



Coronavirus COVID-19

BC Centre for Disease Control | BC Ministry of Health



Infection Prevention and Control for Novel Coronavirus (COVID-19): Interim Guidance for British Columbia Emergency Health Services (BCEHS)

Provincial Coronavirus Response
Mar. 19, 2020

If you have fever, a new cough, or are having difficulty breathing, call 8-1-1.



Ministry of Health



BC Centre for Disease Control



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A. Introduction

This document has been developed to provide interim guidance for **British Columbia Emergency Health Services (BCEHS)** in the infection prevention and control management of suspected or confirmed cases with COVID-19. Prehospital services should seek assistance from BCEHS or Public Health Services Agency (PHSA) infection prevention and control as needed to operationalize these recommendations, in consultation with Patient Care Delivery, Patient Care Communications and Planning and Clinical and Medical programs.

Prehospital care involves acute emergency patient assessment and care delivered in a variety of settings; paramedic services are also rendered through prescheduled client visits and community events. This interim guidance is designed to help prevent the transmission of COVID-19.

It is expected that the infection prevention and control recommendations (particularly recommendations related to respiratory protection) may change as the outbreak evolves and further information about the epidemiology (e.g., mode of transmission) and clinical course (e.g., mild or severe disease) of COVID-19 is available.

B. Infection Prevention and Control for COVID-19

Prehospital and community care is delivered in a variety of locations and under a variety of situations (e.g., in the street, in the home, in the ambulance, etc.). Some locations may be unsanitary, uncontrolled and/or within cramped environments and not amenable to risk assessment (to identify the type of personal protective equipment (PPE) required) and/or application of barriers other than PPE (e.g. 2 metre distance). As a result, BCEHS paramedics utilize PPE differently than health care workers in the acute care setting.

In BC, paramedics wear only N95 respirators; this has been mandated by WorkSafe BC.

This guidance is based on current, available scientific evidence about this emerging disease, and is subject to review and change as new information becomes available.

Currently, the evidence suggests that the incubation period for COVID-19 is up to 14 days and the period of infectiousness of an individual is unknown. The clinical picture to date of human illness from COVID-19 is one of mild disease, however some will experience severe disease.

Call Screening for 911 Dispatchers:

The following criteria can be used to determine the need for applying the infection prevention and control measures found in this guidance.

Who to screen (i.e. relevant history related to travel (including country, region, city), contacts, symptoms) - people with:

- Fever and/or acute respiratory illness and/or new or worsening cough
AND
- Any travel outside of Canada in the 14 days prior to symptom onset
AND/OR
- Direct contact with someone symptomatic who has traveled outside of Canada in the 14 days prior to symptom onset.

Patients who meet the above criteria are considered a suspect for COVID-19. ****[Refer to current case criteria](#).**

Dispatchers should:

- a) Question callers to ascertain if there is anyone at the incident location who may have respiratory symptoms consistent with COVID-19
- b) Flag as influenza-like illness (ILI)
- c) Communicate that risk to paramedics prior to arrival at the incident location, and
- d) Assign the appropriate paramedic team to the call
- e) Where possible, secondary triage should be used to reduce dispatching of ambulances.

Refer to Clinical Support Services: Non-Conveyance Guidelines for ILI and COVID-19 Patients (Pandemic Response) (Link will be added once document is available).

In addition to Routine Practices, infection prevention and control measures for **all COVID-19 cases** include:

1. Source Control
2. Patient Assessment
3. Respiratory Hygiene (also known as Respiratory Cough Etiquette)
4. Hand Hygiene
5. Droplet/Contact Precautions - **N95 Respirator for paramedics**; and eye or face protection)
6. Transportation
7. Community Care
8. Cleaning and Disinfection of Vehicle and Equipment

Routine Practices and Additional Precautions as outlined below should be practiced with symptom onset and until symptoms have resolved.

1. Source Control

The importance of applying engineering controls (e.g., vehicle ventilation) and administrative controls (e.g., enhanced screening for COVID-19, notifying the receiving facility of suspect patients [see #6 Transportation]) as the first strategy in protecting paramedics and others from exposure to infectious agents cannot be overemphasized. In conjunction with the measures below, paramedics should complete an assessment of every emergency call's situation regarding the physical setting and location (e.g. in the home, on the street/road, in the ambulance, travel history etc.).

All personnel should avoid touching their face while working.

2. Patient Assessment

The number of responding pre-hospital care providers should be limited to those individuals necessary for patient assessment and care. The suspect COVID-19 case and all accompanying family members should be asked to wear a surgical/procedure mask if tolerated. Only the number of paramedics required for safe care should be within 2 metres of the patient (usually one person). Other personnel should remain further than 2 metres from patient or their family members.

COVID-19 Decision Support Tool- refer to [Appendix A](#).

3. Respiratory Hygiene (Respiratory Cough Etiquette)

The patient with respiratory symptoms should be asked to wear a surgical procedure mask (if tolerated and feasible). If a surgical procedure mask is not tolerated or is not feasible, the patient with suspected COVID-19 should be asked to cough/sneeze into their arm, shoulder or tissues and should be assisted to perform hand hygiene.

4. Hand Hygiene

Paramedics are required to clean hands, using either alcohol-based hand rubs (60-90%) or soap and water. See [BCCDC website](#) for poster on hand hygiene.

5. Contact/Droplet Precautions ([N95 Respirator and face shield](#))

In addition to routine practices BCEHS paramedics should use contact/droplet precautions (gloves, face shield, gown, N95 respirator) when within 2 metres of a suspected patient. WorkSafe BC has mandated that, in addition to routine practices, **BCEHS personnel wear an N95 respirator**, along with a face shield, for all respiratory illness regardless of whether it is droplet or airborne transmitted.

- Wear an N95 with face shield, gloves and gown if within 2 metres of a suspect patient.
- Eye or face protection (face shield) should be removed after leaving the patient's location and or area (e.g., emergency department, bedside, ambulance) and disposed of in either a hands-free waste receptacle (if disposable) or in a separate receptacle.
- Clean your hands and remove the N95 respirator **by the straps**, being careful not to touch the front, after leaving the area and dispose of in a hands-free waste receptacle.
- **ALWAYS** perform hand hygiene before and after removing the protective equipment and after leaving the patient's location and or area.

*Refer to [Appendix B](#) for [IPAC PPE poster](#).

There is no indication for use of powered air-purifying respirators (PAPRs) in the care of patients with suspected COVID-19.

6. Transportation

During transport, limit the number of providers in the patient compartment to essential personnel only to minimise possible exposure.

The attending crew member should leave identified contact/droplet precaution PPE (identified in section 4) on for transport.

- Users are instructed to change their N95 respirators when it becomes difficult to breathe, indicating a saturated filter, or if the respirator becomes too moist/wet/soiled. N95 respirators can vary amongst users, dependent on the user's breathing rate or particulate/moisture count in the air. The time frame on this varies widely per person.

The driver should remove all PPE and perform hand hygiene after completing the suspected COVID-19 patient's care and moving into the cab.

Patients should be offered hand hygiene prior to entering the ambulance or aircraft and should wear a surgical procedure mask, if tolerated, during transport.

- Discourage family members accompanying the patient in the ambulance, if this can not be avoided, e.g. they are required due to a language barrier, offer hand hygiene and a surgical procedure mask.
- Upon arrival at the facility, instruct the family member to remain in the Emergency department with the patient.

Patients should be transported with full ventilation as available in style of ambulance. Full ventilation may include but not be limited to all windows closed, and interior ventilation system and exhaust fan on.

Isolate the driver from the patient compartment and keep pass-through door tightly closed.

Avoid Aerosol Generating Medical procedure (AGMPS). Examples of AGMPS include nebulized Ventolin, intubation, Bag Valve Mask (BVM ventilation), SGA insertion, CPAP, OptiFlow, and high-flow nasal cannulas.

If AGMP is required, consult with CliniCall for risk assessment:

- If AGMP performed, initiate Airborne precautions.
- If an AGMP is performed by the attendant and the transport vehicle does not have an isolated drivers' compartment, the driver should clean hands and don a new N95 respirator.
- Create a negative pressure environment in the patient compartment of ambulance and set the rear exhaust fans in the patient compartment to HIGH in order to maximize air extraction ([engineering control](#)).

If high concentration oxygen and/or positive pressure ventilation are required, appropriate oxygen delivery system should be filtered with an antimicrobial, hydrophobic filter.

Notify the receiving facility that a patient with suspected COVID-19 is being transported to the facility and provide estimated time of arrival.

In circumstances where dedicated emergency medical vehicles are not available to facilitate transport (i.e. remote or isolated communities), further consideration of interim measures may be required.

7. Community Care

Prescheduled client visits:

During the pre-visit safety call, Community Paramedics must also confirm the following criteria can be used to determine the need for applying the infection prevention and control measures or cancel/postpone the visit.

Clients with:

- Fever and/or acute respiratory illness and/or new or worsening cough
AND
- Any travel outside of Canada in the 14 days prior to symptom onset.

AND/OR

- Direct contact with someone symptomatic who has traveled outside of Canada in the 14 days prior to symptom onset. Patients who meet the above criteria are considered a suspect for COVID-19

Community Events

Consult with your supervisor/manager with regard to postponement or cancellation to minimise gatherings.

8. Cleaning and Disinfection of Vehicle and Equipment

After the call, all equipment used, and **routine** ambulance or air craft cleaning and disinfection should be performed as per organizational policy, utilising approved BCEHS products.

If an AGMP has been performed, [Post-transport ventilation](#) must be performed prior to routine post-transport clean. Ensure the vehicle is parked in a well-ventilated area; opening all doors and windows ensures the maximum amount of outdoor air is introduced to facilitate particulate dilution within the vehicle. Leave exhaust fans on HIGH. Routine post-transport cleaning and disinfection of all used equipment and touched surfaces in vehicle can begin once the patient compartment has vented for 20 minutes. If an AGMP has been performed, leave doors and windows open for fresh air to ventilate for 20 minutes.

Reusable equipment should be cleaned and disinfected before use on another patient as per [BCEHS IPAC 100 Cleaning and Disinfection Policy](#) organizational policy. [Procedure Cleaning and Disinfection Criteria](#).

C. References

Internal BCEHS References:

- BCEHS IPAC 100: Cleaning and Disinfection Policy <https://intranet.bcas.ca/policy/manuals-guidelines-sops/pdf/IPAC100.pdf>
- BCEHS IPAC 100.3: Routine Post Transport cleaning of ambulance and equipment procedure <https://intranet.bcas.ca/policy/manuals-guidelines-sops/pdf/IPAC100-3.pdf>
- BCEHS IPAC 100.6: Post Transport Ventilation of Ambulance after transporting a patient on Airborne Precautions procedure. <https://intranet.bcas.ca/policy/manuals-guidelines-sops/pdf/IPAC100-6.pdf>

External References:

1. World Health Organization. (2020, January 25). Infection Prevention and Control During Health Care When Novel Coronavirus (COVID) Infection is Suspected. Retrieved from [https://www.who.int/publications-detail/infection-prevention-and-control-during-health-care-when-novel-coronavirus-\(ncov\)-infection-is-suspected-20200125](https://www.who.int/publications-detail/infection-prevention-and-control-during-health-care-when-novel-coronavirus-(ncov)-infection-is-suspected-20200125)
2. Public Health Agency of Canada. (2020, February 4). Infection Prevention and Control for Novel Coronavirus (COVID-19): Interim Guidance for Acute Healthcare Settings. Retrieved from <https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection/health-professionals/interim-guidance-acute-healthcare-settings.html>
3. Smith, J., MacDougall, C., Johnstone, J. et al. (2016). *Effectiveness of N95 respirators versus surgical masks in protecting health care workers from acute respiratory infection: a systematic review and meta-analysis*. CMAJ, May 17, 2016, 188(8).
4. Jefferson, T., Del Mar, C. B., Dooley, L., Ferroni, E., Al-Ansary, L. A., Bawazeer, G. A., ... & Conly, J. M. (2011). Physical interventions to interrupt or reduce the spread of respiratory viruses. *Cochrane database of systematic reviews*, (7).
5. BC Provincial Infection Control Network. (2018). Respiratory Infection Outbreak Guidelines for Health care Facilities. Retrieved from https://www.cdc.gov/infectioncontrol/basics/transmission-based-recautions.htmlhttps://www.picnet.ca/wp-content/uploads/Respiratory-Infection-Outbreak-Guidelines-for-Healthcare-Facilities_November-2018.pdf
6. BC Centres for Diseases Control (2020) First Responders. Retrieved from <http://www.bccdc.ca/health-professionals/clinical-resources/covid-19-care/clinical-care/first-responders>
7. Centres for Disease Control (2020) Coronavirus Diseases 2019 (COVID-19) Interim Guidance for EMS. Retrieved from <https://www.cdc.gov/coronavirus/2019-ncov/hcp/guidance-for-ems.html>

Appendix A – COVID-19 Decision Support Tool

Pending – document will be updated once available.

Appendix B – Infection Prevention and Control Precautions

Intranet: <https://intranet.bcas.ca/areas/qsrma/ipac/pdf/PPEposter.pdf>

BCEHS BC Emergency Health Services
Prevention Services Public

Infection Prevention & Control Precautions

Perform a **Point of Care Risk Assessment** to determine appropriate measures for your protection and safer patient care.



CONTACT **DROPLET / AIRBORNE**

DONNING **DOFFING**

- 1 Perform Hand Hygiene
- 2 Wear Fluid Repellent Gown
- 3 Wear Fit Tested N95 Mask / Respirator (Droplet / Airborne)
** you may also wear safety Glasses if your risk assessment indicates there is a safety need (e.g. impact / projectiles)*
- 4 Put on Full Face Shield (Droplet / Airborne)
- 5 Wear Gloves over the gown cuffs
- 6 Ask your buddy to check your PPE
- * Remember to ask the patient to wear a surgical procedure mask if they are coughing and not actively vomiting.

- 1 Remove Gloves
- 2 Perform Hand Hygiene
- 3 Remove Fluid Repellent Gown
- 4 Perform Hand Hygiene
- 5 Remove Full Face Shield
** and safety glasses if worn*
- 6 Remove Fit Tested N95 Mask / Respirator
- 7 Perform Hand Hygiene
- * Use a buddy system. Your buddy should watch and provide direction when donning and doffing to ensure you are fully protected and do not contaminate yourself or your clothing.
- * Carefully dispose of used PPE.

For further clarification, consult ClinCall, or the Exposure Control Plan found in the BCEHS Handbook.

Approved by Infection Prevention Council/Dec 2019