BC Centre for Disease Control

Monkeypox

Information for healthcare providers about monkeypox.

Last updated: May 19, 2022

Monkeypox is a viral infection, caused by a virus of the Orthopoxvirus genus related to smallpox. Monkeypox is mostly present in Central and West African countries, but can be imported through travel. Clinical presentation resembles smallpox but is less severe.

Since May 2022, United Kingdom, USA and European countries have seen rising cases of monkeypox. Although at least one UK case was related with travel to an African country, many cases didn't report travel. Among these cases, a high proportion occurred in gay, bisexual and men who have sex with men. Monkeypox is not sexually transmitted but can be transmitted through direct contact.

In Canada, some people are under investigation for exposure to monkeypox or who may have symptoms and signs of monkeypox. In BC, public health will follow up with individuals who may have been exposed to monkeypox.

Clinical presentation

Incubation: 5 to 21 days, usually 7 to 14 days

Image credit: United Kingdom

Monkeypox infection has two clinical phases:

1. A prodromal illness that lasts between 1 to 5 days followed by fever, intense headache, lymphadenophathy, back pain, myalgia, fatigue.
2. A skin rash that begins 1-5 days after fever: rash evolves from maculopapular to vesicular lesions, pustules until crusting that scales off. Affected regions are: face (95 %), palms of soles and feet (75 %), oral mucous membranes (70 %), genitalia (30%), conjunctivae (20%) and cornea. Rash often begin on the face or genital area and spreads to other parts of the body. Number of lesions can vary from a few to thousands.

Symptoms last 2 to 4 weeks.

Children are at higher risk of severe disease. Potential complications include secondary infections, pneumonia, sepsis, encephalitis, keratitis with vision loss.

Mortality differs according to the viral strain. Cases in UK were from the West African clade, which has a mortality of approximately 1%.

Transmission

Period of communicability: during the symptomatic period, including the prodrome. Lesions are considered infectious until the scabs fall off and new skin can be seen.

Modes of transmission

Monkeypox doesn't generally spread easily between people. It can be transmitted by:

- Close contact with an infected animal (mostly in Africa), not present in BC
- Direct contact with cutaneous or mucosal lesions, body fluids and contaminated material such as linens or clothing;
- Typically transmission involves respiratory droplets from prolonged face-to-face contact. It is recommended that airborne, droplet and contact precautions be used in the clinical setting.

Management of suspected cases

All suspected cases should be discussed with your local microbiologist and infectious disease specialist to coordinate appropriate diagnostic testing and management. Please obtain infection control guidance and report suspected cases to the local Medical Health Officer immediately.

Diagnosis & Testing

Monkeypox diagnosis is confirmed by PCR testing (presence of monkeypox DNA). **Before sampling, consult Microbiologist on call at BCCDC PHL (604-661-7033)**.

- Lesion material/scrapings/tissue or blister fluids should be collected and placed in standard Universal Transport Medium (UTM) and shipped refrigerated for monkeypox testing. EDTA blood and urine can also be considered for testing.
- Monkeypox is a Risk Group 3 pathogen and samples from suspect cases need to be shipped as TGD category A to laboratories.
- Given that the differential includes HSV, VZV, syphilis, etc. Frontline testing laboratories should consider testing for HSV and VZV using Containment Level 2+ procedures. Other microbiology testing should likely involve CL-2+ procedures.
- Routine chemistry and haematology can proceed as normal given the existing safeguards that are routinely followed to protect staff from bloodborne infections.
- For now samples will be forwarded from the BCCDC PHL to the National Microbiology Laboratory for Monkeypox PCR and we are exploring the feasibility of implementing local monkeypox PCR and sequence-based detection.

A NML Special Pathogens requisition that includes exposure risk needs to be completed.

The turnaround time for testing is approximately 2 calendar days once the sample is received at the NML. For other testing details, please refer to the BCCDC Public Health Laboratory test menu on eLab

Infection Prevention & Control

- Implement airborne, droplet and contact precautions in addition to following routine infection prevention and control practices
  - Have the patient wear a medical mask and perform hand hygiene
  - Consult IPC and organizational guidelines regarding patient placement. Preferred room placement is an airborne infection isolation room (i.e., negative pressure room); if one is not available, use a private room with the door closed.
  - Refer to your organizational procedures for additional precautions, or to Public Health Agency of Canada's Routine Practices and Additional Precautions for Preventing the Transmission of Infection in Healthcare Settings guidance.
  - Refer to PICNet video resources for donning and doffing personal protective equipment
  - For further consultation and before discontinuing airborne, droplet and contact precautions, contact IPC in health authority-operated sites and public health in community.
  - Be vigilant with routine IPC practices, including hand hygiene, cleaning and disinfecting equipment, and cleaning and disinfecting the care environment according to usual protocols.
    - Use hospital-grade disinfectants for equipment and environmental cleaning and disinfection. Follow manufacturer's recommendations for concentration, contact time and care in handling.
    - Carefully handle used and soiled laundry (e.g., bedding, towels, patient gowns) by avoiding excessive shaking or flipping to prevent environmental or self-contamination.

Treatment

Most diseases are self-limited and require only supportive treatment.

Data is not available on the effectiveness of Cidofovir, brincidofovir and ST-246 in treating human cases of monkeypox. It is unknown whether or not a person with severe monkeypox infection will benefit from treatment with either antiviral, although their use may be considered on a case by case basis.

- Cidofovir and brindofovir have proven activity against poxviruses in in vitro and animal studies. Brincidofovir may have an improved safety profile over Cidofovir. Serious renal toxicity or other adverse events have not been observed during treatment of cytomegalovirus infections with Brincidofovir as compared to treatment using Cidofovir.
- Studies using a variety of animal species have shown that ST-246 is effective in treating orthopoxvirus-induced disease. Human clinical trials indicated the drug was safe and tolerable with only minor side effects.

References

- WHO monkeypox fact sheet
- Centre for Disease Control monkeypox information
- UK: Guidance on monkeypox