HIV and Mpox
Marcia Wong, MD, MPH
New York City Department of Health and Mental Hygiene
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Information is up to date as of today and is subject to change.
At the end of this presentation, participants will be able to:

- Describe the epidemiology of the 2022 mpox outbreak
- Promote vaccination for those at risk of mpox
- Understand clinical presentation and management considerations for mpox
- Recognize the risk factors and spectrum of severe manifestations of mpox disease
Background and Epidemiology
Background and Epidemiology

Mpox (formerly known as monkeypox) is a previously uncommon zoonotic disease caused by virus from the Orthopoxvirus family

- Since May of 2022, sustained person-to-person transmission in multiple countries including the U.S.
- Current cases primarily spreading through sex and intimate contact among social networks of men who have sex with men; transgender people; gender-nonconforming people; and nonbinary people
Globally, this continues to be considered a public health emergency of international concern, though cases and reporting have declined significantly since the peak of the 2022 outbreak.

Global Impact of Mpox

Top 10 Countries Most Affected by 2022-2023 Mpox Outbreak:

1. United States of America (n = 30,225)
2. Brazil (n = 10,941)
3. Spain (n = 7,555)
4. France (n = 4,146)
5. Colombia (n = 4,090)
6. Mexico (n = 4,017)
7. Peru (n = 3,800)
8. United Kingdom (n = 3,752)
9. Germany (n = 3,691)
10. Canada (n = 1,496)

MPOX: Situation Report in the U.S.
As of June 1, 2023

U.S. Cases

Total Cases
30,450

U.S. Deaths

Total Deaths
42

Legend
- 1 to 10
- 51 to 100
- 11 to 50
- 101 to 500
- >500

Source: https://www.cdc.gov/poxvirus/mpox/response/2022/us-map.html (as of 06/01/2023)
Mpx among People Living with HIV (PLWH) and People Using PrEP

Sexual Health and HIV All East Research (SHARE) Collaborative, 16 countries, HIV and Sexual Health Clinics

- Among those diagnosed with mpx
- 41% PLWH
- 33% using HIV Pre-exposure Prophylaxis (PrEP)

Public HIV and Sexual Health Clinic, Brazil

- Among those diagnosed with mpx
- 55% PLWH
- 32% using PrEP

JYNNEOS is FDA approved as a 2-dose vaccine for persons 18 years and older

- Minimum of 28 days between doses
- Second dose can be given regardless of time elapsed, no need to repeat first dose

Vaccination of individuals younger than age 18 authorized under FDA emergency use authorization

The JYNNEOS vaccine can be administered at the same time as other vaccines
Estimating persons at risk of mpox

- Number of men who have sex with men on HIV pre-exposure prophylaxis (PrEP)
- Number of men who have sex with men living with HIV
- Increase by 25% to account for additional persons not in the first two categories

Vaccination Coverage among persons at risk of mpox

- > 1 million doses administered
- First dose coverage: 37%
- Second dose coverage: 23%

Source: Owens LE, MMWR 2023.
Vaccination to Case Ratios

Source: Kota KK, *MMWR 2023.*
JYNNEOS Vaccine Effectiveness

<table>
<thead>
<tr>
<th>Study</th>
<th>n</th>
<th>1 Dose VE</th>
<th>2 Dose VE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epic national data</td>
<td>2193 cases</td>
<td>36%</td>
<td>66%</td>
</tr>
<tr>
<td></td>
<td>8319 controls</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multi-jurisdictional</td>
<td>309 cases</td>
<td>75%</td>
<td>86%</td>
</tr>
<tr>
<td></td>
<td>608 controls</td>
<td></td>
<td></td>
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<tr>
<td>New York State</td>
<td>252 cases</td>
<td>68%</td>
<td>76%</td>
</tr>
<tr>
<td></td>
<td>255 controls</td>
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</tbody>
</table>

VE = Vaccine Effectiveness

Adapted from: https://emergency.cdc.gov/coca/ppt/2023/051823_slides.pdf
Indications for Mpox Vaccination

Any gay, bisexual, or other man who has sex with men, or are transgender, nonbinary, or gender-diverse person
• Diagnosed with a sexually transmitted infection (STI) in the last six months
• More than one sex partner

People who in the last six months:
• Has multiple or anonymous sex partners, participates in group sex, or has sex at a commercial venue or group event

Has a partner that identifies with any of the above

People with HIV infection or other causes of immunosuppression who have had recent or anticipate potential mpox exposure.
People living with HIV or eligible for PrEP

JYNNEOS as post-exposure prophylaxis
Initiate as soon as possible after mpox exposure
Ideally within 4 days but up to 14 days

Providers should administer mpox vaccine as part of routine sexual health services
Clinical Presentation
Cases had atypical features

Rash was characteristic; but often start in genital and perianal areas or orally

• Lesions might not have appeared characteristic, especially in the early stages
• Sometimes didn’t disseminate to other parts of body
• Location was likely reflective of points of contact

Systemic symptoms

• Not present, mild, or appeared after rash
• Fever, headache, myalgia, lymphadenopathy, night sweats, chills
Clinical Presentation in 2022

Severe presentations could be debilitating with potential for long-term complications

- Oral
- Penile
- Anal
- Bacterial Superinfection

STIs were common

In the U.S., HIV or recent sexually transmitted infections (STIs) are common among people with monkeypox

Among nearly 2,000 people with monkeypox:

- 38% had HIV
- 41% had an STI in the past year
- 61% had either HIV or an STI

It is important to:

- Prioritize people with HIV and STIs for monkeypox vaccination
- Offer HIV and STI screening for people evaluated for monkeypox

Source: Curran KG, MMWR 2022.
Evolution of Cutaneous Lesions

Lesions

Penile

Oral, Perioral

Perianal, Anal, Rectal

Management and Treatment
Supportive Care

Most individuals have a disease course that will self-resolve and can be managed with supportive care.

Some lesions can be extremely painful and can evolve quickly:

- Recommend systemic pain control
- Some patients may need opioids and/or hospitalization for pain control
- Keep lesions clean and dry
- Topical benzocaine/lidocaine gels for pain
- Secondary bacterial infections are common
Treatment

Proctitis
• Can be severe and debilitating
• Stool softeners, sitz baths

Lesions close to the eye
• Hand hygiene, avoid touching eyes
• Stop using contacts lenses
• Trifluridine eye drops

Sources: Clinical Considerations for Pain Management of Mpox | CDC
Interim Clinical Considerations for Management of Ocular Mpox Virus Infection | CDC
Tecovirimat for Treatment

Tecovirimat (TPOXX) is an antiviral medication approved by the FDA to treat smallpox disease

• Oral capsule and IV formulations
• Can be given on outpatient basis
• Must be taken with a fatty meal

Sources: https://emergency.cdc.gov/coca/ppt/2022/052422_slides.pdf
https://www.accessdata.fda.gov/drugsatfda_docs/label/2018/208627s000lbl.pdf
Patients with severe disease

Patients with involvement of anatomic areas which might result in serious sequelae that include scarring or strictures

Patients at high risk for severe disease

- Severe immunocompromising conditions
  - People living with HIV with CD4<350 or not virally suppressed
- < 8 years old
- Pregnant or chest/breastfeeding patients
- Patients with a condition affecting skin integrity

Source: Guidance for Tecovirimat Use | CDC
Clinical Considerations for Treatment and Prophylaxis of Mpox Infection in People Who are Immunocompromised | CDC
Inform patients about the **Study of Tecovirimat for Human Mpox Virus (STOMP)**

- [https://www.stomptpoxx.org/](https://www.stomptpoxx.org/)
- Participation is voluntary
- Telemedicine option (for U.S.)
- Clinical research sites soon to include Brazil and Peru

**Tecovirimat can also be accessed through CDC Expanded Access Investigational New Drug Process:**
[https://www.cdc.gov/poxvirus/mpox/clinicians/Tecovirimat.html](https://www.cdc.gov/poxvirus/mpox/clinicians/Tecovirimat.html)
Clinical Considerations for Mpox in PLWH

Mpox clinical outcomes in PLWH whose HIV is well-controlled have not been different from people without HIV

- Countries where most PLWH are on antiretroviral treatment (ART) and have high CD4s have noted no deaths or excess hospitalizations among people co-infected with mpox and HIV

- In people treated with tecovirimat for severe mpox, HIV status did not seem to affect treatment outcomes

Severe Manifestations of Mpox Disease
Global case series of 382 cases in PLWH with CD4<350

<table>
<thead>
<tr>
<th></th>
<th>Total (n=382)</th>
<th>CD4&lt;100 (n=85)</th>
<th>CD4 100-200 (n=94)</th>
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<tbody>
<tr>
<td>Hospitalization –</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>general ward</td>
<td>73 (19%)</td>
<td>26 (30%)</td>
<td>19 (20%)</td>
</tr>
<tr>
<td>Hospitalization –</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ICU</td>
<td>34 (9%)</td>
<td>27 (32%)</td>
<td>6 (6%)</td>
</tr>
<tr>
<td>Death</td>
<td>27 (7%)</td>
<td>23 (27%)</td>
<td>4 (4%)</td>
</tr>
</tbody>
</table>

Greatest disease severity, hospitalization and death in those with low CD4 (<100) and high viral load

M polo cases among PLWH requiring prolonged tecovirimat: provider phone calls for clinical consult (n=11)

• Mostly Black non-Hispanic young men
• Many in unstable housing in the previous year

Clinical Features

• All had high viral loads
• Most with CD4<50
• Prolonged courses of tecovirimat
• Required combination therapy
• All hospitalized, some for months
• 54% died (6/11)

Necrotic Facial Lesions

“Burn-like” lesions
• Obliteration of recognizable facial features

Ophthalmologic Complications

- Eyelid eschar
- Orbital Globe Collapse
- Corneal Melt

Confluent/restrictive eyelid eschar, CT scan orbital globe collapse (published)

Progressive keratouveitis with corneal melt (Unpublished)

Sources: Photos courtesy of Ann Ostrovsky, MD and Steven Carrubba, MD; NYU Langone Medical Center, NYCHHC-Bellevue; Carrubba S, *Lancet Infect Dis.* 2023.
Lesion progression

(A) Left Foot, Dorsal surface and Heel after debridement (left); Left foot after intralesional/topical cidofovir (right)

(B) Dorsum Left Hand (left); Left hand after intralesional/topical cidofovir (right)

Photographs courtesy of John Winters, MD, NYCHHC (unpublished)
Severe Disease – Management

Immediately start tecovirimat and ART

- Clearance of mpox requires having an immune system
- Extend treatment until lesions have healed and patient has had immune reconstitution
- This may take months

The most important treatment for mpox is ART

Source: Interim Clinical Treatment Considerations for Severe Manifestations of Mpox | CDC
RESURGENCE OF MPOX

Provider Update
May 9, 2023

Summary and Action Items

- Chicago Department of Public Health (CDPH) has identified a resurgence of cases of mpox (formerly monkeypox).
- From April 17th-May 5th 2023, 12 confirmed and one probable case of mpox were reported to CDPH. All cases were among symptomatic men. Nine (69%) of 13 cases were among men who were fully vaccinated for mpox.

Source: https://www.chicagohan.org/alert-detail/-/alert-details/46678186
In Conclusion

Integration of sexual health care
  • Take a sexual history and test for all other STIs and HIV
  • Offer vaccine to all eligible people

Treat symptoms and consider tecovirimat
  • Refer patients to the STOMP Trial

Severe manifestations have been seen, primarily among people who are immunocompromised due to HIV
  • Start mpox treatment and ART immediately
  • Call CDC Clinical Consult: 770-488-7100 or email eocevent482@cdc.gov
Acknowledgments

I want to acknowledge the inspiring care, compassion, and strength of our provider community, who confronted a multitude of challenges; and the patients and their families who even in the face of incredible suffering still sought to contribute to our knowledge amidst the uncertainty of a re-emerging disease.

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CDC Clinical Consult Team
Thank you

mwong14@health.nyc.gov

www.linkedin.com/in/marciawong