

July 22, 2022

Health Notice for District of Columbia Health Care Providers
Monkeypox Virus Infection in the United States and Other Non-endemic Countries – 2022

SUMMARY

Since early May 2022, a multi-country outbreak of monkeypox has been ongoing in countries that are non-endemic for monkeypox. As of July 20th, there were 2313 confirmed monkeypox cases in the United States and its territories. As of July 21st, there were 110 confirmed cases in the District of Columbia.

The purpose of this Health Alert Notice is to provide situational updates and to notify healthcare providers of CDC's recommendations for patient investigation, testing, and infection control. Healthcare providers should continue to monitor DC Health Alert Notice webpage for updates: dchealth.dc.gov/page/health-notices.

BACKGROUND

Since early May 2022, a multi-country outbreak of monkeypox has been ongoing in countries that are non-endemic for monkeypox. Almost all previous cases of monkeypox diagnosed in non-endemic countries had epidemiologic links with travel to endemic areas of Africa. Most of the current outbreak cases did not have epidemiologic links to endemic areas. The evidence is strong that monkeypox is spreading person-to-person in non-endemic countries. The first case in the United States was confirmed on May 18th. As of July 20th, there were 2313 confirmed monkeypox cases in the United States and its territories, and as of July 21st there were 110 confirmed cases in the District of Columbia. As of July 21st there were 15,605 confirmed cases reported worldwide in 66 non-endemic countries. There are current outbreaks in 6 endemic as well as 2 non-endemic African countries. There have been no monkeypox deaths reported to date in non-endemic countries. CDC continues to rate the threat level of monkeypox to the general public as low.

Monkeypox is a viral zoonotic infection which is endemic to several Central and West African countries. It is a DNA virus of the orthopoxvirus genus of the Poxviridae family. There are two clades of the virus: the West African clade and the Congo Basin (Central African) clade. The current outbreak strain belongs to the West African clade, which historically has caused less severe infections in humans compared to the Congo Basin clade. The natural animal reservoir for monkeypox remains uncertain. Monkeypox was first discovered in monkeys in 1958. The first human case occurred in the Democratic Republic of the Congo in 1970. Animal-to-human transmission in endemic countries can occur through a bite or scratch, or preparation/consumption of wild game (bush meat). Once infected, humans can transmit monkeypox to other people in several ways: through contact with body fluids or monkeypox lesions, from prolonged face-to-face contact via respiratory droplets (and possibly short-range aerosols), and from contaminated materials such as bedding or clothing. The incubation period ranges from 5-21 days (average 6-13 days). It is usually a self-limiting disease but can be severe or fatal. There is no specific treatment for monkeypox virus infection, although antivirals developed for use in patients with smallpox may be considered for use under some circumstances. Anyone, regardless of gender or sexual orientation, can contract and spread monkeypox; however, the majority of cases identified during this current outbreak have occurred in men who have sex with men (MSM). People at increased risk for severe disease include children, pregnant women, and immunocompromised individuals.

The classic presentation of monkeypox involves a characteristic diffuse centrifugal rash similar to the rash of smallpox. Lesions are preceded by a prodrome that includes fever, lymphadenopathy, and other nonspecific symptoms such as malaise, headache, and muscle aches. Monkeypox lesions are deep-seated, well-circumscribed, and often have central umbilication. Lesions progress through synchronized stages: macules, papules, vesicles, pustules, to scabs. A person is considered infectious from the onset of

symptoms until such time as the lesions have crusted, the crusts have separated, and a fresh layer of healthy skin has formed underneath. Of note, atypical clinical presentations have been common during this current outbreak in non-endemic countries.

CLINICAL CONSIDERATIONS

Case definitions:

The CDC updated and expanded monkeypox case definitions on June 1st to encourage broader testing and enhance case-finding:

Clinical and laboratory classification	Criteria
Suspected	New characteristic rash* OR
	Meets one of the epidemiologic criteria and has high clinical suspicion† for monkeypox
Probable	No suspicion of other recent <i>Orthopoxvirus</i> exposure (e.g., <i>Vaccinia virus</i> in ACAM2000 vaccination) AND demonstration of the presence of
	Orthopoxvirus DNA by polymerase chain reaction testing of a clinical specimen OR
	<ul style="list-style-type: none"> • <i>Orthopoxvirus</i> using immunohistochemical or electron microscopy testing methods OR • Demonstration of detectable levels of anti-orthopoxvirus IgM antibody during the period of 4–56 days after rash onset
Confirmed	Demonstration of the presence of <i>Monkeypox virus</i> DNA by polymerase chain reaction testing or Next-Generation sequencing of a clinical specimen OR
	Isolation of <i>Monkeypox virus</i> in culture from a clinical specimen
Epidemiologic classification	
Within 21 days of illness onset:	Reports having contact with a person or persons with a similar appearing rash or with a person who has received a diagnosis of confirmed or probable monkeypox OR
	Had close or intimate in-person contact with persons in a social network experiencing monkeypox infections. This includes MSM who meet partners through an online website, digital application (“app”), or social event (e.g., a bar or party) OR
	Traveled, within 21 days of illness onset outside the United States to a country with confirmed cases of monkeypox or where <i>Monkeypox virus</i> is endemic OR
	Had contact with a dead or live wild animal or exotic pet that is an African endemic species, or used a product derived from such animals (e.g., game meat, creams, lotions, powders, etc.)
Exclusions	
A case might be excluded as a suspected, probable or confirmed case if:	An alternative diagnosis* can fully explain the illness OR
	A person with symptoms consistent with monkeypox does not develop a rash within 5 days of illness onset OR
	A case where high-quality specimens do not demonstrate the presence of <i>Orthopoxvirus</i> or <i>Monkeypox virus</i> or antibodies to <i>Orthopoxvirus</i>

* The characteristic rash associated with monkeypox lesions involves the following: deep-seated and well-circumscribed lesions, often with central umbilication; and lesion progression through specific sequential stages: macules, papules, vesicles, pustules, and scabs. The rash can sometimes be confused with other diseases that are more commonly encountered in clinical practice (e.g., syphilis, herpes, and varicella zoster). Historically, sporadic accounts of patients co-infected with *Monkeypox virus* and other

infectious agents (e.g., varicella zoster, syphilis) have been reported; so patients with a characteristic rash should be considered for *Monkeypox virus* testing, even if tests for other infectious agents are positive.

† Clinical suspicion may exist if lesions consistent with those from more common infections (e.g., syphilis, herpes, and varicella zoster) co-exist with lesions that may be characteristic of monkeypox.

Clinical features:

- In addition to the classic monkeypox presentation described in the Background section, clinicians should be aware that atypical clinical presentations have been common during the current outbreak. Atypical presentations have included:
 - Localized rather than diffuse rash (e.g., confined to genital or perianal area)
 - Lesions in different stages of evolution (e.g., vesicles and pustules appearing together)
 - Lack of a prodrome, or systemic symptoms appearing after the rash
 - Patient presenting with anorectal pain, tenesmus, and/or rectal bleeding. Lesions discovered when clinician does an exam of anal area.
- For more information, see [cdc.gov/poxvirus/monkeypox/clinicians/clinical-recognition.html](https://www.cdc.gov/poxvirus/monkeypox/clinicians/clinical-recognition.html).

Clinical notes:

- Perform a thorough physical exam including the skin, oral mucosa, and genital and anorectal area.
- Monkeypox can occur concurrently with other rash illnesses, e.g., varicella-zoster virus (VZV) and herpes simplex virus (HSV) infections. Clinicians should examine for lesions of monkeypox even if they observe lesions with the characteristic appearance of another clinical entity.
- Monkeypox that presents with isolated genital or perianal lesions may be confused with more commonly seen STIs (Sexually Transmitted Infections), e.g., syphilis, chancroid, herpes). Clinicians should test for STIs as appropriate. The diagnosis of an STI does not exclude concurrent monkeypox infection.

Therapeutics:

Supportive care is the mainstay of monkeypox treatment. There are no specific treatments for monkeypox. However, since monkeypox and smallpox are closely related, smallpox therapeutics are available from the Strategic National Stockpile (SNS) under expanded access (“compassionate use”) protocols and can be considered for certain categories of patients including:

- People with severe monkeypox disease (e.g., hemorrhagic disease, confluent lesions, sepsis, encephalitis, or other conditions requiring hospitalization)
- People who may be at high risk of severe monkeypox disease:
 - People with immunocompromise (e.g., human immunodeficiency virus/acquired immune deficiency syndrome infection, leukemia, lymphoma, generalized malignancy, solid organ transplantation, therapy with alkylating agents, antimetabolites, radiation, tumor necrosis factor inhibitors, high-dose corticosteroids, being a recipient with hematopoietic stem cell transplant <24 months post-transplant or ≥24 months but with graft-versus-host disease or disease relapse, or having autoimmune disease with immunodeficiency as a clinical component)
 - Pediatric populations, particularly patients younger than 8 years of age
 - People with a history or presence of atopic dermatitis, persons with other active exfoliative skin conditions (e.g., eczema, burns, impetigo, varicella zoster virus infection, herpes simplex virus infection, severe acne, severe diaper dermatitis with extensive areas of denuded skin, psoriasis, or Darier disease [keratosis follicularis])
 - Pregnant or breastfeeding women
 - People with one or more complications (e.g., secondary bacterial skin infection; gastroenteritis with severe nausea/vomiting, diarrhea, or dehydration; bronchopneumonia; concurrent disease or other comorbidities)
- People with monkeypox virus aberrant infections that include accidental implantation in eyes, mouth, or other anatomical areas where monkeypox virus infection might constitute a special

hazard (e.g., the genitals or anus)

Treatments available for monkeypox include:

- Tecovirimat (trade name **TPOXX**, also known as ST-246): FDA approved for treatment of smallpox in adults and children
 - The **DC Health Monkeypox TPOXX Request Form** can be accessed at forms.office.com/g/NtnXmp17FF.
- VIGIV (Vaccinia Immune Globulin Intravenous): licensed by FDA for complications of vaccinia vaccination
- Cidofovir (trade name *Vistide*): FDA approved for treatment of CMV retinitis in patients with AIDS
- Brincidofovir¹ (trade name *Tembexa*, also known as CMX001): FDA approved for treatment of smallpox in adults and pediatric patients including neonates
- For more information about treatments for monkeypox, see cdc.gov/poxvirus/monkeypox/clinicians/treatment.html.
- Clinicians interested in accessing other treatments besides TPOXX should contact DC Health at monkeypox.epi@dc.gov.

Monitoring close contacts of people with monkeypox

- DC Health will conduct contact tracing of monkeypox cases to identify close contacts.
- Close contacts will be classified by exposure risk level: high risk, intermediate risk, low/uncertain risk, or no risk.
- Transmission of monkeypox requires prolonged close contact with an infected individual. Brief interactions and those conducted wearing proper PPE (e.g., healthcare workers) are not high-risk exposures.
- Post-exposure prophylaxis (PEP) with smallpox vaccine will be offered to all high-risk contacts and certain intermediate risk contacts.
- Contacts will be monitored for 21 days for the development of monkeypox symptoms.
- Contacts who remain asymptomatic can continue their normal daily activities during the monitoring period.
- For more information about monitoring of close contacts, see cdc.gov/poxvirus/monkeypox/clinicians/monitoring.html.

Pre-exposure Prophylaxis (PrEP):

- Use of smallpox vaccine for PrEP is recommended only for certain occupational categories at increased risk of exposure to monkeypox. This includes:
 - Clinical laboratory personnel who perform testing to diagnose orthopoxviruses, including those who use polymerase chain reaction (PCR) assays for diagnosis of orthopoxviruses, including Monkeypox virus
 - Research laboratory workers who directly handle cultures or animals contaminated or infected with orthopoxviruses that infect humans, including Monkeypox virus, replication-competent Vaccinia virus, or recombinant Vaccinia viruses derived from replication-competent Vaccinia virus strains
 - Other healthcare and public health response team members designated by DC Health
- **At this time, most healthcare personnel in the United States are not recommended to receive the monkeypox vaccine.**

¹ CDC is currently developing an EA-IND (Expanded Access for an Investigational New Drug) protocol to guide use of Brincidofovir for the treatment of monkeypox, but it is currently **not** available from the Strategic National Stockpile.

Expanded PEP (ePEP, also known as PEP++)

- DC Health is now offering expanded PEP to individuals 18 years and older residing in the District of Columbia who are at high risk for exposure to monkeypox.
- This includes:
 - Gay, bisexual, and other men OR transgender women and nonbinary persons assigned male at birth who have sex with men **AND** who have had multiple partners or any number of anonymous or pseudo-anonymous partners in the past 14 days
 - Sex workers (of any sex or gender identity)
 - Staff (of any sex or gender identity) at establishments where sexual activity occurs (e.g., bathhouses, saunas, sex clubs)
- For more information about DC Health’s Monkeypox Vaccination Clinic, visit dchealth.dc.gov/page/monkeypox.

Infection control recommendations for healthcare facilities:

- Transmission of monkeypox in healthcare settings has been a rare occurrence to date.
- **Recommended precautions:** Standard, contact and droplet precautions should be used for any patient presenting with symptoms of possible monkeypox. There is a theoretical risk of airborne transmission, so airborne precautions should also be applied.
- Isolate patients with suspected/confirmed monkeypox in a private room as soon as possible. No special air handling is necessary². Keep door shut if possible.
 - If a private room is not available, take steps to minimize the patient’s exposure to other people.
 - Minimize transport outside of the patient’s room to only medically essential purposes.
 - The patient should wear a mask and any exposed lesions should be covered with a gown or sheet if:
 - They are not in a private room
 - OR
 - They are transported outside of their room.
- **Recommended personal protective equipment (PPE) for healthcare personnel:** Gown, gloves, eye protection (i.e., goggles or a face shield that covers the front and sides of the face), and NIOSH (National Institute for Occupational Safety & Health)-certified N95 respirator.
 - PPE should be donned before entering the patient’s room. All PPE should be disposed of prior to leaving the patient’s room.
- **Waste management:**
 - During the current global outbreak of West African clade monkeypox, patient medical waste may be treated as UN3291 Regulated Medical Waste in the same manner as any other potentially infected medical waste (e.g., soiled dressings, contaminated sharps).
 - *If there is suspicion for Congo Basin clade monkeypox* (i.e., history of recent travel to the Democratic Republic of the Congo, the Central African Republic, Cameroon, or Gabon in the last 21 days), medical waste must be treated as Category A Regulated Medical Waste)
 - For more information, see phmsa.dot.gov/transporting-infectious-substances/planning-guidance-handling-category-solid-waste.
- More information on infection prevention and control in healthcare settings can be found at cdc.gov/poxvirus/monkeypox/clinicians/infection-control-healthcare.html.

Infection control recommendations for home settings:

- Patients who do not require hospital admission may isolate at home. Feasibility of home isolation may be influenced by factors such as the presence of other household members or pets, the nature and extent of lesions present, and whether the patient is a child.

² Intubation, extubation, and other procedures likely to spread oral secretions should be performed in an airborne-infection isolation room.

- During home isolation patients should:
 - not leave home except to get medical care
 - avoid visitors
 - wear a mask or respirator around others (especially if the patient has respiratory symptoms)
 - If the patient is unable to wear a mask or respirator, household members should wear a mask or respirator when around the patient.
 - cover their lesions with clothing as much as possible (e.g., long sleeves, long pants).
 - If they have extensive lesions that cannot be covered (e.g., weeping/drainage lesions, lesions on the face) or if they have respiratory symptoms, they should isolate in a room or area separate from other household members and pets.
- Household members should limit contact with the isolating person.
- Household members who must provide care to people who are isolating should wear disposable gloves if they have any direct contact with lesions. Dispose of gloves after use and perform hand hygiene.
 - Hand hygiene should also be performed after touching lesion material, clothing, linens, or environmental surfaces that may be contaminated with lesion material.
- More information about home isolation can be found at cdc.gov/poxvirus/monkeypox/clinicians/infection-control-home.html.

TESTING

Clinicians should consult DC Health if they suspect monkeypox. Appropriately collected samples will be tested for monkeypox virus infection at the DC Public Health Laboratory (PHL) in consultation with CDC.

Specimen Collection

- People with suspected monkeypox virus infection should have lesion samples collected for testing as soon as possible. Sample collection can begin after consulting with DC Health.
- Appropriate PPE should be worn during specimen collection (see page 5).
- Lesion material is required for persons with an active lesion or rash. Lesion material includes lesion fluid, lesion roof, lesion tissue, or crust³. Preferably, specimens should be collected from lesions on different areas of the body and/or from lesions with differing appearances.
- The process for collecting a lesion specimen for preliminary and confirmatory testing is as follows:
 - Vigorously swab or brush lesion with two separate sterile dry polyester or Dacron swabs.
 - Break off end of applicator of each swab into a 1.5- or 2-mL screw-capped tube with O-ring or place each entire swab in a separate sterile container.
- For more information, see cdc.gov/poxvirus/monkeypox/clinicians/prep-collection-specimens.html.

Reporting to DC Health

Please notify DC Health about suspected monkeypox cases by phone immediately at 844-493-2652 AND Submit a Notifiable Disease and Condition Case Report Form online using DCRC: dccovid.force.com/provider/s/login. DC Health will provide assistance and work with the DC PHL to coordinate collection of lesion samples and testing and consult with CDC as needed.

References

- Centers for Disease Control and Prevention, *Monkeypox*, June 30, 2022, at cdc.gov/poxvirus/monkeypox/index.html
- Centers for Disease Control and Prevention Health Alert Network, *Updated Case Finding*

³ Currently, PHL can only accept dry swab specimens. For the most current information about orthopox/monkeypox testing at LabCorp, see labcorp.com/infectious-disease/monkeypox, and for Quest, see questdiagnostics.com/healthcare-professionals/about-our-tests/infectious-diseases/monkeypox.

Guidance: Monkeypox Outbreak United States, 2022, June 14, 2022, at emergency.cdc.gov/han/2022/han00468.asp

- World Health Organization, *Multi-country monkeypox outbreak: situation update*, June 27, 2022, at who.int/emergencies/disease-outbreak-news/item/2022-DON396
- World Health Organization, *Multi-country outbreak of monkeypox, External situation report #1, July 6, 2022*, at who.int/publications/m/item/multi-country-outbreak-of-monkeypox--external-situation-report--1---6-july-2022

**For more information, or to report monkeypox cases, please contact the Division of Epidemiology – Disease Surveillance and Investigation:
Phone: 1-844-493-2652 | Fax: (202) 442-8060
Email: doh.epi@dc.gov**