

# Info-*MADO*

## Newsletter on Reportable Diseases Nunavik Department of Public Health

### Call for vigilance: monkeypox

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VOL. 10 No. 5  
June 2022

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#### Context

Monkeypox is a zoonotic infection that leads to accidental human infections that generally occur sporadically in the forested regions of central and western Africa. The virus' reservoir is unknown, but rodents native to the African continent could be the natural reservoir. Non-human primates can be carriers of the virus and can infect humans.

#### The current situation

Since the start of May, infections with the monkeypox virus have been reported globally, in countries where the virus is not normally endemic. Several cases have also been confirmed in Montréal and some other regions of Québec. In Nunavik, no cases have been reported. Epidemiological investigations continue in Québec, and the Nunavik Department of Public Health is keeping informed of the situation, the objective being to detect the virus' presence rapidly in the region should it arrive.

#### Information on monkeypox

In humans, the classic manifestation of infection with the monkeypox virus is similar but more benign than the symptoms of smallpox, both being diseases of the genus *Orthopoxvirus*. Infection usually manifests with initial systemic signs of fever, headache, fatigue, chills, aches (myalgia, arthralgia, dorsalgia) and adenopathy, followed one to three days later by cutaneous eruptions (cycle of macules, papules, vesicles, pustules and crusting) starting on the face and spreading to the rest of the body, including the hands, feet and genital organs.

Like syphilis, lesions may be observed on the palms of the hands and soles of the feet.

In Québec, although the initial cases were characterized by the presence of lesions primarily around the mouth, the perineal region and the genital organs, the more recent cases include the more classic signs of infection (generalized skin lesions appearing on the face and spreading to the torso and limbs). Although some cases show no systemic symptoms, the majority have been reported with localized adenopathy, fever, chills, nocturnal diaphoresis, fatigue, myalgia, arthralgia or headaches.

The incubation period is 5 to 21 days (usually 5 to 7 days). The disease lasts two to four weeks.

The contagious period starts once symptoms appear (including systemic symptoms) and ends once the skin lesions have crusted over completely and dried and a layer of healthy skin has formed.

No severe cases have been observed and no hospitalizations have occurred. The outbreak continues to disproportionately affect men who have sexual relations with other men, but suspected cases with no epidemiological link to that community are under investigation.

### **Transmission**

Transmission is primarily through contact with an infected animal or human or, to a lesser degree, with material (clothing, laundry or bedding) contaminated by the virus (through direct or indirect contact). Human-to-human transmission can also occur through droplets (the virus enters the organism through a skin lesion, even if not visible), the respiratory tract or mucous membranes (eyes, nose or mouth), or direct contact with blood or bodily fluids (droplets of saliva or from exhalation or exudate from a wound) during close, prolonged (at least three hours cumulatively), face-to-face contact, in the absence of personal protective equipment. The outbreaks described to date involved close, prolonged contact between humans, for example, between members of the same family living under the same roof or between sexual partners. Transmission can also occur from mother to foetus through the placenta (congenital monkeypox).

According to current knowledge, infection with the monkeypox virus is not a sexually transmitted or bloodborne infection.

### **Treatment**

Treatment of infection with the monkeypox virus consists of supportive treatment or treatment of secondary skin infection. There is currently no specific approved treatment for the infection in Canada. Individuals infected with the monkeypox virus generally recover spontaneously in two to four weeks.

### **Post-exposure vaccination**

In Québec, Imvamune, a vaccine used against smallpox, is available for individuals who have been recently and significantly exposed to a case infected with the monkeypox virus. Studies confirm that the vaccine provides protection against this virus. The authorized schedule consists of one 0.5 mL dose, administered subcutaneously. A second dose of Imvamune could be administered after an interval of at least 28 days if the risk of exposure remains.

Post-exposure, significant contacts aged 18 years or older of a confirmed or probable case of infection with the monkeypox virus should receive a single dose of the Imvamune vaccine, ideally within four days of exposure, to prevent infection.

The Imvamune vaccine has not been evaluated in pediatrics or in pregnant women. However, preliminary data suggest that the safety profile is adequate for these groups. The advantages and inconveniences of vaccination should be assessed on a case-by-case basis jointly with the Department of Public Health.

Vaccination for health workers is not recommended pre-exposure, given that these workers all wear personal protective equipment.

For further details on the Imvamune vaccine, consult the [Protocole d'immunisation du Québec](#) as well as the interim notice from the [Comité d'immunisation du Québec sur la Vaccination contre la variole simienne](#).

### **Evolution of the disease/complications**

Individuals infected with the monkeypox virus generally recover spontaneously in two to four weeks. Serious cases occur more frequently among children than among adults and are linked to the extent of exposure to the virus, the individual's state of health and the nature of the complications. An underlying immune deficiency could also lead to a more serious form of the disease.

The following complications have been reported: bronchopneumonia, meningitis, encephalitis, septicemia and infection of the cornea possibly leading to loss of vision.

## Case definitions

### SUSPECTED CASE:

Individual with skin lesions (macules, papules, vesicles, pustules, ulcers or crusted lesions) and at least one systemic symptom (fever, headaches, myalgia, arthralgia, dorsalgia or adenopathy), with no other obvious cause.

### OR

Individual with skin (macules, papules, vesicles, pustules, ulcers or crusted lesions), genital, perineal or buccal lesions, with no other obvious cause.

### PROBABLE CASE:

Individual who is a suspected case and meets one of the following criteria:

- was significantly exposed (see definition of contact) to a confirmed case of monkeypox in the 21 days preceding the onset of symptoms;

### OR

- had sexual contacts in social settings with sexual activity on site in the 21 days preceding the onset of symptoms;

### OR

- had a virus of the genus *Orthopoxvirus* detected by an appropriate laboratory test.

### CONFIRMED CASE:

Individual who had the monkeypox virus confirmed by an appropriate laboratory test.

## Contact definitions

Exposure is considered significant in the presence of:

- direct contact of broken skin or mucous membrane with the lesions of a probable or confirmed case who was symptomatic for monkeypox, such as, for example, during sexual contact;
- direct contact of broken skin or mucous membrane with the bodily fluids (droplets of saliva or from exhalation or exudate from a wound) of a probable or confirmed case who was symptomatic for monkeypox, such as, for example, splashing in an eye;
- direct contact of broken skin or mucous membrane with surfaces and objects potentially contaminated by a probable or confirmed case who was symptomatic for monkeypox, including soiled clothing, towels, bedding and bandages;
- physical contact within one metre for at least three hours face to face without a medical mask.

## Care for suspected, probable and confirmed cases and contacts

In the presence of an individual with genital or buccal ulcerations:

- consider the most common etiologies, i.e., herpes simplex, syphilis, chickenpox-zona virus or venereal lymphogranuloma. Refer to <https://www.canada.ca/en/public-health/services/infectious-diseases/sexual-health-sexually-transmitted-infections/canadian-guidelines.html> and <https://www.inesss.qc.ca/en/outils-cliniques/outils-cliniques/outils-par-types/guides-dusage-optimal.html> for diagnostic tests and the recommendations for care.

In the context of Nunavik, syphilis must be suspected, and treatment with long-acting penicillin may be provided immediately for individuals with compatible symptoms, pending test results;

- specimens should be obtained from individuals corresponding to the definition of suspected or probable cases to search for infection with the monkeypox virus.

**Instructions for suspected, probable and confirmed cases**

- Self-isolate at home:
  - individuals with respiratory symptoms or lesions difficult to cover (excluding the face) or suppurating lesions should be isolated in a room or a space limiting contact with others living under the same roof, if possible;
  - isolation may be lifted once all lesions have fully crusted over and dried and once a layer of healthy skin has formed;
  - avoid contact with immunocompromised individuals until all crusting has gone.
- Avoid sexual relations.
- Wear a medical mask and cover skin lesions if contact with asymptomatic individuals cannot be avoided.
- As precaution, infected individuals should protect their animals as they would other persons in their entourage. Infections with this virus have been identified in some exotic animals (e.g., rodents) and transmission between animals and humans is possible. Avoid contact with animals if possible.
- Do not share personal objects such as clothing, bedding, utensils, etc.
- Take precautions when handling soiled bandages or laundry to avoid any direct contact with contaminated material.
- Take precautions when washing laundry (e.g., bedding, towels, clothing):
  - do not shake or handle soiled laundry in a way likely to disperse infectious particles in the air;
  - wash soiled laundry in a washing machine with warm water and detergent.
- If an individual provides care for you, she<sup>1</sup> must observe hand hygiene with soap and water before and after providing care, don gloves before touching soiled objects and surfaces, discard the used gloves in a bag or closed waste container and then proceed with hand hygiene.
- In the absence of a sink for hand hygiene with soap and water, use an aqueous-alcoholic solution.

**Instructions for contacts who have been significantly exposed to a probable or confirmed case of monkeypox**

The instructions apply to contacts during the 21 days after significant exposure to a probable or confirmed case during the latter’s contagious period.

Situation	Instructions
Contact with lesions compatible with monkeypox	<ul style="list-style-type: none"> <li>• Consult a health professional.</li> <li>• Wear a medical mask during all social interactions, including at home.</li> <li>• Cover the lesions.</li> <li>• Avoid sexual relations.</li> <li>• Limit outings to essential activities.</li> </ul>
Contact with systemic symptoms compatible with monkeypox	<ul style="list-style-type: none"> <li>• Monitor the appearance of lesions and take temperature twice a day.</li> <li>• Wear a medical mask during social interactions outside the home.</li> <li>• Avoid sexual relations.</li> <li>• Limit outings to essential activities.</li> </ul>
Asymptomatic contact	<ul style="list-style-type: none"> <li>• Self-monitor symptoms and take temperature twice a day during the 21 days after the last significant exposure.</li> </ul>

<sup>1</sup> In the interest of simplicity, the masculine or feminine form is used in this text to denote either sex.

## Testing

- Contact the laboratory before taking the specimen to know the types of test as well as the procedures at your health centre.
- Possible specimens according to site and presentation of lesions:
  - swab for buccal lesions;
  - biopsy AND swab of corporeal lesions;
  - biopsy of crusting.
- Take specimens at two different sites.
- For swabs:
  - perform an NAAT (PCR) (such as for chlamydia or herpes);
  - dry specimens (without liquid for transport) are accepted and are no longer to be privileged;
  - a dry swab for liquid from a lesion or for the surface of the lesion is acceptable.
- For biopsy with punch:
  - remove the top of the lesion;
  - place the fresh tissue in a container for urine culture or other plastic container;
  - the specimen may be placed on a gauze pad moistened with saline.
- Transport:
  - keep specimens refrigerated until shipping for testing;
  - send specimens on wet ice (ice packs).

## Measures for prevention and control of infections

Clinicians should establish the following interim measures:

- apply measures as precautions against aerial contact and for eye protection for any clinical situation suggestive of infection with monkeypox;
- as much as possible, organize triage of individuals with compatible symptoms in order to avoid any unnecessary contact with other persons in the clinical setting, isolate them in a closed room of the clinic and have them wear a medical mask;
- personal protective equipment: professionals in direct contact with individuals with symptoms compatible with the monkeypox virus should wear single-use gloves, a disposable gown, eye protection and an N95 mask where possible;
- hygiene and cleanliness: monkeypox is deactivated by the disinfectants routinely used in clinical settings;
- hospitalization: negative-pressure chamber or, if unavailable, a room with closed door.

For further details on the measures for the prevention and control of infections, consult the [mesures de prévention et de contrôle pour les cliniques médicales et les centres hospitaliers de soins de courte durée](#) relative to monkeypox.

## **Reporting to the Department of Public Health**

For the moment, monkeypox has been declared a reportable disease. The Department of Public Health invites health professionals to report any situation suggestive of an infection compatible with monkeypox by directly calling the physician on duty for Public Health (toll-free at 1 855 964-2244 or, in case of problems with the toll-free number, 1 819 299-2990)

### **AND**

By confidential fax (1 866 867-8026).

For reporting by fax or e-mail, use the [formulaire national de déclaration MAD0](#).

For any questions or for clinical support during office hours, e-mail may be sent to [stbbi.nrbhss@ssss.gouv.qc.ca](mailto:stbbi.nrbhss@ssss.gouv.qc.ca).