Alberta Public Health Disease Management Guidelines

Coronavirus, COVID-19

Alberta

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Health and Wellness Promotion Branch

Public Health Division

Alberta Health

Coronavirus, COVID-19 Public Health Disease Management Guideline | Alberta Health, Government of Alberta

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Revisions

Revision Date	Document Section	• Description of Revision
March 2023	General	• Entire guideline updated to include current information
	Epidemiology	• Title of this section changed to Clinical Assessment and Epidemiology
	Management of HCW	• Removed as there is no case by case management of HCW and HCW have been removed from the threshold for declaring COVID-19 outbreak
	Management of COVID-19 and Respiratory Illness Outbreaks	• Entire section updated to include: - New section on Management of COVID-19 Outbreaks in Congregate Settings - Removal of HCW from COVID-19 outbreak threshold - Updated table with COVID-19 outbreak thresholds - Added new section and table on the Management of Respiratory Illness Outbreaks
	Annex A and B	• Removed as information no longer required and can be accessed in previous versions of the guideline posted on the AH website
	Annex C	• Moved revision table to the front of the guideline

Case Definition

Confirmed Case

A person infected with the virus (SARS-CoV-2) that causes COVID-19, confirmed by:

- A positive result on a molecular test (i.e. nucleic acid amplification test (NAATs) such as polymerase chain reaction (PCR), loop-mediated isothermal amplification (LAMP) or rapid molecular test [(A)] that is Health Canada approved or approved by the lab accreditation body of the jurisdiction in which the test was performed.

OR

- A positive result on a Health Canada approved rapid/point-of-care (POC) antigen test[(B)] in a person with clinical illness[(C)]

OR

- Two positive results on a Health Canada approved rapid/POC antigen test [(D)] completed not less than 24 hours of each other in an asymptomatic person

[(A)] Positive results by the Abbott ID NOW COVID-19, Simplexa®, GeneXpert®, Aptima, Cobas SARS-CoV-2 and Allplex 2019-nCoV assays are deemed acceptable to provide a final result (i.e. does not require confirmatory testing).

[(B)] Authorized medical devices for uses related to COVID-19: List of authorized testing devices

[(C)] **Clinical illness**: Any one or more of the following: new or worsening cough, shortness of breath (SOB), sore throat, loss or altered sense of taste/smell, runny nose/nasal congestion, fever/chills, fatigue (significant and unusual), muscle ache/joint pain, headache, nausea/diarrhea

Probable Case [E] (Outbreak Only)

A person who in the last 7 days had close contact with a confirmed COVID-19 case OR was exposed to a known outbreak of COVID-19 OR had laboratory exposure to biological material (e.g. primary clinical specimens, virus culture isolates) known to contain SARS-CoV-2

WITH

- Clinical illness [C] and NO molecular test or rapid antigen test, or the result is inconclusive [F]

  OR

- NO clinical illness[C] and one positive rapid antigen test result with NO second rapid antigen test or molecular test completed

[C] **Clinical illness**: Any one or more of the following: new or worsening cough, shortness of breath (SOB), sore throat, loss or altered sense of taste/smell, runny nose/nasal congestion, fever/chills, fatigue (significant and unusual), muscle ache/joint pain, headache, nausea/diarrhea

[E] All symptomatic close contacts in high risk settings should be tested where feasible to confirm diagnosis. The probable case definition should only be used in the rare circumstances when molecular test or rapid antigen test cannot be done or is inconclusive but clinical suspicion is high.

[F] An inconclusive result on a real-time PCR assay is defined as:

- an indeterminate result on a single or multiple real-time PCR target(s) without sequencing confirmation or
- a positive result from an assay that has limited performance data available or
- performed by a laboratory that lacks/has not demonstrated accredited status by the College of Physicians & Surgeons of Alberta (CPSA)

Reporting Requirements

Physicians

- Alberta physicians shall notify their Zone MOH (or designate) of all confirmed COVID-19 deaths [G] by mail, fax or electronic transfer within **48 hours** (two business days) and include the following:
  - name;
  - age;
  - date of birth;
  - gender;
  - personal health number;
  - date of death; and
  - other relevant clinical/epidemiological information.

Laboratories

- All positive COVID-19 results, including molecular or rapid antigen test results performed at a hospital or reference laboratory (NML or provincial public health laboratory) or AHS mobile testing units or FNIHB testing sites are reportable within 48 hours (two days) via established secure electronic (or fax) notification systems to the:
  - Chief Medical Officer of Health (CMOH) or designate, and
  - Medical Officer of Health (MOH) or designate of the Zone where the case resides.

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- The Zone MOH (or designate) shall forward the COVID-19/Seasonal Influenza Death and Hospitalized Case Report Form to the CMOH (or designate) using existing processes (e.g., CDOM or confidential fax).
  - The report form must be submitted within **one week** of notification of hospitalization, discharge from hospital, resolution of the COVID-19 case status; or death.[G]
- The Zone MOH (or designate) shall forward the Alberta Outbreak Report Form (AORF) for any newly confirmed COVID-19 outbreaks to the CMOH (or designate), using existing processes (e.g., CDOM or confidential fax).
  - The initial report form must be submitted within **24 hours** of opening the outbreak investigation and the final report must be submitted within 48 hours of closing the outbreak investigation.
  - Aggregate numbers must be **reported weekly** for outbreaks in continuing care and acute care settings.
- For out-of-province and out-of-country confirmed COVID-19 cases that are reported as hospitalized/deceased, the Zone MOH (or designate) shall forward the following information to the CMOH (or designate) using existing processes (e.g., CDOM) within **48 hours** (two business days):
  - name,
  - date of birth,
  - out-of-province health care number,
  - out-of-province address and phone number,
  - positive laboratory report, and
  - other relevant clinical/epidemiological information.

[G] Confirmed COVID-19 deaths: deaths where a lab-confirmed COVID-19 infection is the cause or contributing cause that come to the attention of Public Health, including death in the community. **NOTE**: Deaths that occur in congregate care/living facilities during an outbreak where the only test performed is a positive rapid antigen test should also be reported.

Rapid/Point of Care Testing (POCT) Reporting:

- For hospitalized or deceased residents from congregate care/living facilities, the Zone MOH (or designate) shall report confirmed cases that have a positive Rapid/POCT test as part of an outbreak investigation, but NO confirmatory testing performed at a hospital or reference laboratory.
- The Zone MOH (or designate) shall forward the COVID-19/Seasonal Influenza Death and Hospitalized Case Report Form to the CMOH (or designate) using existing processes (e.g., CDOM or confidential fax).
  - The report form must be submitted within **one week** of notification of hospitalization, discharge from hospital, resolution of the COVID-19 case status; or death.
- **NOTE:** For individuals with positive rapid/POCT results that have subsequent confirmatory testing performed at a hospital or reference laboratory that is negative, reporting is not required
- **NOTE:** The following are **NOT** reportable to Alberta Health:
  - Positive rapid/POCT test results (antigen or molecular) in symptomatic individuals that are done via private testing
  - At-home rapid antigen test results

Clinical Assessment and Epidemiology

Etiology

Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) is an enveloped, ribonucleic acid (RNA) virus that is part of the *Coronaviridae* family. The virus was first identified in Wuhan, China in December 2019. COVID-19 is an illness caused by the SARS-CoV-2 virus.[1]

Viruses constantly change through mutation and new variants of a virus are expected to occur. A variant of concern (VOC) is a variant that has one or more of the following characteristics:

- increased transmissibility,
- evades natural or vaccine-related immunity,
- increased virulence,
- evades detection by available diagnostic tests, or
- is less responsive to treatment.[2,3]

For more information including designated VOC's in Canada, refer to the SARS-CoV-2 variants: National definitions, classifications and public health actions. Information on VOC's in Alberta is available here.

Clinical Presentation

Infection with SARS-CoV-2 virus can be asymptomatic, mild, moderate, or severe and can lead to death. Symptoms can vary depending on factors such as age, underlying health conditions, and immunization status. Generally, most individuals with asymptomatic infection or mild illness do not need medical care and those with mild to moderate illness can be managed as outpatients.[4–6] Most people make a full recovery from COVID-19 infection; however, the duration of illness varies.

Post-COVID-19 condition (PCC) (i.e. long-COVID) is a wide range of new, returning, or ongoing health problems such as physical and/or psychological symptoms that last more than 12 weeks after an initial COVID-19 infection.[6,7] For more information, refer to Post-COVID condition (long COVID-19) website.

Children and adolescents infected with COVID-19 typically have mild symptoms, or can be asymptomatic. However, they can also experience severe illness which may require hospitalization or admission to intensive care unit (ICU) and may result in death.[8] Some children and adolescents with recent COVID-19 infection (several weeks following an infection or epi-linked to COVID-19 cases) may present with acute illness with a hyper-inflammatory syndrome termed Multi-System Inflammatory Syndrome in children and adolescents (MIS-C), that can lead to shock and multi-organ failure. For more information on MIS-C in Canada refer to Multisystem inflammatory syndrome in children in Canada and the Alberta Health MIS-C Public Health Disease Management Guideline. Multisystem inflammatory syndrome has also been reported in adults (MIS-A) and can also lead to serious outcomes with multi-organ failure.[6]

Diagnosis

COVID-19 can be diagnosed using the gold standard, nucleic acid amplification tests (NAATs) that detect viral genetic material. Antigen tests, which detect viral proteins also diagnose infection but are less sensitive than molecular tests.[1,9,10] Specimen types for COVID-19 testing include nasopharyngeal (NP) swab, throat swab, nasal swab, NP aspirate, endotracheal tube (ETT) suction/sputum, or bronchoalveolar lavage/bronchial wash (BAL/BW).[11,12]

Treatment

There are different types of treatments that have been authorized for the treatment of COVID-19. For more information, refer to the Outpatient Treatment for COVID-19 website.

Reservoir

SARS-CoV-2 is thought to have emerged from an animal source although this has not yet been confirmed.[1]

Transmission

SARS-CoV-2 virus is transmitted person-to-person primarily via respiratory droplets and aerosols that are generated when a person coughs, sneezes, talks, or sings.[1,13] The droplets range in size from large droplets that spread at close range (i.e., less than two metres) to smaller droplets (or aerosols) that can be infectious over longer distances and may be suspended for longer periods of time.[4,14] There is increased risk of transmission in poorly ventilated, crowded indoor settings or where gatherings are taking place for prolonged periods, or where heavy breathing or exertion is occurring.[14,15]

COVID-19 can also spread via direct physical contact with another person (e.g., hand shake) or by indirect transmission through touching contaminated objects/fomites, however this is not considered the main route of transmission. Infected individuals can transmit the virus 48 hours before symptom onset (i.e., pre-symptomatic), or even if they have an asymptomatic infection or when their symptoms went unnoticed.[6,14]

Incubation Period

The incubation period for SARS-CoV-2 may differ depending on the VOC. Prior to emergence of the Omicron variant of SARS-CoV-2 in late 2021, the incubation period ranged from 2-14 days with median 4-7 days.[16] The incubation period for the Omicron variant appears to be shorter with a median of 2-4 days and a range of 0-8 days, with the greatest majority falling between 1 to 6 days.[17–19] Given the current context in Alberta, the guidance in this document is based on an incubation period of 7 days.

Period of Communicability

The period of communicability may begin up to 48 hours before symptom onset and may last up to 10 days after symptom onset.[14,20] Studies from prior to the emergence of the Omicron variant in late 2021 showed that communicability peaked just before symptom onset and the majority of SARS-CoV-2 transmission occurred early in the course of illness, generally in the 1-2 days prior to onset of symptoms and the 2-3 days after symptom onset.[21] Evidence for the Omicron variant of SARS-CoV-2, suggests that infectious viral shedding may occur for three to six days after onset of symptoms.[22] People with more severe disease or who are immunocompromised may shed virus for longer and are therefore likely to be infectious for longer.[14]

Host Susceptibility

Susceptibility is universal. COVID-19 vaccines are effective at preventing severe outcomes such as hospitalization and death related to COVID-19 infection.[23] For more information on COVID-19 immunization and booster dose effectiveness, refer to the National Advisory Committee on Immunization statements and publications and the Canadian Immunization Guide.

Some populations are at increased risk of exposure to SARS-CoV-2 virus due to occupational or living conditions. Others are at increased risk of severe disease, hospitalization and/or death due to the following factors that may intersect: having pre-existing medical conditions, advanced age, lower socioeconomic status, varying access to health care services and/or belonging to a racialized group.[20]

Incidence

World Health Organization (WHO) provides daily updates on global case counts and situation reports:
www.who.int/emergencies/diseases/novel-coronavirus-2019/situation-reports

For cases reported in Canada refer to the following link:
https://health-infobase.canada.ca/covid-19/current-situation.html

For cases reported in Alberta refer to the following link:
https://www.alberta.ca/covid-19-alberta-data.aspx

Public Health Management (Outbreak Only)

Key Investigation

- Refer to the Management of COVID-19 Outbreaks in Congregate Settings section.
- COVID-19 outbreaks, respiratory illness Outbreak (RIO) or influenza outbreaks should be managed as per direction from the Zone MOH.
- The Zone MOH will determine the need and extent of outbreak control measures.
- For additional outbreak management measures in different settings refer to AHS guides for outbreak prevention and control.

Management of a Case

- Individuals with symptoms of respiratory illness should stay home. If symptoms worsen, they should seek medical guidance or care. For more information refer to isolation recommendation.
- General guidance in high-risk settings should include infection prevention and control precautions to prevent disease transmission.
- Antiviral treatment may be considered for severe illness or for individuals at high risk for severe outcomes.

Management of Contacts

- Individual management of close contacts is **NOT** required and testing through the public health system is **NOT** indicated for close contacts. **NOTE:** close contacts may choose to use at home rapid tests after an exposure. For more information refer to the rapid testing at home website.
  - For recommendations for contacts refer to Information for Close Contacts of a COVID-19 Case website.
- The close contact definition is included below for the purposes of the probable case definition.
- The close contact definition may be used at the discretion of the MOH/designate in certain high-risk settings or under specific circumstances e.g. during an outbreak in congregate or acute care settings

Table 1: Definition of Close Contacts

Definition of Close Contacts
A close contact is someone exposed to a case while they were infectious [H] and is defined as: - An individual who had direct contact with infectious body fluids of a case i.e. was coughed or sneezed on while unprotected [I] or who for example, shared cigarettes, glasses/bottles, eating utensils with a case OR - A HCW [J] who provided unprotected [I] direct care for the case, OR - An individual and/or family member or other care givers who provided direct care to the case or who had other similar direct physical contact (e.g., intimate partner, hug, kiss, handshake) with the case OR - An individual who lived with or otherwise had unprotected [I] prolonged [K] contact with a case for 10 minutes or more over a 24-hour period (may be cumulative, i.e., multiple interactions) and within two metres OR - An individual who had unprotected [I] contact with a case within two meters for one minute or longer where the case engaged in activities that generate increased aerosols such as speaking, singing, shouting or breathing heavily (e.g., exercise)

- **NOTE:** Transmission can also happen beyond two metres when sharing a confined, crowded and/or poorly ventilated air space with a case while unprotected.[I] The exposures identified in Table 1 carry the highest risk for viral transmission.
- **NOTE:** Household contacts are a type of close contact that have the highest attack rate. A household contact is defined as a person who lives in the same residence as the case OR who has been in frequent, long-duration, close-range interaction with the person who tested positive. For example, someone who is a caregiver, an intimate or sexual partner.

[H] For close contact identification purposes, the infectious period is from two days before onset of symptoms in the case (or if asymptomatic, two days before test date) to 7 days after OR for as long as the case has a fever, whichever is longer.

[I] An individual may be considered unprotected if at the time of the exposure they did not consistently and appropriately use personal protective equipment (PPE). Appropriate PPE is defined as a well-fitting surgical/procedure mask OR a well-fitting KN95 facemask, eye protection (e.g., goggles, visor, or face shield), gloves and gown when taking care of symptomatic patients or confirmed/probable cases of COVID-19. For more information, refer to the AHS COVID-19 Personal Protective Equipment website.

[J] HCWs are defined as: all health practitioners and all individuals (including nutrition and food services, housekeeping, recreation etc.) at increased risk for exposure to, and/or transmission of, a communicable disease because they work, study, or volunteer in one or more of the following health care environments: hospital, nursing home (facility living), supportive living accommodations, or home care setting, mental health facility, community setting (e.g. paramedics, EMS, firefighters, police officers), office or clinic of a regulated health professional (i.e., this includes professionals regulated under the *Health Professions Act* and the *Veterinary Profession Act*) clinical laboratory.

[K] As part of the individual risk assessment, consider the duration of the contact's exposure (e.g., a longer exposure time likely increases the risk), the case's symptoms (coughing or severe illness likely increases exposure risk) and whether exposure occurred in a health care setting

Management of COVID-19 Outbreaks in Congregate[(L)] Settings

Table 2: COVID-19 Outbreak Definitions

Type of Setting	Example	Confirmed COVID-19 Outbreak**
Congregate[(L)] Care Facility	Licensed supportive living (including lodges), long-term care (nursing homes and auxiliary hospitals), and hospices	2 confirmed cases in residents[Ω]
Congregate[(L)] Living Settings	Prisons/Correctional Facilities	2 confirmed cases in residents[Ω]
Other Settings	MOHs can exercise their authority for further investigation in any situation with unusual number of illness	

**Confirmed resident/patient case(s) needs to have been in the setting during their incubation period or infectious period. For more information refer to the *AHS Outbreak Prevention and Control Guide*s

[Ω]Cases within a 7 day period with an epi link (i.e. an exposure at a common setting, or time spent in a common location or venue, where there is reasonable evidence that transmission could have occurred

Table 3: Mixed Pathogen Outbreak Classification in Congregate[(L)] Care/Living Facility

Cases Identified	Outbreak Classification	Outbreak Closed
≥2 confirmed COVID-19 cases with an epi link AND ≤1 confirmed case of any other respiratory pathogen (e.g. influenza, RSV)	COVID-19	Outbreak remains open for 14 days after symptom onset for last COVID-19 case*
≥2 confirmed COVID-19 cases with an epi link AND ≥2 confirmed influenza cases with an epi link	COVID-19/influenza	14 days from date of onset of symptoms in the last case*
≥2 confirmed influenza cases with an epi link AND ≤1 confirmed case of any other respiratory pathogen (e.g. COVID-19, RSV)	Influenza	Outbreak remains open for **7 days** after symptom onset for last Influenza case

***NOTE:** Outbreaks can be closed 14 days after symptom onset of the last patient/resident case regardless if additional staff cases are found at the tail end of an outbreak*

[(L)] Congregate settings are defined as locations where individuals live, work or are cared for within close quarters in a communal environment

Management of Respiratory Outbreaks

- In schools, child care settings and homeless shelters/temporary housing, the Respiratory Illness (RI) definition and the Respiratory Illness Outbreak (RIO) definition will be used to identify, report and manage outbreaks that may be caused by a variety of respiratory pathogens, including COVID-19.

Respiratory Illness (RI) Definition:

- NEW onset of TWO or more symptoms and at least one must be from List A:
  - **List A:** cough, shortness of breath (SOB), sore throat, loss or altered sense of taste/smell, runny nose/nasal congestion
  - **List B**: fever, fatigue (significant and unusual), muscle ache/joint pain, headache, nausea/diarrhea

Respiratory Illness Outbreak (RIO) Definition

- Two or more cases with respiratory illness within **7 days** with a common epidemiological link;

AND

- NO respiratory pathogen identified OR one case of any respiratory pathogen identified (e.g., Influenza; COVID-19; RSV)

Table 4: RIO Definitions

Setting	Confirmed Respiratory Illness Outbreak
Schools (K-12)	10% absenteeism due to respiratory illness OR an unusual number of students with similar respiratory symptoms AND at least two epidemiologically linked individuals within the school setting (who are not from the same household) with respiratory illness symptom onset within a **7 day period**.
Childcare settings: Daycares, after school care, preschools	At least two epidemiologically linked cases with respiratory illness in individuals in the child care cohort (not from the same household) with symptom onset within a **7 day period**.
Homeless shelters/temporary housing	Unusual number of clients (above baseline) with respiratory illness and at least two epidemiologically linked individuals within the setting with respiratory illness symptom onset within a **7 day period**.

Preventative Measures

- For more information on prevention of COVID-19 refer to the following websites:
  - COVID-19 info for Albertans
  - Information for Albertans
  - **COVID-19: Prevention and risks**
  - Get vaccinated

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