Alberta Public Health Disease Management Guidelines

Monkeypox

Alberta

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Health and Wellness Promotion Branch

Public Health and Compliance Division

Alberta Health

Monkeypox | Alberta Health, Government of Alberta

Contents

Case Definition

*The information in this guideline is **preliminary** and will be revised as updates become available.*

Confirmed Case

A person who is laboratory confirmed for monkeypox (MPX) virus infection by detection of unique sequences of viral DNA either by real-time polymerase chain reaction (PCR) and/or sequencing

Probable Case

A person with acute rash or ulcers[(A)] with or without systemic symptoms (fever, headache, myalgia, arthralgia, back pain or lymphadenopathy)

AND an alternate diagnosis cannot fully explain the illness[(B)] (and laboratory testing results/specimen collection *for MPX are pending or not available*),

AND

Has one or more of the following:

- An epidemiological link to a probable or confirmed MPX case in the 21 days before symptom onset

OR

- Reported travel history to or residence in a location where MPX is reported[(C)] in the 21 days before symptom onset.

Suspect Case

A person with acute rash or ulcers[(A)] with or without systemic symptoms (fever, headache, myalgia, arthralgia, back pain or lymphadenopathy)

AND an alternative diagnosis cannot fully explain the illness[(B)] (and laboratory test results/specimen collection are *pending*)

AND who has had, within 21 days prior to the onset of symptoms,

- Sexual contact with new, anonymous or multiple partner(s)

OR

- Sexual contact with a person(s) who had sexual contact with new, anonymous or multiple partner(s)

[(A)] **Acute rash:** Monkeypox illness typically includes a progressively developing rash that usually starts on the face and then spreads elsewhere on the body. The rash can affect the mucous membranes in the mouth, tongue, and genitalia. The rash can also affect the palms of hands and soles of the feet. The rash can last for 2 to 4 weeks and progresses through the following stages before falling off: macules, papules, vesicles, pustules, the scabs. Many cases in the 2022 multi-country outbreak had atypical presentations. Some had only localized rash/lesion in the mouth, on or around the genitals, or in the anal area. Rashes can also be at various stages of development.

N.B. It is not necessary to obtain negative laboratory results for listed common causes of rash illness in order to classify a case as suspect or probable.

[(B)] *Common causes of acute rash* can include Varicella zoster, herpes zoster, measles, herpes simplex, syphilis, chancroid, lymphogranuloma venereum, hand-foot-and-mouth disease

[(C)] Travel history: reported travel history can be regional, national, or international in the 21 days before symptom onset to any area where monkeypox may be reported

Reporting Requirements

Physicians, Health Practitioners and Others

- Physicians shall notify the Medical Officer of Health (MOH) (or designate) of the zone, of all confirmed, probable or suspect MPX cases by fastest means possible (FMP (i.e., phone call or email) and include the following:
  - name;
  - age;
  - date of birth;
  - gender;
  - personal health number;
  - date of death; and
  - other relevant clinical/epidemiological information.

Laboratories

All laboratories shall report all positive laboratory results by fastest means possible (FMP) to the MOH (or designate) of the zone and the Chief Medical Officer of Health (CMOH) (or designate).

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- The MOH (or designate) of the Zone where the case currently resides shall notify the CMOH/designate by FMP (i.e., phone call or email) of all **confirmed and probable cases** and include the following:
  - name;
  - age;
  - date of birth;
  - gender;
  - personal health number;
  - date of death (if applicable); and
  - other relevant clinical/epidemiological information.
- The MOH (or designate) of the Zone where the case currently resides shall forward the initial Notifiable Disease Report (NDR) form and *Public Health Agency of Canada (PHAC) Monkeypox Case Report form* of all confirmed and probable cases to the CMOH (or designate) ***within 24 hours*** and the final report ***one week after initial notification***.
- For reports relating to individuals (confirmed and probable cases or contacts) who reside out-of-province or out-of-country, the Zone MOH (or designate) shall forward the following information to the CMOH (or designate) by FMP:
  - Name (first – mandatory; last, if available),
  - date of birth (or age), if available,
  - out-of-province health care number, if available
  - out-of-province address (city, province/territory and/or country and phone number – mandatory)
  - positive laboratory report (for cases) as relevant, and
  - other relevant clinical / epidemiological information (e.g., onset date of case contact is linked to, first/last exposure, type of contact – e.g., sexual, whether contact is during incubation period of case for source investigation OR contact is during communicability period of case for post-exposure contact tracing).
- The Zone MOH (or designate) shall report any MPX outbreaks to Alberta Health within 24 hours of notification using the *Alberta Outbreak Reporting Form (AORF)*. Two or more epi-linked cases from different households is an outbreak.

International Health Regulation Reporting

Under the *International Health Regulations* (2005), enhanced reporting of MPX to the World Health Regulation (WHO) is mandatory. Alberta Health notifies the Public Health Agency of Canada (PHAC) of every confirmed and probable case of MPX and PHAC notifies the World Health Organization (WHO) within 24 hours of initial notification.

Epidemiology

Etiology

Monkeypox (MPX) virus is a member of the *Orthopoxvirus* genus in the family *Poxviridae*.[1] The *Orthopoxvirus* genus also includes variola virus (which causes smallpox), vaccinia virus (used in the smallpox vaccine), and cowpox virus. There are two clades (strains) of MPX: the Central African clade and the West African clade.

Clinical Presentation

Persons with MPX usually develop an early set of symptoms (**prodrome**). These first symptoms *may* include:[2–4]

- Fever
- Chills
- Lymphadenopathy[D] (swollen lymph nodes)
- Headache
- Muscle pain
- Joint pain
- Back pain
- Exhaustion

One to 3 days (sometimes longer) after the onset of the prodrome, a progressively developing **rash** starts on the face and then spreads elsewhere on the body. The rash can affect the mucous membranes in the mouth, tongue, and genitalia. The rash can also affect the palms of hands and soles of the feet. The rash can last for 2-4 weeks and progresses through the following stages before scabs fall off (macules, papules, vesicles, pustules, scabs).[2–4]

Many cases in the current multi-country outbreak in non-endemic countries had atypical presentations. Some had only localized rash/lesion in the mouth, on or around the genitals, or in the anal area. Rashes can also be at various stages of development..[5] Prodromal symptoms have not always been reported or the rash/lesions may precede systemic symptoms.

Complications of MPX include secondary infections, bronchopneumonia, sepsis, encephalitis and corneal infection with loss of vision.[3]

Human infections with the Central African clade are typically more severe with a case fatality upwards of 11%. Illness with the West African clade is usually self-limiting with symptoms lasting 2-4 weeks with a case fatality rate around 1%. More recently, the reported case fatality rate has been between 3–6%.[3] There have been no reported fatalities in the current multi-country outbreak in non-endemic countries as of the date of publication of this guidance.

Diagnosis

The diagnosis of MPX is made by isolation (culture) or molecular detection of DNA (e.g., PCR) of MPX virus. The virologist-on-call (VOC) MUST be notified before specimen collection. Collection sites should be notified so that arrangements can be made to limit the risk of transmission.

Treatment

Treatment for MPX disease is mainly supportive.

- Most patients will recover from MPX without intervention; however, some may require hospitalization and supportive care.
- A limited supply of Tecovirimat (TPoxx) is available in Alberta for hospitalized, severely ill individuals.
- Refer to the *Alberta Immunization Policy (AIP)* for more information.

[D] Lymphadenopathy is a feature distinguishing monkeypox from other rash illnesses such as smallpox, measles and varicella. This typically occurs with fever onset, 2–4 days before rash onset, or rarely with rash onset. Lymph nodes may swell in the neck (submandibular & cervical), armpits (axillary), or groin (inguinal) and occur on both sides of the body or just one.

Reservoir

The reservoir host of MPX is unknown although rodents can harbor the virus and infect people.[6]

Transmission

Monkeypox virus is predominantly transmitted when a person comes into close contact with an infected animal, infected person, or materials contaminated with the virus.[7] The virus can enter the body through broken skin, the respiratory tract, or through mucous membranes. Transmission can occur via direct contact with monkeypox skin lesions, non-intact skin or scabs, indirect contact with clothing or linens used by an infected person, or close contact with the respiratory tract secretions of an individual with monkeypox.

Incubation Period

The incubation period of MPX is usually between 6–13 days but can range from 5–21 days.[8]

Period of Communicability

A person is infectious during the symptomatic period, including the prodrome. Lesions are considered infectious until scabs have fallen off, the wound is epithelialized and has a light pink / shiny pearl appearance.

Host Susceptibility

Universal. There is evidence that previous smallpox immunization may provide some cross-protection. However, since Canada stopped routinely immunizing people against smallpox in 1972, generally the population is susceptible to MPX.

Incidence

MPX is a viral illness endemic to parts of Central and West Africa.

Since May 7, 2022, monkeypox cases have been identified in some countries where it is not typically found and the Public Health Agency of Canada (PHAC) has confirmed cases in Canada. Investigations are ongoing, but many of the global cases identified to date have been reported amongst men who have sex with men with multiple or anonymous partners.

Resources

PHAC:

- Monkeypox: Outbreak update: www.canada.ca/en/public-health/services/diseases/monkeypox.html
- Monkeypox travel advisory (June 22, 2022): travel.gc.ca/travelling/health-safety/travel-health-notices/229

WHO: www.who.int/health-topics/monkeypox#tab=tab_1

CDC: www.cdc.gov/poxvirus/monkeypox/index.html

ECDC: www.ecdc.europa.eu/en/monkeypox

Public Health Management

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Key Investigation

Table 1: Case Specific Management

Case Classification	Recommended PH Management
Suspect	• Advise to stay home, avoid close contact with others and test • Contact tracing – wait for test results before initiating
Probable (travel-related)	• Advise to stay home, avoid close contact with others and test • Contact tracing – wait for test results before initiating
Probable (epi-link to confirmed/probable case) **OR** Confirmed	• Advise to stay home, avoid close contact with others and test • Initiate contact tracing

- Confirm that the client meets the case definition.
- Obtain a history of illness, including date of onset, signs and symptoms.
- Determine smallpox and/or Imvamune immunization history (if available).
- Determine the possible source of infection:
  - identify recent travel history (during the incubation period),
  - identify recent contact with a confirmed or probable case of MPX, and
  - assess for similar symptoms in other members of the household and social circle.
- Determine the period of communicability (from onset of first symptoms until scabs have fallen off, the wound is epithelialized and has a light pink / shiny pearl appearance).
- Identify contacts including:
  - ***Close contacts with high exposure risk*** (see Table 2A). These contacts may also be potentially infectious from 5–21 days following exposure to a case if symptoms develop.
  - Contacts with intermediate or low exposure risk (see Table 2B and 2C).

Table 2: Contact Definitions

A. Close contacts with high exposure risk	B. Contacts with intermediate exposure risk	C. Contacts with low exposure risk
• Individuals* with direct physical contact with a confirmed or probable (with epi-link to confirmed/probable) MPX case while the case is infectious, their body fluids, secretions, skin lesions, contaminated objects or surfaces (e.g. clothing, bedding) without appropriate PPE. *NOTE: These would include individuals who share a residence, sexual partners, healthcare worker who provided care without appropriate PPE.	• Contacts who were in an indoor space within 2 meters distance for more than 3 hours without wearing a mask (e.g. social contact or someone who shared a close proximity workspace)	• Others who have had brief exposure to a confirmed or probable case in a indoor community or workplace environment (e.g. being within 2 meters for less than 3 hours without wearing a mask, workers not sharing a close proximity workspace)

Management of a Case

- Educate all cases (confirmed and probable) on the following:
  - How to prevent transmission, proper hand hygiene/respiratory etiquette, safe sexual practices

Non-Hospitalized Case

- Cases should **stay home and avoid close contact with others,** especially vulnerable populations (e.g., children under 12 years of age, immunocompromised individuals, and pregnant women) **until** scabs have fallen off, the wound is epithelialized and has a light pink / shiny pearl appearance. This means:
  - keep lesions covered,
  - avoid direct physical contact with others while active lesions are present, including sexual contact
  - wear a well-fitting medical mask whenever in the presence of others (including household members),
  - avoid sharing clothes, linens, bedding, towels, utensils, toothbrush, razors, sex toys, needles, or any other items that may be contaminated with infectious particles from lesions or body fluids.
- Cases may attend school, work or other settings deemed necessary for daily living (i.e. grocery, pharmacy, medically necessary appointments) if they can confirm they can do all of the above, AND
  - have been afebrile for 24 hours without use of fever-reducing medications,
  - other systemic symptoms (e.g., headache, muscle pain, fatigue) and respiratory symptoms (if any) have improved,
  - they feel well enough to resume normal activities.
- Provide the following information:
  - When/where to go for medical assessment if symptoms worsen, and instruct case to disclose recent diagnosis of MPX prior to arrival (i.e. call ahead) AND upon presenting to a health care setting.
  - Use latex condoms or barriers during all sexual activity and do not donate any body fluids (e.g. blood or sperm) or tissue for 8 weeks after lesion epithelialization.
  - Do not travel to other cities, regions or other countries during period of infectiousness.
  - Do not breastfeed without consultation with infectious disease expert.
  - Improve ventilation in the home when possible (e.g., opening windows).

  Cleaning/Disinfection
  - Where possible, the case should be responsible for handling and cleaning their own clothing, bedding, towels, utensils and dinnerware.
    - Clean and disinfect shared objects and contaminated surfaces after each use with standard household cleaning/disinfectants.
    - Double bag all household waste; dispose of recyclables and compost materials with general waste.
    - Wash contaminated laundry in a standard washing machine using hot water (i.e., 70°C) with detergent, and completely dry the laundry in a drying machine.
    - Mop floors instead of sweeping.
    - Do not use vacuum unless it is equipped with a high-efficiency particulate air (HEPA) filter.

  Precautions around Animals
  - The current spread of monkeypox in Canada is a result of human-to-human transmission of the virus; the risk of people passing the virus to animals is unknown at this time and is an area that requires further study.
  - A number of animal species are susceptible to MPX, especially rodent species, but the full range of animals susceptible to MPX, particularly in North America, remains unknown at this time.
  - To prevent possible spread to domestic animals, cases should have another member of their household care for their animals.
    - If this is not possible, cover any lesions with clothing or bandages, wear a well-fitting medical mask and gloves when near the animals, and practice diligent hand hygiene.
  - As a precaution and until more is known, cases should avoid handling, feeding or working closely with wildlife to prevent any possible spread of the virus—this is to limit risk of creating a wildlife reservoir for this virus in Canada.
  - Consult the Office of the Chief Provincial Veterinarian if the case live or interact with susceptible species, such as rodents (e.g., mice, rats, squirrels, chinchillas), rabbits, hedgehogs or primates, or if the case has questions about the risk of MPX virus transmission to or from other animal species.

Hospitalized Cases/Settings

- For MPX cases with evidence of lower respiratory tract involvement or severe systemic illness requiring hospitalization, the possibility of airborne transmission has not been excluded.[9]
- Airborne and contact precautions are recommended for hospitalized cases. Consultation with the site IPC is recommended for lifting isolation.

Management of Contacts

- Assess for symptoms.
- Assess for history of previous smallpox and/or Imvamune vaccine.

Contacts with high exposure risk

- Priority for public health management should be given to **contacts with a high exposure risk**.
- Contacts of confirmed or probable cases ***with high exposure risk*** should **monitor themselves** for symptoms[B] for **21 days** after their last exposure.[10]
- The following information should be provided:
  - Wear a well-fitting medical mask whenever in the presence of others (including household members) if reasonably able to do so.
  - Refrain from direct physical contact including sexual contact with others.
  - Avoid all contact with domestic and wild animals, including pets.
    - Have another member of the household care for the animal(s) for the duration of the monitoring period. If this is not possible, wear a well-fitting medical mask when near domestic animals such as pets and practice diligent hand hygiene.
    - As a precaution and until more is known, avoid handling, feeding or working closely with wildlife to prevent any possible spread of the virus—this is to limit risk of creating a wildlife reservoir for this virus in Canada.
  - Practice proper hand hygiene and respiratory etiquette. Use gloves if working in setting where direct contact cannot be avoided (e.g. working with young children or others who would require assistance with daily living activities).
  - Be especially vigilant when self-monitoring for symptoms if working with vulnerable populations
  - If symptoms develop, contacts should immediately stay home, avoid contact with others and contact Public Health for further guidance.
  - Contacts who remain asymptomatic can continue routine daily activities (e.g., go to work, school).
- Assess high-risk close contacts of confirmed cases for post exposure prophylaxis (PEP) eligibility.

Contacts with intermediate or low exposure risk

- Contacts of confirmed or probable cases ***with intermediate or low exposure risk*** should **monitor themselves** for symptoms[B] for **21 days** after their last exposure, practice proper hand hygiene and respiratory etiquette, and practice safer sex behaviors such as using condoms and reducing the number of partners.
  - If symptoms develop, contacts should immediately stay home, avoid contact with others and contact Public Health for further guidance.
  - Contacts who remain asymptomatic can continue routine daily activities (e.g., go to work, school).

Pre/Post-Exposure Prophylaxis (PEP)

- In Canada, IMVAMUNE (a live-attenuated, non-replicating vaccine) is authorized by Health Canada under the provision of the Extraordinary Use New Drug regulations for active immunization against smallpox, MPX and related orthopoxvirus infection and disease in adults 18 years of age and older determined to be at high risk for exposure.
  - A very limited supply of IMVAMUNE has been made available to Alberta.
- Refer to the AIP for information on the interim guidance for use in Alberta.

[B] Symptoms include acute rash or painful ulcers with or without systemic symptoms (fever, headache, myalgia, arthralgia, back pain or lymphadenopathy).

Preventive Measures

- Educate the public about the risks of acquiring and spreading MPX infection, including:[11]
  - Avoid close contact with infected persons and any materials, such as bedding, that has been in contact with a sick person,
  - Staying home when sick or if skin sores are present,
  - Practicing respiratory etiquette, including covering coughs and sneezes and wearing a face mask,
  - Practicing hand hygiene,
  - Safer sex practices,
  - Avoiding sharing personal items, regularly clean frequently-touched household surfaces, and
  - Avoiding contact with animals that could harbor the virus (including animals that are sick or that have been found dead in areas where MPX occurs).

Appendix 1: Revision History

Revision Date	Document Section	Description of Revision
June 2022	General	• New Guideline
July 2022	Case Definition	• Updated Suspect Case definition
	Public Health Management	• Added bullet regarding condom use • Added more bullets on cleaning, disinfection and waste management • Added further wording regarding pets and MPX concerns • Added the “Pre” to Post-Exposure Prophylaxis” section

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