Fact Sheet: Mpox

Updated Mar 2024

What is Mpox?

Mpox is a contagious disease caused by the mpox virus (MPXV), which belongs to the Orthopoxvirus genus and causes flu-like symptoms and a rash that takes weeks to clear. Historically, mpox has mostly been reported within Africa but many countries around the world have reported cases during the 2022-2024 outbreak. Gay, bisexual, and other men who have sex with men made up a high number of the cases in 2022-2024, however, anyone who has been in close contact with someone who has mpox is at risk, regardless of gender. Many cases in the current outbreak aren't following the usual pattern of symptoms. This atypical presentation includes only a few lesions, no swollen lymph nodes, less fever and other signs of illness.

There are two types of mpox virus: **Clade I and Clade II.**

- **Clade I** have been observed to be more transmissible and to cause more severe infections. The **Clade I** type of mpox virus is more virulent has a fatality rate up to 10%. Outbreaks of Clade I have occurred in several Central African countries, including Democratic Republic of the Congo, the Republic of Congo, the Central African Republic, Cameroon, and Gabon.
- The CDC released a Health Alert Network Health Update about **Clade I** mpox cases caused by human-to-human transmission in the Democratic Republic of the Congo and has previously been associated with non-sexual routes of transmission. The **Clade I** outbreak in DRC has raised concern for the potential of importation of Clade I mpox to the USA.
- Currently, no Clade I mpox infections have been reported in the United States but if a medical provider suspects mpox in a patient with travel to the Democratic Republic of the Congo in the previous three weeks, presenting with lesions consistent with mpox, call the NYC DOHMH Provider Access Line (866-692-3641).
- Infections in the 2022–2024 outbreak are from **Clade II**, or more specifically, Clade IIb.
- **Clade II** has a <1% CFR. (Note: Severe illness and rare deaths have occurred among people who are severely immunocompromised, most often due to uncontrolled HIV)
- Infections with **Clade IIb** are rarely fatal. More than 99% of people who get this form of the disease are likely to survive.
- Vaccines (e.g., JYNNEOS) and other medical countermeasures (e.g., tecovirimat, brincidofovir, and vaccinia immune globulin intravenous) are available and expected to be effective for both Clade I and Clade II MPXV infections.

Disease Summary

Transmission:

- **Direct contact** with mpox rash and scabs from a person with mpox, as well as contact with their saliva, upper respiratory secretions (snot, mucus), and areas around the anus, rectum, or vagina.
- **Touching objects, fabrics, and surfaces** that have been used by someone with mpox and not disinfected (clothing, bedding, towels, fetish gear, or sex toys).
- **Prolonged face-to-face contact or intimate physical** contact (e.g. kissing, cuddling, and sex) with infected person.
- Close contact with **wild animals**, specifically small mammals like squirrels, rats, and mice that live in areas where mpox is endemic (found naturally, such as in West and Central Africa).
- Mpox virus can be spread to the fetus during **pregnancy** or to the newborn by close contact during and after birth.

Incubation Period:

- 3-17 days
- Illness lasting 2-4 weeks.
- Patient is infectious from 1-4 days before onset of rash until lesions have crusted over and new skin has formed.

Symptoms and Clinical Presentation:

- Fever/chills, headache, muscle aches backache, exhaustion, and swollen lymph nodes.
- Rash or lesions may appear 1-4 days after initial symptoms such as pimples or blisters on the face, inside mouth, hands, feet, chest, genitals, or anus. Onset of rash or lesions without fever has been reported.
- **Atypical presentation has been reported:**
  - Rash beginning in mucosal, genital, or perianal areas
  - Lesions may be localized to specific body site; may not appear on face or extremities; are in different stages of progression at same site

- Classical prodromal symptoms may be mild, not always occurring before the rash, or do not occur
- Symptoms such as anorectal pain, tenesmus, and rectal bleeding
- Rash presentation similar to varicella or some sexually transmitted infections (STI), such as syphilis, herpes, lymphogranuloma venereum (LGV), or other etiologies of proctitis

Progression of Mpox Rash

- Areas of erythema and/or skin hyperpigmentation are often seen around discrete lesions.
- Lesions can vary in size and may be larger than those shown.
- Lesions of different appearances and stages may be seen at the same point in time.
- The rash associated with mpox involves vesicles or pustules that are deep-seated, firm or hard, and well-circumscribed; the lesions may umbilicate or become confluent and progress over time to scabs.

Case Definition

Suspect Case

- New characteristic rash* OR
- Meets one of the epidemiological criteria and has a high clinical suspicion for mpox

Epidemiologic Criteria

Within 21 days of illness onset:

- Report having had contact with a person or people who have a similar appearing rash or received a diagnosis of confirmed or probable mpox **OR**
- Had close or intimate in-person contact with individuals in a social network experiencing mpox activity, this includes men who have sex with men (MSM) who meet partners through an online website, digital application ("app"), or social event (e.g., a bar or party) **OR**
- Traveled outside the US to a country with confirmed cases of mpox **AND** at least one of the above criteria **or** where MPXV is endemic **OR**
- Contact with a dead or live wild animal or exotic pet that is an African endemic species or used a product derived such animals (e.g., game meat, creams, lotions, powders, etc.)
- **For Clade I specifically:** travel history to Democratic Republic of the Congo, Republic of Congo, Central African Republic, Cameroon, Gabon, or South Sudan.

Exclusion Criteria

A case may be excluded as a probable mpox case if:

- An alternative diagnosis can fully explain the illness **OR**
- An individual with symptoms consistent with mpox but who does not develop a rash within 5 days of illness onset **OR**
- A case where high-quality specimens do not demonstrate the presence of Orthopoxvirus or MPXV or antibodies to orthopoxvirus

Note: Diagnosis of an STI does not exclude mpox; concurrent infection may be present. If suspicion for mpox is not high, clinicians may consider instructing the patient to isolate at home for 5 days after the start of fever/prodromal symptoms. During this period, the patient should watch for the development of a rash. If no rash develops after 5 days, the patient may resume normal activity. However, if a rash develops, the patient should contact their PCP (or Virtual ExpressCare if no PCP), who should then alert NYC DOHMH as above.

Mpox Reinfection Criteria

Mpox reinfection occurs when a person who was classified as a confirmed or probable mpox case, has a recurrence of mpox symptoms after complete resolution of the initial confirmed or probable MPXV infection.

- Suspect Mpox Reinfection Case:
  - A case that fits the clinical description of mpox reinfection and meets any of the following criteria:
    - New rash*, **OR**
    - Meets one of the epidemiologic criteria and has a high clinical suspicion for mpox
- Probable Mpox Reinfection Case:
  - A case that meets the criteria for a suspect mpox reinfection case **AND** demonstrates one of the following from a patient specimen:
    - Orthopoxvirus or MPXV DNA by polymerase chain reaction of a clinical specimen **OR**
    - Orthopoxvirus using immunohistochemical or electron microscopy testing methods **OR**
    - Demonstrable increase in anti-Orthopoxvirus IgG antibodies in paired serum samples collected within 3 days of symptom onset and 7-14 days after symptom onset, for patients with no prior mpox/smallpox vaccination or vaccinated ≥180 days prior to symptom onset

Clinicians are recommended to consider mpox as a possible diagnosis if a consistent clinical presentation occurs, even in those who are vaccinated or were previously diagnosed with mpox.

Key Steps for Frontline Clinical Staff

Identify
- Assess the patient for signs and symptoms, travel history, and epidemiological criteria. Note, CDC urges clinicians to consider mpox when lesions consistent with mpox are observed in a patient, even if an alternate etiology (e.g., herpes simplex virus, syphilis) is considered more likely. For assistance, contact facility Infection Prevention and Control.

Isolate
- Initiate prompt triage and isolation. Provide a mask to the patient and a bedsheet or gown to cover any exposed lesions.

Inform
- If mpox **Clade I** is suspected based on travel history or other epidemiological factors, notify department and facility leadership and infection prevention and control. Call NYC DOHMH Provider Access Line to ascertain risk: 866-692-3641. If **mpox Clade I** is ruled in, call Central Office System Special Pathogens Program: 646-864-5442 (Note mpox Clade II does not require calling NYC DOHMH)

Infection Prevention and Control for Mpox

Hand Hygiene

- Perform hand hygiene before and after all patient contact, contact with potentially infectious material, and before putting on and upon removal of PPE, including gloves. Use soap and water for at least 20 seconds or use alcohol-based hand rubs. If hands are visibly soiled, use soap and water.

Patient Placement

- Place patient in a private examination room. If **Clade I** is suspected, prioritize patient placement into an **Airborne infection isolation room (AIIR).** Keep door closed and minimize entry and exit. Limit transport and movement of the patient outside of the room. If conducting aerosol generating procedures, airborne infection isolation room (AIIR) is required for both Clade I and II.
- Patients requiring intubation and/or extubation and any procedures likely to spread oral secretions should be performed in an AIIR and should be placed on Airborne + Contact + Eye Protection precautions.
- If uncertain or if Varicella is being considered, patients should be placed on Airborne + Contact + Eye Protection precautions until ruled out.
- When outside of the isolation room, patients should wear a face mask to contain secretions and cover lesions with a gown or bedsheet. Keep a log of all persons who care for or enter the room or care area of these patients.

Transmission-Based Precautions & Personal Protective Equipment

Adhere to **Enhanced Droplet + Contact + Eye Protection Precautions**. Use gown, respirator, goggles or face shield, and gloves. Follow the **SP Level I PPE Donning and Doffing Checklist.** Do not reuse or extend the use of PPE. Those with suspected mpox infection should have recommended isolation precautions for mpox maintained until mpox infection is ruled out.

Those with confirmed mpox infection should have recommended isolation precautions for mpox maintained until all lesions have crusted, those crusts have separated, and a fresh layer of healthy skin has formed underneath.

Environmental Infection Control

- **For Clade I & II,** handle and dispose of waste as routine hospital regulated medical waste.
- Handle soiled laundry according to standard practices, avoiding contact with contaminants from the rash that maybe present on the laundry. Do not shake the linens as this could spread infectious materials.

Diagnostic Testing and Specimen Collection

For **Mpox Clade II** testing must be ordered in Epic and will be performed at LabCorp.

If **Clade I** is suspected, call NYC DOHMH Provider Access Line and only test/collect specimens for mpox after consultation with NYC DOHMH. Any suspected clade I specimens will be sent to NYC DOHMH Public Health Lab/CDC for clade identification.

- Specimen collection tutorial can be found on the NYC H+H MPox Resource Hub: http://hhcinsider.nychhc.org/sites/mpox/Pages/etr.aspx
- Further information regarding specimen collection and testing can be found here: https://www.nyc.gov/assets/doh/downloads/pdf/labs/mpox-specimen-testing.pdf

Note: Test all sexually active people being evaluated for suspect mpox for HIV if their status is unknown.

Treatment and Immunization

Vaccines (e.g., JYNNEOS) and other medical countermeasures (e.g., tecovirimat, brincidofovir, and vaccinia immune globulin intravenous) are available and expected to be effective for both Clade I and Clade II MPXV infections. Anyone of any sexual orientation or gender identity who is at risk for mpox can get vaccinated. Most patients who have recovered from mpox (including infection with Clade II MPXV) or have been vaccinated with JYNNEOS or ACAM2000 are expected to have cross-protection to Clade I MPXV. However, clinicians are recommended to consider mpox as a possible diagnosis if a consistent clinical presentation occurs, even in those who are vaccinated or were previously diagnosed with mpox.

Providers should inform patients with mpox about the Study of Tecovirimat for Human Mpox Virus (STOMP) for their voluntary participation. Multiple study sites are available in NYC. If enrollment in STOMP is not feasible for a patient (e.g., a clinical trial site is not accessible), tecovirimat use under CDC's expanded access protocol should be in accordance with CDC's Guidance for Tecovirimat Use.

Additional Information

- CDC Mpox website: https://www.cdc.gov/poxvirus/mpox/clinicians/index.html
- NYC DOHMH: https://www.nyc.gov/site/doh/providers/health-topics/mpox.page