Ontario Health

Testing and Management of Mpox: Information for Primary Care Providers

Document information

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This document has been updated to refer to human monkeypox disease as mpox and monkeypox virus as MPXV. This is consistent with other jurisdictions and scientific publications.

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Introduction

The information in this document (adapted from a Question and Answer document created by the Office of the Chief Medical Officer of Health, Mary Choi, dated June 25, 2022) was developed based on best available evidence as of the date of publication. There are limitations to the evidence that is currently available. Clinicians must determine whether adopting the suggested information is clinically appropriate for individual patients. It is intended for use by clinicians in practice to provide the best possible evidence-based care and information to patients with known or suspected mpox.

Mpox disease (formerly known as monkeypox) is caused by an infection with the monkeypox virus (MPXV), which belongs to the *Orthopoxvirus* genus. It is related to the variola virus, which causes smallpox. **Mpox is most commonly transmitted** from person to person through direct contact with infectious rash, bodily fluids, and/or scabs, including through close, physical interactions, including hugging, kissing, and sexual activity.

Mpox can also be transmitted via contact with respiratory secretions during prolonged face-to-face contact, fomites (e.g., clothing or bedding contaminated by infectious rash/bodily fluids), and rarely, vertical transmission. Currently, it is unknown if mpox can spread via semen or vaginal fluids (U.S. Department of Health and Human Services 2022).

In Ontario, reported risk factors include engaging in sexual or intimate contact with new and/or multiple partners. Although most cases have been identified among men who report sexual or intimate contact with other men, anyone can get mpox.

Clinical Presentation of Mpox

Mpox is usually a mild and self-limiting disease and most people who are infected recover within 2 to 4 weeks. However, severe illness can occur in some individuals.

Initial prodromal symptoms of mpox may include fever, chills, fatigue/weakness, headaches, myalgia, pharyngitis, coryza, cough, and lymphadenopathy that can last for **1 to 3 days prior to onset of a rash.**

The rash usually begins on the face and then spreads to elsewhere in the body. It can affect the mucous membranes in the mouth, tongue, and genitalia, as well as the palms of hands and soles of the feet. The rash can last for 2 to 4 weeks and progresses through the following stages: macules, papules, vesicles, pustules, and scabs.

In some recently recorded cases, the onset of symptoms started with genital, perianal, or oral rash/lesion(s)—before onset of prodromal symptoms—which did not spread to other parts of the body.

This fact sheet compares the presentation of mpox, chickenpox, and hand-foot-and-mouth disease. These two resources may also be helpful to clinicians:

- Monkeypox cases confirmed in England – latest updates
- A case of human monkeypox in Canada | CMAJ

Testing for MPXV

Patients presenting with a compatible clinical illness where MPXV is suspected should undergo laboratory testing.

Clinicians are strongly encouraged to offer opportunistic STI testing (i.e., chlamydia, gonorrhea, syphilis, and HIV testing) when offering MPXV testing to patients. Many mpox cases in Ontario have had a recent history of an STI infection or have been found to have mpox as well as an STI concurrently, including new diagnoses of HIV.

Currently, children with rash consistent with an enterovirus illness (e.g., hand-foot-and-mouth disease) without epidemiological risk factors (e.g., contact with a confirmed case) **do not require MPXV testing.**

Infection Prevention and Control Precautions

In addition to routine precautions, the following measures are recommended for health care workers when interacting with individuals with suspected, probable, or confirmed MPXV infection:

- Place the individual with suspect, probable, or confirmed MPXV infection in a single-patient room, with the door closed. Inpatients should be placed in a single-person room with a dedicated bathroom
- Perform hand hygiene as per the four moments of hand hygiene
- Use recommended personal protective equipment (PPE) such as gloves, gown, eye protection (e.g., face shields, safety glasses or goggles), and a fit-tested and seal-checked N-95 respirator (or equivalent); perform seal check after donning N95 respirator
- Ensure patients wear a well-fitting medical mask
- Perform **routine** environmental cleaning and disinfection and ensure all horizontal surfaces that may be touched by the patient and equipment that may have been used by or shared between patients are cleaned and disinfected after every use. Special and/or additional environmental cleaning and disinfection measures are not required.

Additional resources to support testing in primary care include:

- Public Health Ontario's Test Information: Monkeypox Virus
- Public Health Ontario's customer service: 416-235-6556/1-877-604-4567
- After-hours on-call duty officer: 416-605-3113

See Public Health Ontario's Infection Prevention and Control (IPAC) Recommendations for Monkeypox in Health Care Settings for more information on IPAC in health care settings, including hospitals and outpatient settings. Screening for symptoms of communicable diseases (e.g., fever, rash, cough) in health care settings is part of routine practice to identify infectious patients, including those with monkeypox.

How to Test for MPXV in Primary Care

All specimens must be submitted with a Public Health Ontario general test requisition.

Skin specimens are preferred, as they have a much higher sensitivity (85%–90%) than nasopharyngeal/throat (60%–70%) and blood (40%–50%) specimens. Patients with 2 to 3 skin lesions that can be swabbed generally **do not** require blood or respiratory specimens collected for MPXV testing. Specimens can be packaged and placed in the fridge for up to 3 days.

In patients suspected to have MPXV infection who do not have a skin rash (e.g., an individual who is a close contact of a confirmed case, with a febrile illness but no rash) or those who have a skin rash that

cannot be reliably swabbed (e.g., macular and/or papular rash only), clinicians should submit a nasopharyngeal or throat swab in addition to a blood sample.

For more detailed information on all aspects of laboratory testing for MPXV, refer to Public Health Ontario's laboratory services monkeypox virus test information sheet. Instructions for transporting samples for testing are listed in Box 1. Please note that improperly packaged/labeled specimens may result in delays. Clinicians can consult with Public Health Ontario with any questions regarding testing indications, specimen collection, or transportation via the PHOL Customer Service Centre at 1-416-235-6556/1-877-604-4567 or via the after-hours duty officer at 1-416-605-3113.

Box 1. Transporting MPXV samples for laboratory testing

MPXV specimens require the same packing and transportation/courier systems that are used for other microbiological testing in outpatient settings.

The key difference for MPXV specimen transportation is that the transport container must be marked—using a contrasting background—with "TU 0886."

A copy of this label is available at the end of this document (Appendix 1).

The same laboratory courier systems that currently pick up specimens from primary care clinician practice locations for microbiology testing can be used for transporting MPXV specimens.

Mpox is a reportable disease of public health significance in Ontario. All confirmed, probable, or suspected cases, as well as any persons under investigation, should be reported your local public health units.

Community laboratories will receive samples submitted for testing by primary care clinicians for transportation to the Ontario public health lab but are not themselves offering diagnostic testing for mpox, nor are they offering collection services for diagnosing mpox (e.g., lesion, throat, or nasopharyngeal swabs).

Management of MPXV Infections

Treatment is **primarily symptomatic and supportive** (alleviation of fever and pruritus, hydration), including prevention and treatment of secondary bacterial infections. In severe cases, antiviral medications are available on a limited, case-by-case basis.

Patients with confirmed or probable cases of mpox should self-isolate at home until the end of the period of communicability—i.e., until lesion scabs have fallen off and new intact skin has formed below, a process which varies by individual but typically takes 2 to 4 weeks.

Other advice should include:

- Stay in a separate room/area away from other household members if possible and use a separate bathroom if available/feasible

- Avoid contact with those at higher risk of severe mpox illness, including immunosuppressed people, pregnant people, and children younger than 12 years of age
- Avoid leaving the home unless necessary (e.g., to seek essential medical care)
- Avoid non-essential household visitors
- Wear a mask for source control (medical mask preferred), especially if respiratory symptoms are present
- Cover skin lesions as much as possible (e.g., long sleeves, long pants)
- Avoid contact with animals, including household pets. If possible, ask someone else in the home who is not sick and who has not been exposed to care for the pet. This is especially important for rodents, rabbits, and non-human primates. Otherwise, take precautions, such as wearing a medical mask and performing good hand hygiene

Public health units will also follow up with cases to provide further guidance and to initiate contact tracing.

Antiviral Medications

Antiviral medications are available for the treatment of mpox for those who are severely ill/disabled due to MPXV infection.

Tecovirimat (TPoxx) is an an antiviral medication that inhibits the production of an orthopoxviral envelope protein required for cell-to-cell viral dissemination. Based on limited clinical testing in humans, it is authorized in Canada for the treatment of human smallpox disease in adults and pediatric patients weighing at least 13 kg.

A limited supply of TPoxx is available in Ontario, off-label, for individuals who are severely ill/disabled due to MPXV infection or who are at high risk for severe disease. Clinicians can request TPoxx by contacting the Ministry of Health Emergency Operations Centre (MEOC) at EOCoperations.MOH@ontario.ca or by calling the Healthcare Provider Hotline at 1-866-212-2272. When contacting MEOC, you should include the exact number of patients who have consented to receive the TPoxx treatment as well as their clinical indication.

TPoxx should be considered for the following individuals:

- **Hospitalized patients** with severe disease (e.g., those with hemorrhagic disease, sepsis, encephalitis, myocarditis, or other conditions requiring hospitalization)
- **Persons who may be at high risk for severe disease:**
    - Persons who are **severely immunocompromised** (e.g., those with HIV with CD4 counts <200 or with uncontrolled viral loads, leukemia, lymphoma, or generalized malignancy; solid organ transplantation recipients; those receiving therapy with alkylating agents, antimetabolites, radiation, tumour necrosis factor inhibitors, or high-dose corticosteroids; recipients of a hematopoietic stem cell transplant (HSCT) <24 months post-transplant or ≥24 months but with graft-versus-host disease or disease relapse; or those with autoimmune disease with immunodeficiency as a clinical component)
    - Pediatric populations, particularly **patients younger than 8 years of age**
    - Pregnant or breastfeeding people

- Persons with MPXV infections with **lesions that are leading to significant disability** (e.g., proctitis, keratitis or other ocular involvement, pharyngitis/epiglottitis or other breathing/swallowing compromise)
- Persons with **one or more mpox complications** (e.g., secondary bacterial skin infection; gastroenteritis with severe nausea/vomiting, diarrhea, or dehydration; bronchopneumonia; concurrent disease or other comorbidities)

Vaccination

Vaccines are available for both pre-exposure (for individuals at high risk of infection before they are exposed to the virus) and post-exposure prophylaxis (after recent high risk exposure to a known case). Please contact your local public health unit for more information about eligibility and clinic information.

Works Consulted and Cited

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Appendix 1: Transportation Label for Suspected MPXV Specimens

UN3373 BIOLOGICAL SUBSTANCE CATEGORY B **TU 0886** IN CASE OF DAMAGE OR LEAKAGE, IMMEDIATELY NOTIFY LOCAL AUTHORITIES AND 1-888-CAN-UTEC (226-8832)	UN3373 BIOLOGICAL SUBSTANCE CATEGORY B **TU 0886** IN CASE OF DAMAGE OR LEAKAGE, IMMEDIATELY NOTIFY LOCAL AUTHORITIES AND 1-888-CAN-UTEC (226-8832)
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