INFECTION PREVENTION AND CONTROL MANAGEMENT OF MPOX IN HEALTHCARE FACILITIES

Provincial Infection Control-Newfoundland Labrador

Original: July 14, 2022
Revision: August 15, 2022
Revision: June 30, 2023

Summary of Revisions:

Date of Revision	Revision	Page
August 15th, 2022	Addition of document link (Public Health Case and Contact Management)	3
August 15th, 2022	Addition of Occupational Health exposures in HCFs	9-11
June 30th, 2023	The word “Monkeypox” replaced with “MPOX”	1-15

Purpose

The purpose of this document is to provide Infection Prevention and Control (IPAC) guidance on the management of MPOX in healthcare facilities. Healthcare facilities in this document includes acute care, long-term care, personal care homes, congregate living settings, community care homes and home care. The term "patient/s" refers to all inpatients, outpatient, residents and clients.

Preamble

MPOX is a rare infectious disease caused by the MPOX virus (genus orthopox). MPOX virus is related to, but distinct from, the viruses that cause smallpox (variola virus) and cowpox. Cases of MPOX are usually found in central and western Africa and it is rare to find cases outside of that geographic area.

On 13 May 2022, World Health Organization (WHO) was notified of laboratory-confirmed human cases of MPOX in the United Kingdom (UK). The UK has confirmed the **West African clade** of the MPOX virus. It is unknown at this time if the virus has mutated, which may lead to a change in the modes of transmission, clinical presentation, or severity of disease. Transmission risk to healthcare workers is considered low at this time.

On May 19, the Public Health Agency of Canada confirmed the first two human cases of MPOX in Canada. Confirmed and probable MPOX cases have now been reported in many countries outside of Africa.

Given evidence of airborne transmission with Smallpox, there is a concern that MPOX can also be transmitted by the airborne route. At this time, as more information is gathered, healthcare settings should implement droplet and contact precautions, in addition to airborne precautions until more information about the potential for aerosol transmission is known.

At this time, it is not known if a person can transmit the infection just before they develop fever or develop a rash.

As this is an emerging communicable disease in this country, and there is a potential risk to the health of the population, it is **reportable pursuant to subsection 7(1) of the Public Health Protection and Promotion Regulations** made under the Public Health and Protection and Promotion Act.

If a healthcare provider has identified a suspect case of MPOX as described, please:

- Contact Infectious Disease consultant on call at 709-777-6300
- Notify Public Health immediately
    - Monday to Friday 8:30-4:30: contact your regional Communicable Disease Control office
        - Eastern Health 752-4358;
        - Western Health 637-5417;

- Central Health 651-6238;
- Labrador Grenfell health 897-3110 (north) or 285-8410 (Lab West Health)
  - After hours: contact the Medical Officer of Health on call at 1-866-270-7437.

Transmission

A person can contract MPOX when they come into close contact with an infected animal, infected person, or materials contaminated with the virus. The virus can enter the body through broken skin, the respiratory tract, or through mucous membranes. Transmission can occur via direct contact with MPOX 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 MPOX.

Clinical Progression and Incubation Period

- Incubation period is typically 6-13 days from time of exposure, with a range of 5-21 days.
- In previous clinical descriptions, the febrile stage lasts 1 to 4 days prior to the first eruption of skin lesions.
- In some recent cases, it appears that the initial lesions may precede the development of the febrile stage.
- Lesions progress from macule, to papule, to vesicle, to pustule, which will then crust.
- The rash/skin lesion stage can last 2-4 weeks.
- The patient is contagious until the scab crusts have fallen off (about 3-4 weeks) and new skin has formed.
- Most infections last 2-to-4 weeks and self-resolve.

Document link:
Public Health Case and Contact Management for MPOX

Infection Prevention and Control

Routine Practices <u>in addition</u> to Airborne, Droplet and Contact Precautions
Including:

- Point of Care Risk Assessment (PCRA)
- Hand Hygiene
- Patient Placement
- Respiratory hygiene
- Personal Protective Equipment (PPE)
- Injection and Medication Safety
- Cleaning and Disinfection Procedures
- Waste Management

Hand Hygiene

Alcohol-based hand rub (ABHR) is the preferred method of hand hygiene unless hands are visibly soiled than soap and water is recommended. Hand hygiene should always be performed after the removal of gloves.

Four Moments of Hand Hygiene

1. Before Patient Contact and/or Environment Contact
2. Before Aseptic Procedures
3. After Body Fluid Exposure
4. After Patient Care and/or Environment Contact

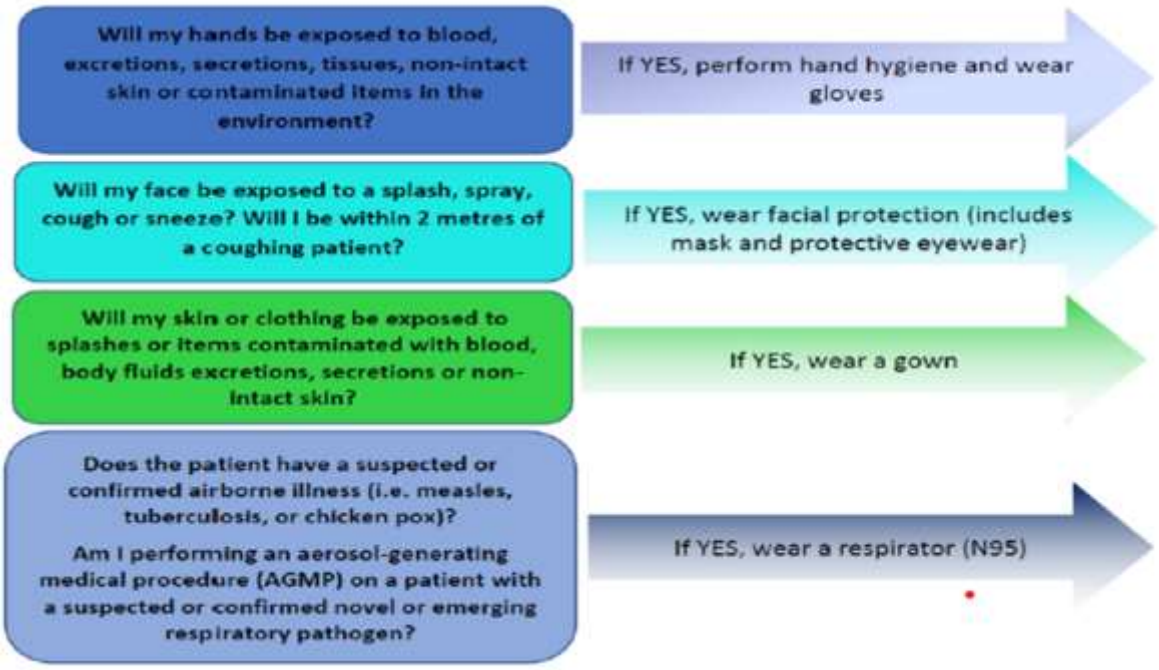
Point-of-Care Risk Assessment

BEFORE each patient/resident/client interaction, the health care worker (HCW) completes a 'Point of Care Risk Assessment' (**PCRA**) to determine the risk of exposure and appropriate Routine Practices and Additional Precautions required for safe care by asking the following questions:

- ✓ What are the patient's symptoms?
- ✓ What is the degree of contact?

- ✓ What is the degree of contamination?
- ✓ What is the patient's level of understanding and cooperation?
- ✓ What is the degree of difficulty of the procedure being performed and the experience level of the care provider?
- ✓ What is my risk of exposure to blood, body fluids, excretions, secretions, non-intact skin and mucous membranes?

The PCRA allows the HCW to determine what personal protective equipment (PPE) to select and wear for that interaction.



Additional Precautions

Airborne, Droplet, and Contact Precautions should be used for all suspect, probable, and confirmed cases of MPOX. Precautions should be used when a patient presents with fever and vesicular/pustular rash (suspected case). Any lesions or respiratory secretions should be considered infectious material. All additional precautions must remain in place until all scab crusts have fallen off and a fresh layer of skin has formed (about 3-4 weeks from onset of illness).

As the modes of transmission in this current outbreak are not well understood, **Airborne, Droplet and Contact Precautions** are recommended.

Patient:

- Patient must perform hand hygiene.
- Patient must wear a medical mask, if tolerated (upon entry to facility and outside patient room).
- Suspect, probable and confirmed cases should be immediately placed into an Airborne Infection Isolation Room (AIIR) or single/private room with the door closed, for assessment upon entry to the healthcare setting.
- Skin lesions must be kept covered with a gown, clothes, sheet, or bandage, except during examination.
- Room should be cleaned and disinfected after use (as per directions below).

Health care worker - Personal Protective Equipment (PPE):

- Fit-tested and seal-checked N95 respirator or equivalent
- Gown (long sleeve-cuffed or uncuffed, fluid resistant-level 2)
- Gloves (12 inch preferable, may use 9 inch with thumb loop gown)
- Eye protection (e.g., face shield or goggles)
- All PPE (including respirators or equivalent) must be discarded after each contact with the patient and hand hygiene performed.
- All PPE should be donned before entering the patient's room.
- All PPE should be disposed of prior to leaving the isolation room except for the respirator or equivalent, which should be removed, outside of the room once the door is closed, and hands should again be cleaned.

Room Selection/Patient Placement

- Patient should be placed in an AIIR, when available.

- If an AIIR is not available, the patient should be placed in a single/private room with the door closed. For inpatients, a dedicated patient bathroom is required, and commode can be used if dedicated bathroom not available
- Visitors should be restricted to those necessary for care or compassionate grounds. The care team in consultation with IPAC makes decisions regarding visitation.

Cleaning and Disinfection

Equipment

- Use standard environmental service/housekeeping cleaning and disinfection protocols (as per Additional Precautions, example twice daily cleaning).
- Dedicate patient care equipment to a single patient.
- Clean and disinfect all reusable equipment with hospital-approved disinfectants (with Drug Identification Numbers (DIN)), as per manufacturers' recommendations immediately after use.

Environmental surfaces

- All patient contact surfaces should be cleaned and disinfected with hospital-approved disinfectants (with Drug Identification Numbers (DIN)), as per manufacturers' recommendations.)
- Hospital-grade cleaning and disinfecting agents (with Drug Identification Numbers (DIN)), are sufficient for environmental cleaning for MPOX.
- Clean and disinfect all surfaces that could have been touched including chairs in the area and public bathrooms. Attention should be paid to frequently touched surfaces, such as doorknobs, call bell pulls, faucet handles and wall surfaces that may have been frequently touched by the patient.

Discharge environmental cleaning and disinfection

For discharge environmental cleaning and disinfection:

- Healthcare worker (HCW) must wear a gown, gloves, fit-tested and seal-checked N95 respirator or equivalent and eye protection during cleaning and disinfection.
- Use standard environmental services/housekeeping discharge cleaning and disinfection protocols (as per Additional Precautions).
- All disposable items in the patient's room must be discarded.
- Privacy curtains must be changed.
- Equipment/supplies that cannot be disinfected must be discarded.

Laundry (such as linens, towels, clothing, bedding)

- Wear appropriate PPE (gloves, gown, fit-tested and seal-checked N95 respirator or equivalent and eye protection) during collection and bagging of all linens at the point of use.
- The laundry materials should carefully be placed in a leak-proof bag, sealed, or tied and placed inside an impermeable bag for transport to laundry area (double bagging is appropriate).
- In ambulatory care settings, standard medical laundry facilities should be used. If not available, the items may be washed in a standard washing machine using hot water (70 degrees Celsius) with detergent and must be completely dried in a commercial dryer.
- When handling soiled laundry (clothing, towels, bedding), care should be taken to avoid contact with the worker's skin and clothing.
- Do not shake laundry, as it disperses contaminated infectious particles into the air and onto the surrounding surfaces.

Containment and Disposal of Contaminated Waste

- Biomedical waste should be contained in impervious waste-holding bags or double bagged according to municipal/regional regulations.
- Contaminated disposable items should be discarded according to jurisdictional protocols (refer to specific health authority policy).

Transportation of suspected, probable or confirmed MPOX patients

- If a patient with suspect, probable, or confirmed MPOX requires transportation, the patient must not use public transportation.
- The patient must be masked (if tolerated), and lesions covered during transport. The receiving healthcare setting should be informed before the patient's arrival of the diagnosis and need for airborne, droplet and contact precautions. Appropriate cleaning protocol for Additional Precautions is required for EMS vehicle after transport.
- For inpatient transportation within a facility, follow protocol for appropriate Additional Precautions, have patient don a mask, and cover lesions.
- HCWs to don PPE appropriate for Airborne, Droplet and Contact Precautions.

Transportation of specimens (Links)
Laboratory processing and shipping
Collection and shipping of specimens

Occupational MPOX exposures in healthcare settings:

This section provides guidance in assessing a potential occupational exposure of MPOX in the healthcare setting. The occupational risk assessment is essential in ensuring the workplace

remains safe for staff and for the patients who require diagnosis and care to prevent further transmission of MPOX.

Background

Airborne, droplet, and contact precautions should be used for all suspect, probable, and confirmed cases of MPOX. Any lesions, body fluids or respiratory secretions and contaminated materials, such as bedding, should be considered infectious. At the present time the risk of transmission to a HCW appears to be very low. It is unknown if aerosol transmission can occur, if risk of transmission is associated with the stage of illness (prodrome, rash, systemic symptoms) or if there are patient-related factors such as pregnancy, immune suppression, or young age that may be associated with how much virus a person excretes or if they are more likely to have transmissible virus in the upper respiratory tract.

Exposure

If a healthcare worker (HCW) had contact with a patient who is diagnosed with MPOX and was not wearing PPE consistent with airborne, droplet, and contact precautions, an assessment of the risk to the HCW should be conducted.

Defining an exposure

The purposes of this section is to define the HCW exposures and mitigate the risk of transmission to patients.

When adequate PPE is **not** used (see below), an **exposure** can be defined as:

- HCW skin/mucosa to skin contact with a case
- HCW skin/mucosa contact with a case's biological fluids, secretions, skin lesions or scabs
- HCW skin/mucosa contact with surfaces or objects contaminated by a case's secretions, biological fluids, skin lesions or scabs
- Face-to-face interaction with a case

All exposures should be considered on a case-by-case basis to determine level of risk.

When assessing the level of risk exposure: consider the length of time (transient versus prolonged) and proximity to the patient; other patient factors (drooling, coughing, immune suppression); use of PPE and any skin/mucosa contact with the person or their environment in the assessment.

For the purposes of assessing risk of occupational exposures, adequate PPE would be defined, at a minimum, as a medical mask or N95 respirator, and gloves. Any bare skin of the HCW exposed to infectious material or fomites is an exposure and a risk assessment should consider

length of time, and whether there are active lesions or non-intact skin of either the HCW or the patient. Any splash of potentially infectious material into a HCW mucous membrane is a higher risk exposure. If the HCW is wearing a medical mask and not an N95, this is not considered an exposure unless there is a high risk of aerosols.

The risk of exposure to potentially infectious aerosols should be considered in the risk assessment. This should include an assessment of coughing or suctioning, intubation, proximity to the person and length of exposure.

Working post-exposure: Length of time and frequency of active symptom monitoring

A HCW may continue to work post-exposure, if they monitor for symptoms and stop working immediately should symptoms arise. All exposed HCW should wear a medical mask at all times while working.

Monitoring MPOX depends on risk levels of exposure:

- For **lower-risk,** exposures conduct passive monitoring (self-monitoring) of symptoms once a day and prior to any shift for 21 days since the last exposure to a person with MPOX. Notify occupational health if symptoms develop. Example of a lower-risk exposure is:
    - Briefly touching a patient without gloves when both the patient's skin and the HCW's skin are completely intact
- For **higher-risk,** exposures conduct active screening of symptoms, once a day with Occupational Health and prior to any shift for 21 days since the last exposure to a person with MPOX. Notify occupational health if symptoms develop. Examples of a higher-risk exposures are:
    - Unprotected contact with a patient's active skin lesions
    - A splash of excretions from a patient into a HCW unprotected eye while suctioning

Refer to the Management of exposed HCWs section below for further direction on higher-risk exposures.

HCW with higher-risk exposures should not care for those who are immunosuppressed, pregnant, giving birth, or children < 12 years of age for 21 days since the last high(er) risk exposure to a person with MPOX.

Management of exposed HCWs

In the event a HCW develops symptoms of MPOX, they must stop work and immediately report to Occupational Health and Public Health. An investigation should be conducted to determine if the HCW case was healthcare or community acquired. A potentially healthcare acquired case

would be considered a sentinel event and should be reported promptly to Public Health and investigated fully.

If any symptoms consistent with MPOX develop, Occupational Health should direct the healthcare worker for assessment and diagnostic testing for MPOX. Please refer to your local testing guidance for MPOX. Testing for MPOX while asymptomatic is not recommended.

The HCW should be assessed regarding their risk of severe disease and treatment should be discussed with an infectious diseases specialist. HCWs with higher risk exposure should be discussed with Public Health authorities and considered for post-exposure prophylaxis with the smallpox vaccine.

HCW with MPOX

If a HCW subsequently is diagnosed with MPOX, they must not return to work until all of the following criteria are met:

- person has no new lesions for 48 hours, and
- no skin or mucous membrane lesions, and
- all previous lesion scabs have dropped off and intact skin is underneath, and
- occupational health has deemed the person well enough to return to work

Occupational Health or Public Health must inform the HCW of the criteria for returning to work.

Putting on and Taking off PPE


Protect Yourself - Protect Others
Personal Protective Equipment
Putting it on in 5 easy steps
1. Hands
• Clean your hands with sanitizer or soap and water.
2. Gown
• Tie at top.
• Then tie at waist.
• Ensure the opening is in back and it covers your skin and clothes.
3. Mask
• Put on a procedure or surgical mask.
• Mold the metal to fit your nose.
• A fit check must be performed with each use.
Alternate: N95 respirator if indicated.
4. Eye Protection
• Put on eye protection.
Alternate: Combo mask/eye shield.
5. Gloves
• Pull on gloves and ensure they cover the cuffs of your gown.
*Remove all PPE, with the exception of N95, before leaving patient room.
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Protect Yourself - Protect Others
Personal Protective Equipment
Taking it off in 6 easy steps

1. Gloves
- Remove gloves.
- Clean your hands with sanitizer or soap and water.

2. Gown
- Untie neck. Untie waist.
- Hook fingers under opposite cuff. Pull over hand.
- Use gown-covered hand to pull gown over other hand.
- Pull gown off without touching outside of gown.
- Roll up inside out/discard.

3. Hands
- Clean your hands with sanitizer or soap and water.

4. Eye Protection
- Remove by handles and place in reprocessing bin or garbage.

5. Mask/N95 respirator
- Remove using loops or ties; do not touch mask.
- N95 should be removed outside of the room after the door has been closed. Place in garbage.

6. Hands
- Clean your hands immediately after removal of PPE or anytime you suspect your hands are contaminated during PPE removal.

***Remove all PPE, with the exception of N95, before leaving patient room.**

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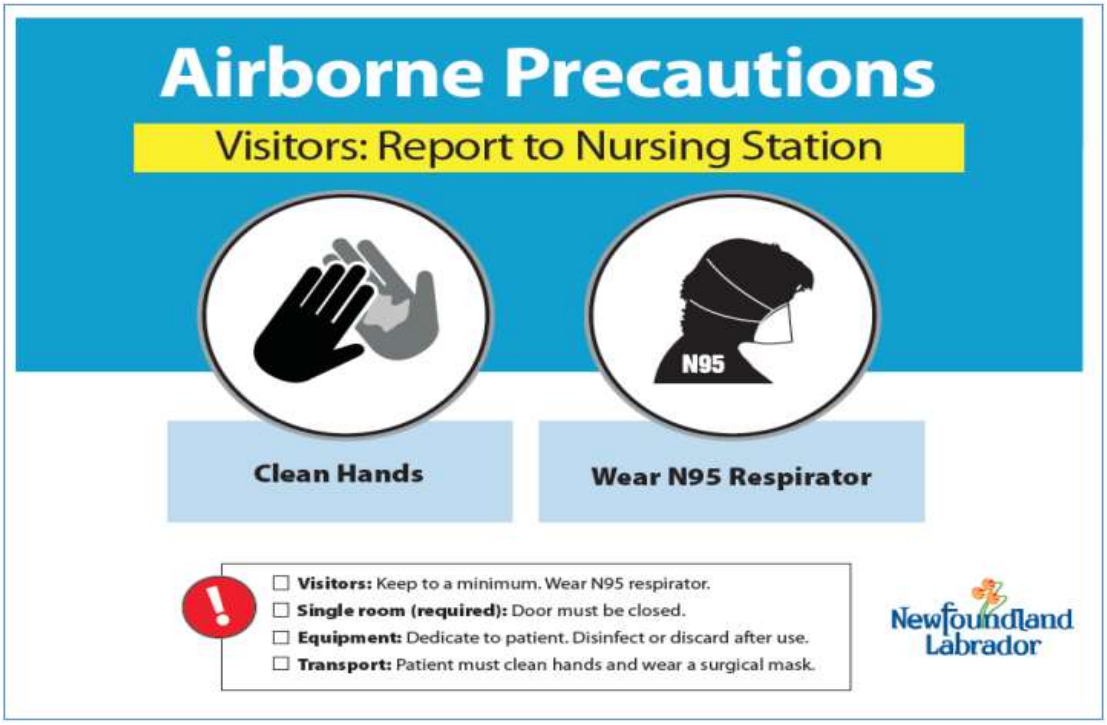
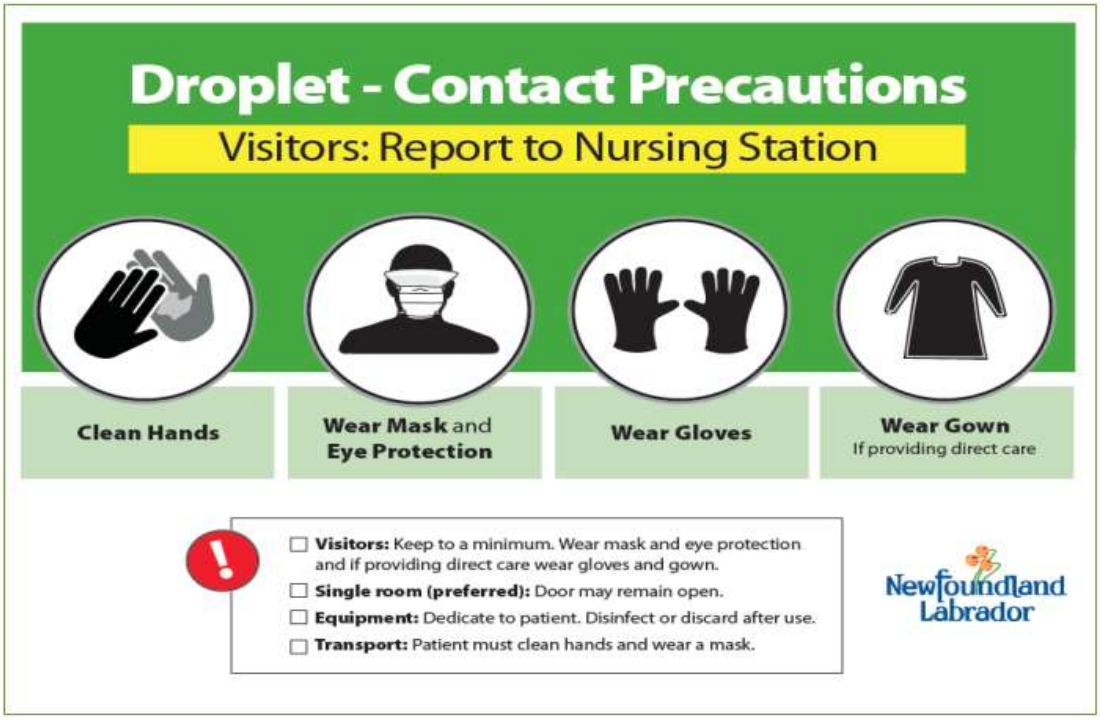
Additional Precautions





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