

# Human Monkeypox Virus: Let's Discuss

Learning Community, Sept. 27<sup>th</sup>

**Welcome! Please introduce yourself in the chat 😊**

# Welcome!

- **Please introduce yourself in the chat!**
- We're happy to have attendees here from the following clinics:
  - Bell Flower Clinic, Indianapolis, Indiana
  - Litoral Clinic, Migrant Health Center, Mayagüez, Puerto Rico
  - Mary Eliza Mahoney Health Center, Newark, New Jersey
  - Morrisania Clinic, Health & Hospitals, Bronx, New York
  - NYC Department of Health, NYC, New York
  - Take Care Down There Clinic, Columbus Public Health, Columbus, Ohio

# Group Agreements

- Keep cameras on, especially when talking
- All participants contribute to the discussion
- We're here to learn together
- Confidentiality: any patient information shared remains private

# Clinics Share

❖ What are your clinic's experiences and challenges around MPX?

# Human Monkeypox Virus Learning Community

Jason Zucker, MD

Assistant Professor of Medicine at the Columbia University Irving Medical Center

Assistant Medical Director, NYC STD Prevention Training Center

JZ2700@cumc.columbia.edu

Twitter: @Jason10033

# My First Case

# Meet John!



- Mid 30's identifies as a cis-gender male
- Living with well controlled HIV
- Sexually active with men
- Notices some mild eye irritation and thought it was allergies

# John's Course

## Day 3

- Felt warm (Tm 100.7)
- Worsening eye erythema and drainage
- Concerned it could have been from bodily fluids in his eyes
- Partner recently tested positive for gonorrhea and chlamydia



# John's Course

## Day 4

- Went to the Emergency Department



# John's Course

## Day 4

- Went to the Emergency Department



## Work-up

### Testing

- Genitourinary GC/CT (negative)
- RPR – 1:4 (previously treated at 1:32)
- HIV VL (undetectable)
- CD4 282 (previously 543)

### Treatment

- Ceftriaxone 1g x 1
- Doxycycline 100mg twice daily x 7 days
- Cipro ophthalmic drops

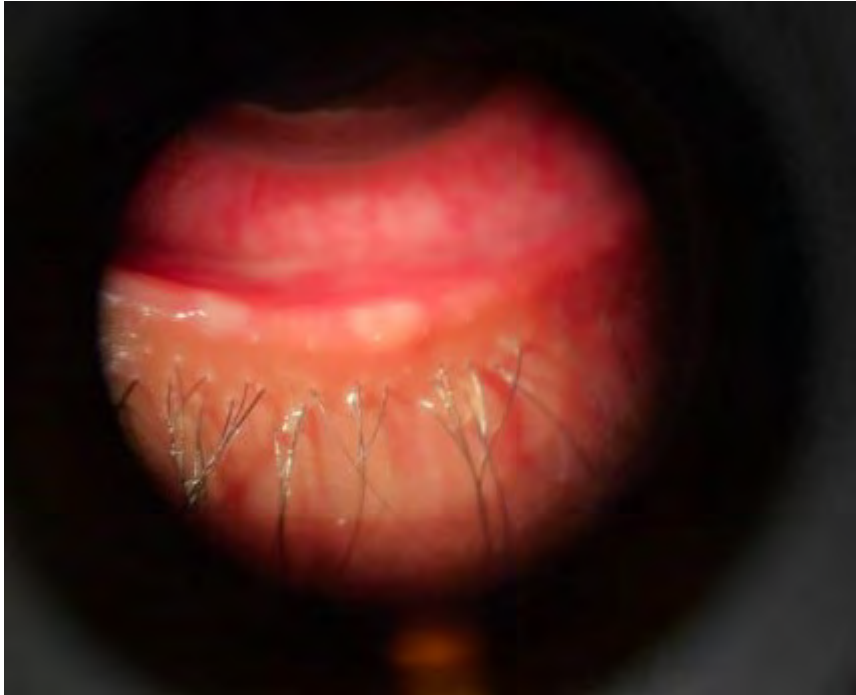
### Discharge

- Ophthalmology follow-up

# John's Course

## Day 6

- Seen in ophthalmology clinic



### Exam

- Pustular lesions along lid margin

### Testing

- GC/CT swab of the eye (negative)
- Bacterial culture swab of the eye (negative)

### Treatment

- Erythromycin ointment
- Moxifloxacin ophthalmic drops

# John's Course

## Later on Day 6

- Seen in sexual health clinic for conjunctivitis
- Also reported lesions on L wrist, L forearm, L shoulder, and scrotum
- On exam all in different stages (pustule, macule, ulcerated lesion)
- On history reported 4 sexual partners in the past month all well known to him
- None of them travelled to Europe
- None of them had unusual lesions
- One had gonorrhoea and chlamydia

# John's Course

## Later on Day 6

- Seen in sexual health clinic for conjunctivitis
- Also reported lesions on L wrist, L forearm, L shoulder, and scrotum
  - On exam skin all in different stages (pustule, macule, ulcerated lesion)
- On history reported 4 sexual partners in the past month all well known to him
  - None of them travelled to Europe
  - None of them had unusual lesions
  - One had gonorrhoea and chlamydia

## Testing

- L wrist pustule
  - HSV/VZV swabs (negative)
  - Bacterial culture (negative)
- Throat GC/CT (positive for GC)
- Rectal GC/CT (negative)
- RPP (Rhinovirus/Enterovirus)

## Treatment

- Ceftriaxone + Doxycycline

## Discharge

- Close follow-up

# John's Course

## Day 11

- Seen in ophthalmology clinic
- Worsening eye symptoms with swelling, erythema, and blurry vision
- Increased number of skin lesions on extremities, genitals, and feet
- Exam - papilliform lesions along lid margin

# John's Course

## Day 11

- Seen in ophthalmology clinic
- Worsening eye symptoms with swelling, erythema, and blurry vision
- Increased number of skin lesions on extremities, genitals, and feet
- Exam - papilliform lesions along lid margin

## Day 13

- Seen in sexual health clinic for Human Monkeypox Virus (HMPXV) testing

# John's Course

**Wrist and Forearm**



**Face**





# John's Course

**Back**



**Back**



# John's Course

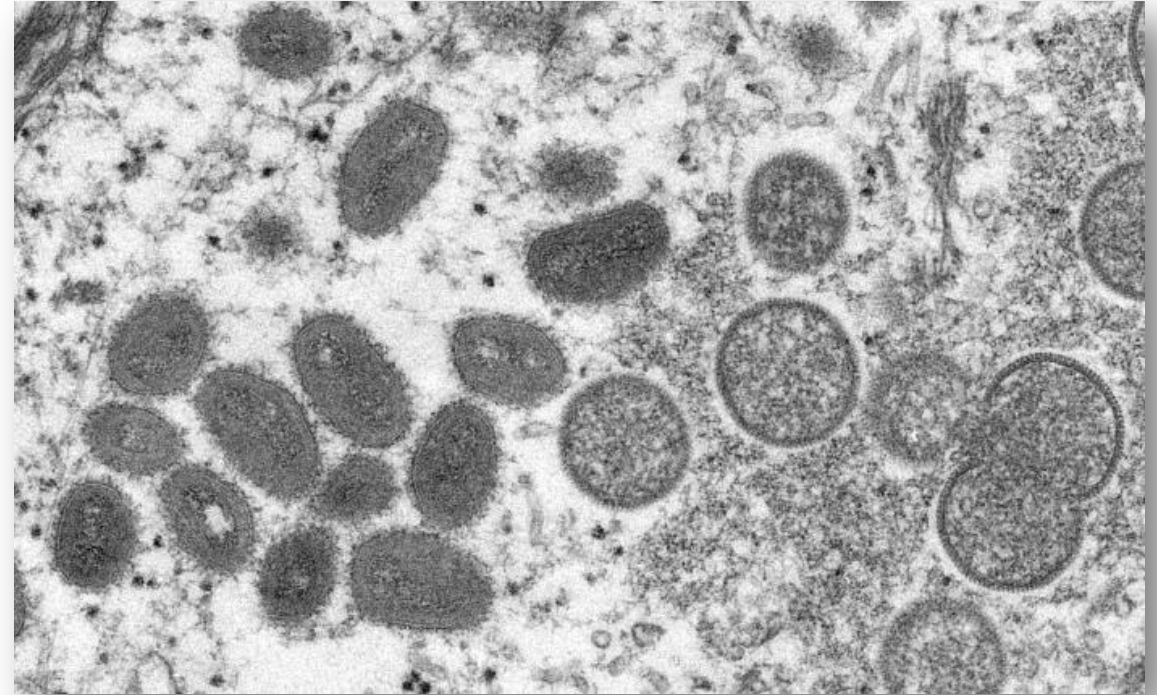
## Day 17

- DOH called to report that Orthopox virus testing was positive



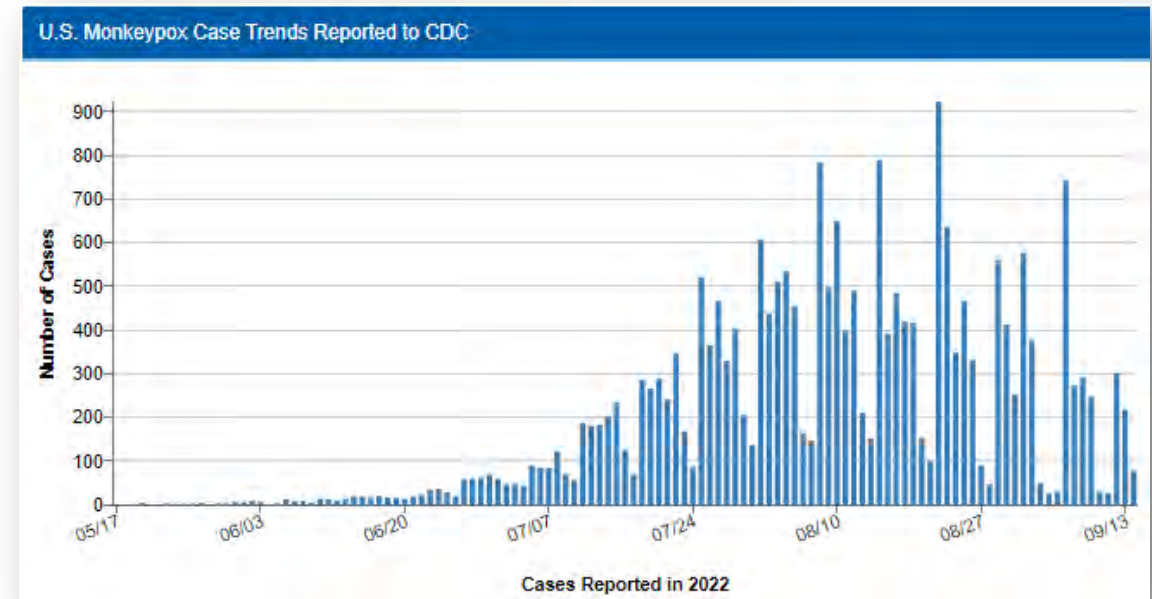
# What is Human Monkeypox Virus (HMPXV)?

- Poxvirus
  - Orthopoxvirus
  - Like smallpox! (but not)
- There are many other Orthopoxviruses
  - Variola (Smallpox)
  - Vaccinia
  - Cowpox
- Two virus clades
  - Clade 1 ~10% case fatality rate
  - **Clade 2 ~1% case fatality rate**



# What Human Monkeypox Virus is NOT!

- Human Monkeypox Virus **is not a novel virus**
  - First discovered in Africa in 1958 in research monkeys
  - Natural reservoir is unknown; however, known to infect non-human primates and African rodents
  - First human case in 1970 in the Democratic Republic of the Congo
  - Nearly all prior cases linked to travel to central and western Africa
  - First major US outbreak in 2003
    - 47 cases from pet prairie dogs



# Question:

- How concerned should our staff be about transmission?

# How Does Human Monkeypox Virus Transmit?

## Not Easily Transmitted



## Human to Human

1. Direct contact with infected lesions or body fluids
2. Contaminated fomites
3. Exposure to respiratory secretions

# Can I get HMPXV....?



Bus or Subway



Grocery store



Clothing Store



Gym



Salon



Classroom

# How Does HMPXV Transmit In The Real World?

**Direct contact with infected lesions or body fluids**

Close, personal, skin-to-skin contact with HMPXV rash/scabs

Contaminated linens, bed sheets, other objects

More likely with soft/porous items than hard surfaces

Contact with respiratory secretions

Typically requires prolonged, face-to-face contact

**Transmission**



# How is HMPXV Transmitting In The Real World?

Group		Cases
Borough	Bronx	592
	Brooklyn	758
	Manhattan	1,343
	Queens	489
	Staten Island	29
	Unknown	6
Age	0 to 17	2
	18 to 24	190
	25 to 34	1,317
	35 to 44	1,117
	45 to 54	428
	55 to 64	144
	65 to 74	13
	75 to 84	1
	85 plus	0
	Unknown	2

Gender	Men	3,052
	Non-Binary/Gender-Queer	48
	Transgender Men	6
	Transgender Women	42
	Women	39
	Unknown	27
Race/Ethnicity	Asian or Pacific Islander	111
	Black	856
	Hispanic	1,063
	White	757
	Other	52
	Missing	375
	Unknown	855
Sexual Orientation	LGBQ+	2,158
	Straight	201
	Unknown	855

- <https://www1.nyc.gov/site/doh/data/health-tools/monkeypox.page>

# Human Monkeypox Virus

- **Testing**
  - Lesion swab
  - Comprehensive STI Testing
- **Treatment**
  - Supportive care
  - Antivirals
- **Prevention**
  - Behavior
  - Vaccination



# How Do I Diagnose HMPXV?

## Currently Approved For Diagnosis

- PCR from lesion swab
  - In-house testing
  - Commercial lab testing
  - Public health lab testing remains available

## How can we avoid inconclusive results?

- Make sure you can get a vigorous swab
- Avoid swabs that are too flexible that you can't push hard against the lesion

# How Do I Diagnose HMPXV?

## Future of Diagnosis

- Rectal swabs
- Throat swabs
- Semen
- Urine
- Blood

## Future of Diagnosis

- Multi-plex assays with:
  - HSV/VZV
  - STIs

# Human Monkeypox Virus

- Testing
  - Lesion swab
  - Comprehensive STI Testing
- **Treatment**
  - Supportive care
  - Antivirals
- Prevention
  - Behavior
  - Vaccination



# How Can I Treat Human Monkeypox Virus?

- Supportive care
  - **Most patients fully recover**
  - Symptomatic treatment
- Antiviral medications
  - Cidofovir
  - Brincidofovir
  - Trifluridine (eye disease)
  - Tecovirimat (EA-IND)



# How Can I Treat Human Monkeypox Virus?

- Supportive care
  - Most patients fully recover
  - **Symptomatic treatment**
- Antiviral medications
  - Cidofovir
  - Brincidofovir
  - Trifluridine (eye disease)
  - Tecovirimat (EA-IND)

## Proctitis

- Stool softeners
- Lidocaine gel
- Sitz Baths
- Anti-inflammatory (if not bleeding)
- Gabapentin
- Avoid opioids if possible, but may be required

## Genital Lesions

- Frequent bathing
- Keep it dry
  - Change clothes frequently
- If infected:
  - Wet to dry dressings
  - Antibiotic ointments
  - Systemic antibiotics

## Oropharyngeal lesions

- Viscous lidocaine
- Salt water gargles
- Anti-inflammatory

# How Can I Treat Human Monkeypox Virus?

- Supportive care
  - Most patients fully recover
  - **Symptomatic treatment**
- Antiviral medications
  - Cidofovir
  - Brincidofovir
  - Trifluridine (eye disease)
  - Tecovirimat (EA-IND)

## Severe disease

- Sepsis
- Hospitalization
- Evidence of viremia
- Lesion location/type
  - Eye
  - Mouth/Pharynx
  - Rectum
  - Urethra
  - Vagina

## Illness complication

- Secondary infection
- Proctitis with tenesmus
- Uncontrolled pain
- Rectal bleeding
- Gastroenteritis
- Pneumonia
- Encephalitis

## At high risk for severe disease

- HIV with high VL or low CD4
- Severe immunocompromise
- Age < 8
- Pregnant/breastfeeding
- Significant active exfoliative dermatologic conditions
- Increased risk for stricture/fisula (e.g IBD)



# Human Monkeypox Virus

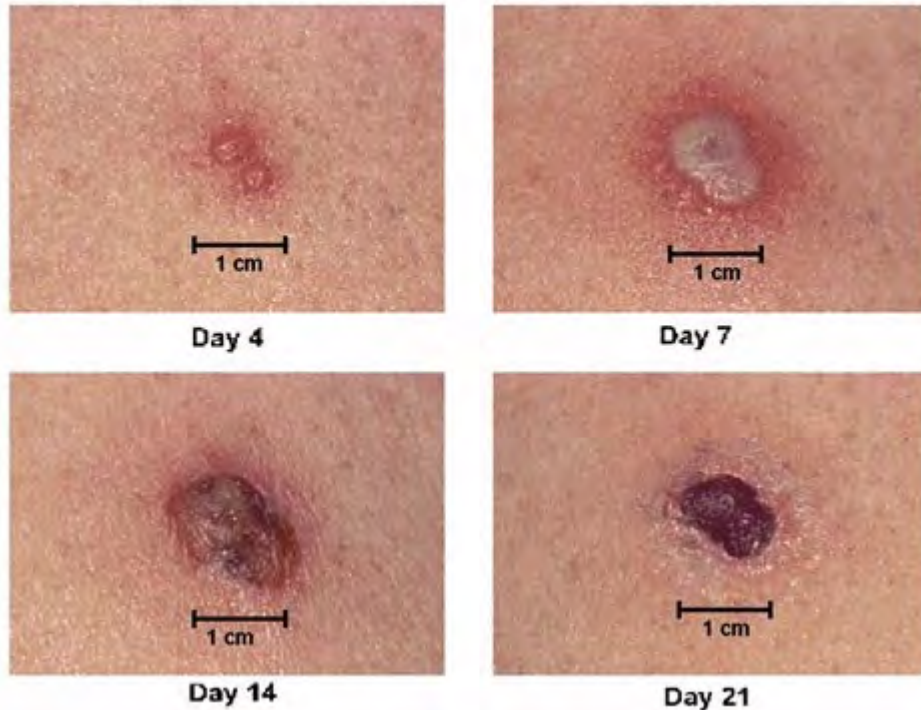
- Testing
  - Lesion swab
  - Comprehensive STI Testing
- Treatment
  - Supportive care
  - Antivirals
- **Prevention**
  - Behavior
  - Vaccination



# How Can I Prevent HMPXV?

## Vaccinations

### Primary Vaccination Site Reaction



## Current Vaccines

- ACAM2000
  - Live vaccinia virus
  - Lesion at the inoculation site
  - 1 injection
  - Booster every 3 years
  - FDA approved for >12 months
- JYNNEOS
  - Non-replicating virus
  - 2 injections, 4 weeks apart
  - Maximum immunity 14 days after second dose
  - Booster every 2 years
  - FDA approved age  $\geq 18$

# How Can I Prevent HMPXV?

## Post-Exposure Prophylaxis

- Should be given ASAP after exposure:
- Within 4 days to prevent disease
- 4 to 14 days to reduce symptoms

- **Note:** Vaccinia immune globulin (IND) available for patient's ineligible for vaccination for PEP

## Pre-Exposure Prophylaxis

- Clinical and research lab workers
- Public health response team members
- **Epidemiological Risk Groups**

# Questions & Discussion

# Resources

- MPX TA Toolkit: <https://nycptc.org/monkeypox.html>
- CDC: MPX Information for Healthcare Professionals: <https://www.cdc.gov/poxvirus/monkeypox/clinicians/index.html>
- Virtual MPX Support Group: <https://www.paulsilvermantherapy.com/support-group>
- What to do if you have MPX (for patients): <https://www1.nyc.gov/assets/doh/downloads/pdf/monkeypox/what-to-do-when-sick.pdf>
- NCSD: MPX Command Center: <https://www.ncsddc.org/resource/monkeypox-command-center/>
- How-to Video, Intradermal Vaccine: <https://www.youtube.com/watch?v=8wj5CgBXPg8>
- Building Healthy Online Communities, MPX FAQs: <https://bhocpartners.org/sexual-health-info/mpx/>
  - MPX vaccine locator: <https://mpoxvaxmap.org/>
  - Add vaccine sites to website: <https://mpoxvaxmap.org/data/form/location/?key=d0fb575d-8313-4f7a-8f54-63ce0a82b522>

# Quick Evaluation

1. How would you rate the value of today's discussion?
2. The level of the brief lecture was:
3. Attending the learning community is a good use of my time.
4. I felt comfortable contributing during the LC session.
5. As a result of today's session, are there any changes you would make in your practice?
6. Since the last LC, has your clinic made (or is in the process of making) any clinical practice changes related to HIV prevention services?

# Last Question!

Would your clinic be interested in a special LC session focused on data?

# Next Learning Community Session

**Date:** November 29, 2022

12-1pm EST

**Topic:** Express STI Care

**Presenter:** Alwyn Cohall, MD



# In the meantime...

Look out for our October newsletter!

Feedback?

Questions for a clinician?

**Let us know!**

Find LC resources here:

<https://nycptc.org/hivprevent.html>

## HIV PREVENTION LEARNING COMMUNITY



Bimonthly Newsletter

VOL. 6 AUGUST 2022



### August Newsletter

#### WHAT'S IN A NAME?

What is the difference between PrEP on-demand and same-day PrEP?

**Same-day PrEP** is exactly what it sounds like - providing PrEP to patients on the same day that they request it. This is endorsed by the CDC (find guidelines [here](#) on p. 35!).

**PrEP on-demand** is also known as PrEP 2-1-1, event-based PrEP, vacation PrEP, and more. PrEP on-demand refers to a dosing strategy where certain patients are able to take PrEP (only TDF/FTC) around the time of a sexual encounter or during 'riskier' periods. CDC discusses this in the [guidelines](#) (p. 55).

#### JULY LC RECAP

In July, the LC focused on **Choosing Daily vs. On-Demand PrEP**. The majority of clinics in attendance did not yet offer PrEP on-demand. Hopefully, Dr. Carnevale's presentation provided some food for thought!

Some of the areas of discussion included:

1. Patient evaluation for on-demand PrEP
2. Patient education
3. Benefits of PrEP on-demand

Offering PrEP on-demand provides more **PrEP choice**, something we discussed at the May LC as a factor in addressing PrEP retention.

Interested in offering PrEP on-demand at your clinic? We would love to help!