Health Care Provider Update: 2022 Monkeypox Outbreak

Mary Foote, MD, MPH
New York City Department of Health and Mental Hygiene
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The information presented is based on our knowledge as of today and is subject to change.
Agenda

• Background on monkeypox and current outbreak
• Clinical presentation and epidemiology
• Infection control
• Case and contact management
• How to request testing
• Vaccine clinic
Background

- Monkeypox is caused by the monkeypox virus, an Orthopoxvirus
  - Other Orthopoxviruses include variola virus (smallpox) and vaccinia virus (used in the smallpox vaccine)
  - Monkeypox is not related to chickenpox
  - Two clades enzootic to west and central Africa
    - West African clade 1% case fatality rate
    - Central Africa clade 10% case fatality rate
- First discovered in 1958 among research monkeys that developed a pox-like disease in Denmark
  - The reservoir of the virus is unknown; however African rodents and non-human primates may harbor the virus and infect people
- First human case recorded in 1970 in a child from the Democratic Republic of the Congo
- Historically human cases limited to several central and western African countries
  - Prior to the 2022 global outbreak, nearly all human monkeypox cases outside of Africa were linked to international travel to central and western Africa, or animals imported from west Africa
Previous Cases Outside of Africa

• **U.S. 2003**: Outbreak from imported African rodents
  - 47 human cases from contact with infected pet prairie dogs (the prairie dogs were infected while housed near imported small mammals from Ghana)
  - This was the first time that human monkeypox was reported outside of Africa

• **U.S. 2021**: Two travel-associated cases
  - Residents from Texas and Maryland infected while visiting Nigeria and diagnosed after returning to the U.S.

• **Israel 2018**: 1 case

• **United Kingdom (UK) 2018-2022**: 7 cases

• **Singapore 2019**: 1 case

Global Outbreak

Data as of 22 Jun 2022 5:00 PM EDT

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*Notes: Numbers shown are sourced from publicly available official sources, such as the WHO, European CDC, US CDC, and Ministries of Health. Data are provided for situational awareness only and are subject to change. Confirmed cases include those confirmed as monkeypox virus and may include cases only confirmed as orthopoxvirus.

https://www.cdc.gov/poxvirus/monkeypox/response/2022/world-map.html
U.S. Outbreak

• **Total cases: 173**, as of June 23, 2022
• **Median Age: 37 years** (range 20-76 years)
• **CA, FL, IL, NY and MA** have 10 or more cases

https://www.cdc.gov/poxvirus/monkeypox/response/2022/us-map.html
NYC Cases - May 19-June 23, 2022

Number of cases = 30

Confirmed/probable monkeypox cases

Date of diagnosis
Transmission

• Person-to-person transmission through direct contact with an infected persons lesions or body fluid

• Indirect transmission through contact with fomites contaminated by an infected persons lesions or bodily fluids (e.g., sheets, clothing, towels)

• Exposure to respiratory secretions though prolonged face-to-face encounters (droplet), or aerosol generating procedures
Clinical Presentation

• Current cases have atypical features
• Rash still characteristic; but often starting in genital and perianal areas or orally
  ◦ Depending on when the patient presents, the progression of the rash may not appear characteristic, especially if lesions are in the early stages of progression
• Rash sometimes not disseminating to other parts of body and lesions may be in different stages
• Location of rash and lesions likely reflective of points of contact
• Proctitis may be initial complaint
• Prodromal symptoms
  ◦ May be mild, not present, not detected or appear after rash
  ◦ Fever, headache, myalgia, lymphadenopathy, night sweats, chills

Photo credit: UK Health Security Agency
Clinical Presentation

- Patient infectious once symptoms begin (whether prodromal or rash symptoms) and isolation precautions should be continued until all lesions have resolved, the scabs have fallen off, and a fresh layer of intact skin has formed
  - Typically, 2-4 weeks
- Usually mild, self-limiting disease course without the need for specific therapy
- Complications of monkeypox can include pneumonitis, encephalitis, sight-threatening keratitis, and secondary bacterial infections, strictures due to scarring particularly anogenital tissue
- Prognosis depends on multiple factors, such as previous vaccination status, initial health status, concurrent illnesses, and comorbidities
Clinical Presentation

- May be confused with sexually transmitted infections (STI) or other conditions, however the diagnosis of an STI does not exclude monkeypox as a concurrent infection may be present
- Genital ulcers
  - Herpes simplex virus, syphilis, lymphogranuloma venereum (LGV), granuloma Inguinale
- Diffuse rash
  - Syphilis, varicella/VZV, disseminated herpes, molluscum contagiosum, disseminated gonococcal infection
- Proctitis
  - Gonorrhea, chlamydia (including LGV), HSV

CDC COCA Webinar https://emergency.cdc.gov/coca/ppt/2022/052422_slides.pdf
Epidemiology

Cases primarily among gay, bisexual, and other men who have sex with men (MSM)

• UK – initial 320 cases (May 1 through June 8); **99% male**, median age is 38 years
  ◦ A detailed questionnaire of 152 cases revealed:
    ◦ 151 identified as gay, bisexual and other MSM, or reported same sex contact; 1 declined to answer
    ◦ Among the 151 who identified as MSM, 45 participated in a detailed survey
      ◦ 44% reported more than 10 sexual partners in the previous 3 months
      ◦ 44% reported group sex during the incubation period
  
• Montreal – initial 125 cases (May 1 through June 12); **99% male**
  ◦ Risk factors reported as the most likely source of infection include:
    ◦ Attendance at social and sexual venue/space
    ◦ reported sexual contact with more than 2 partners

Monkeypox Presenting as Genital Rash, Australia, May 2022

• HIV-positive (well controlled) man in his 30s developed a genital rash 5 days after unprotected intercourse with four male partners.

• Initial symptoms were painless white pustules on the penis that became painful and pruritic.

• Fever and malaise began 3 days after the penile rash and over the subsequent 5 days the rash disseminated to his trunk, then more sparingly to the face and limbs while the genital lesions crusted over.

Epidemiological and Clinical Features of Monkeypox Cases London, United Kingdom

- 54 individuals diagnosed with monkeypox who attended open-access sexual health clinics in London, UK:
  - All identified as MSM, median age of 41 years (IQR 34-45 years) and 70% white
  - 24% living with HIV
  - 67% fatigue or lethargy, 57% fever, 55% had lymphadenopathy, 18% no prodromal symptoms
  - 100% skin lesions (94% anogenital, 89% multiple lesions, 72% with lesions affecting only 1-2 anatomical sites)
  - 25% had a concurrent STI
  - 11% required hospitalization due to localized cellulitis requiring antibiotic treatment and analgesia

“High rates of concomitant STIs and frequent anogenital symptoms are suggestive of transmission through local inoculation during close skin to skin or mucosal contact, such as sexual contact”
Tecovirimat for Treatment

• Tecovirimat (TPOXX) is an antiviral medication approved by FDA to treat smallpox disease
  ◦ Oral capsule and IV formulations
  ◦ Can be given on outpatient basis

• CDC-held Emergency Access Investigational New Drug (IND) Protocol allows use of Tecovirimat for primary or early empiric treatment of monkeypox in people of all ages
  ◦ Available from the Strategic National Stockpile

• Available upon consultation with the NYC Health Department

• Certain documentation related to tecovirimat treatment are required as part of the IND protocol

https://emergency.cdc.gov/coca/ppt/2022/052422_slides.pdf
https://www.accessdata.fda.gov/drugsatfda_docs/label/2018/208627s000lbl.pdf
When Should Treatment Be Considered?

- Severe disease
  - e.g., hemorrhagic disease, confluent lesions, sepsis, encephalitis
- High risk of severe disease
  - Immunocompromised, pediatric populations, history or presence of atopic dermatitis or other active exfoliative skin conditions (e.g., eczema, impetigo, VZV, HSV, severe acne) and pregnant or breastfeeding women
- Complications
  - e.g., secondary bacterial skin infection; gastroenteritis with severe nausea/vomiting; bronchopneumonia
- Aberrant infections
  - Eyes, mouth, or other anatomical areas where monkeypox virus infection might constitute a special hazard (e.g., the genitals or anus)
Vaccination

• Two licensed vaccines
  ◦ JYNNEOSTM: Approved to prevent smallpox and monkeypox disease in adults 18 years of age and older
  ◦ ACAM2000: Approved to prevent smallpox disease; can be used for monkeypox during an outbreak
• Preexposure prophylaxis (PrEP)
  ◦ At this time, most clinicians and laboratorians are not advised to receive orthopoxvirus PrEP
  ◦ Consider PrEP for laboratorians performing the orthopoxvirus generic test to diagnose orthopoxviruses, including monkeypox
• Postexposure prophylaxis (PEP)
  ◦ Anyone with a high or intermediate degree of exposure to monkeypox virus
  ◦ PEP administered within 4 days of exposure may prevent disease
  ◦ PEP administered 5 to 14 days after exposure may reduce severity of illness, but may not prevent disease

https://www.fda.gov/vaccines-blood-biologics/jynneos; https://www.fda.gov/media/75792/download; https://www.cdc.gov/mmwr/preview/mmwrhtml/mm5708a6.htm
Who to Test

• Patients with a **clinically compatible rash** and who within the 21 days before symptom onset meet any of the following:
  ◦ Men who had close physical contact (sexual contact, kissing, touching) with multiple or anonymous other men
  ◦ Anyone who had multiple anonymous sexual partners
  ◦ Anyone who had contact with a person who was diagnosed with suspect or confirmed monkeypox
• Any patient with a **characteristic monkeypox lesion** that is deep-seated, well-circumscribed and with central umbilation
• Among recent infections, prodromal illness has not always preceded rash onset, and lymphadenopathy has not been consistently reported; neither is required for consideration for testing

**Clinically compatible rash** evolves from macules, papules, vesicles, and then pustules, which eventually form scabs that dry and fall off. In latter stages **characteristic monkeypox lesions** are firm, deep, well circumscribed and umbilicated. Depending on when the patient presents, the progression of the rash may not appear to fit this pattern, especially if lesions are in the early stages of progression.
How to Test

• Testing can only be performed at NYC Public Health Laboratory and must be approved in advance
  ◦ CDC preparing five commercial diagnostic laboratories to receive specimens – weeks away
  ◦ Other facilities may be developing “lab developed tests” – require FDA approval
• Contact the NYC Health Department Provider Access Line at 866-692-3641
  ◦ Staff will assist with a clinical evaluation to determine if testing indicated
• General instructions for collecting, storing and transporting specimens can be found online and will be provided at the time testing is authorized
• rtPCR is performed to detect Orthopoxvirus, which if detected, is assumed to be monkeypox virus

https://www.hhs.gov/about/news/2022/06/22/hhs-expanding-monkeypox-testing-capacity-five-commercial-laboratory-companies.html
How to Test

• Package specimens correctly
  ◦ Appropriate identifiers on specimen containers
• Use eOrder
  ◦ All information on the specimen containers must match exactly what is on the eOrder
• Working to implement testing of swabs from viral transport media

Infection Control

• Apply standard precautions for all patient care, including for patients with suspected monkeypox.
• Avoid activities that could resuspend dried material from lesions (e.g., use of portable fans, dry dusting, sweeping).
• Place patients with suspected or confirmed monkeypox infection in a single-person room.
  ◦ Special air handling is not required.
  ◦ Keep door closed if safe to do so.
• Health care workers who enter the patient’s room should use gown, gloves, eye protection (i.e., goggles or a face shield that covers the front and sides of the face) and a respirator (e.g., N95 or higher)
• Perform any procedures likely to spread oral secretions in an airborne infection isolation room.
• Standard cleaning and disinfection procedures should be done using an EPA-registered hospital-grade disinfectant with an emerging viral pathogen claim.

https://www.cdc.gov/poxvirus/monkeypox/clinicians/infection-controlhealthcare.html
Managing People with Suspected or Confirmed Monkeypox

• Patients awaiting test results should isolate in a room or area separate from other household members and pets.
  ◦ If the result is negative, they can discontinue isolation.
  ◦ If the result is positive, they must continue to isolate until all lesions have resolved, the scabs have fallen off, and a fresh layer of intact skin has formed.

• While isolating patients should:
  ◦ Stay at home as much as possible and avoid nonessential visitors in the home.
  ◦ Do not engage in physical sexual activity with others.
  ◦ If leaving the home (e.g., for medical care or for physical activity), maintain a safe distance from others, cover up all skin lesions, and wear a well-fitting surgical mask.

https://www.cdc.gov/poxvirus/monkeypox/clinicians/faq.html
https://www.cdc.gov/poxvirus/monkeypox/pdf/Monkeypox-Interim-Guidance-for-Household-Disinfection-508.pdf
Managing People with Suspected or Confirmed Monkeypox

• Take measures to prevent others from having direct contact with lesions or bodily fluids or contaminated materials:
  o Cover sores and wear a face mask while in a shared space.
  o Place used linens, towels and clothes in a separate laundry bag (or garbage bag).
  o Do not share dishes and eating utensils, clothing, towels, or a bed.
  o Avoid direct contact with upholstered furniture that cannot be covered with sheets that can be laundered.
  o Clean and disinfect bathroom surfaces (e.g., counters, toilet seats, faucets) after using if lesions are exposed.
  o Use standard household cleaning/disinfectants to clean and disinfect contaminated surfaces.
  o Place contaminated waste (such as dressings and bandages) in a tight waterproof plastic bag (double-bag if possible) and discard with regular trash.

• Detailed home isolation guidance can be found on the CDC Clinician FAQ webpage under question 10 “When a patient is isolating in their home, what should they do?”

https://www.cdc.gov/poxvirus/monkeypox/clinicians/faq.html
https://www.cdc.gov/poxvirus/monkeypox/pdf/Monkeypox-Interim-Guidance-for-Household-Disinfection-508.pdf
Management of Contacts
Symptom Monitoring and Post-Exposure Prophylaxis

• The NYC Health Department will conduct contact tracing with the patient and facilitate symptom monitoring and the administration of PEP to contacts when indicated.

• An assessment will be made based on the type of exposure each potential contact had.

• People with a high or intermediate exposure risk (e.g., sexual or close physical contact):
  o Daily symptom monitoring by text for 21 days from the date of the last exposure
  o PEP using JYNNEOS™ offered through the NYC Health Department

• People with a low exposure risk:
  o Daily symptom self-monitoring by text for 21 days from the date of the last exposure
Health Care Workers and Monkeypox

• PrEP not routinely recommended for health care workers who care for patients with, or suspected to have, monkeypox.

• Prolonged direct contact, likely occurring during sexual and intimate encounters, is main route of transmission that is driving the current global outbreak.

• Among the cases identified in the US to date, none have been health care workers exposed in a health care setting.

• Appropriate PPE will protect HCWs from potential exposures, and, should an exposure occur, they will be referred as needed for PEP.
Health Care Workers and Monkeypox

**Current outbreak**
- UK = 384 HCW with a known exposure
  - 245 medium/high risk and 139 low risk, some received post-exposure prophylaxis
  - None developed signs or symptoms of monkeypox
- US = No known HCW with nosocomial infection

**Historical outbreaks and cases**
- 81 HCW exposed during US 2003 prairie dog associated outbreak
  - Among 57 who were interviewed, 40 (70%) had unprotected exposure
  - None reported signs or symptoms of monkeypox
- 40 HCW exposed to MD traveler 2021
  - None reported signs or symptoms of monkeypox
- Over 100 HCW exposed to traveler in UK in 2018
  - 1 HCW developed monkeypox after contact with contaminated bedding of hospitalized patient without the use of an N95 mask

What is the NYC Health Department Doing?

- Providing guidance to healthcare providers and assisting them with screening and diagnosis
- Case investigation and contact tracing
- Reaching out to identified close contacts to provide information, monitor for symptoms, and offer vaccine as post-exposure prophylaxis
- Facilitating access to TPOXX
- Testing specimens at the Health Department’s Public Health Laboratory
- Providing information and outreach to community partners and members
- Media campaign, including advertisements on digital platforms
- Connecting with the press and elected officials to disseminate fact-based, non-stigmatizing messages to New Yorkers
Monkeypox Vaccine Clinic

• Expanded PEP for people who may have been exposed to monkeypox

• Offered at the Chelsea Sexual Health Clinic site

• Eligibility criteria: Gay, bisexual, and other men who have sex with men (cisgender or transgender) ages 18 and older who have had multiple or anonymous sex partners in the last 14 days.

• Men who have sex, or other intimate contact, with men met through dating apps or social media platforms, or at clubs, raves, sex parties, saunas, or other large gatherings may be at higher risk off having been recently exposed.

• Those eligible can make an appointment online at  nyc.gov/health/monkeypox.

• The clinic will be open Mondays, Tuesdays, Thursdays, Fridays, and Sundays; 11 a.m. to 7 p.m.
What We Need From You

- There have been anecdotal reports of patients being refused care or referred for care, which can lead to delays in diagnosis, treatment, and prophylaxis of contacts, and stigma.

- **Don’t turn patients away! Evaluate and pursue testing of patients suspected of monkeypox infection.**

- When speaking about monkeypox, emphasize that anyone can get infected; MSM are currently at higher risk because, at this time, the virus is circulating in MSM social circles and networks.

- Avoid making judgments and stigmatizing behavior.

- Being exposed to monkeypox can be a stressful and worrisome time for community member -- remember to use an empathetic approach when speaking with patients.

- Together, providers and public health can ensure people receive affirming care, improving individual health and reducing transmission.
NYC Health Department Resources

Monkeypox (Orthopoxvirus)

Cases in NYC
As of June 23, 30 people in New York City have tested positive for orthopoxviruses, likely monkeypox. Most of these people have had mild illness, have not been hospitalized and have their own. Even with mild illness, the rash and sores from monkeypox can be itchy and uncomfortable. Anyone can get and spread monkeypox. The current cases are primarily among social networks of gay, bisexual, and other men who have sex with men, which is currently at a greater risk of exposure.

If you have a new or unexpected rash or other symptoms of monkeypox, contact your healthcare provider.

Vaccination
Vaccination is available for people who may have been recently exposed. Eligible people can get the monkeypox vaccine at the Coalition Tuesday, Thursday, Friday, and Sunday, between 11 a.m. and 4 p.m. recommended.

Note: All vaccination appointment slots have been filled. Unfortunately, walk-in vaccinations will also be available additional supply from the CDC to meet the highest demand. CDC appointments for the following week.

For more information, visit nyc.gov/health/monkeypox call 311 or scan the QR code.

Stay healthy for a summer of fun!
Get the monkeypox information you need to know now, and find out if vaccination is right for you.

https://www1.nyc.gov/site/doh/providers/health-topics/monkeypox.page
Thank you