive patients.

In non-AGMP situations, health-care workers may, upon completion of a PCRA, choose to wear a medical mask (procedure mask). Results of a systematic review and analysis show no significant difference between medical masks and N95 respirators for the prevention of transmission of acute respiratory infections when used appropriately in non-AGMP situations.

In AGMP situations, where aerosols and small droplet nuclei are generated in high concentrations, an N95 respirator is required.

Medical procedures classified as AGMPs are supported by epidemiological data that indicate these procedures may significantly increase risk of infection for health care workers within close range of the procedure. N95s and eye protection are therefore the required minimum level of respiratory protective equipment required.