

Mpox in People with HIV

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No conflicts of interest or relationships to disclose

Disclaimer

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Learning Goals & Objectives

- Describe current mpox epidemiology
- Discuss clinical manifestations of mpox
- Review mpox treatment
- Review mpox prevention

Case

35-year-old man with HIV (intermittently adherent with ART, CD4 count 35, last VL 20,000) presented to clinic with penile lesions as well as painful rash

Case



Mpox History - Timeline

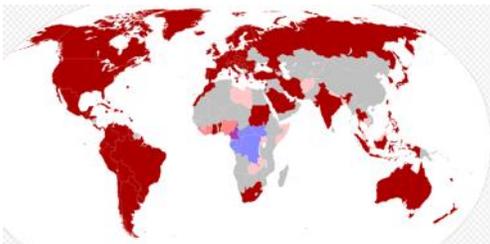


Figure 1. Geographic distribution of MPXV clades reported to WHO, by country, 1 January 2022 to 22 May 2025¹



First confirmed human case

First case in human in Democratic Republic of Congo (DRC)

US Outbreak 2003

53 cases associated with giant Gambian rats co-imported with prairie dogs, which were sold as pets

Global Outbreak 2022

First cases reported from current outbreak in May 2022, concentrated in men who have sex with men (MSM)

First cases of Clade I in US

November 2024 – associated with travel; Clade II continues to circulate in US

1958

1970

2003

2003

2017

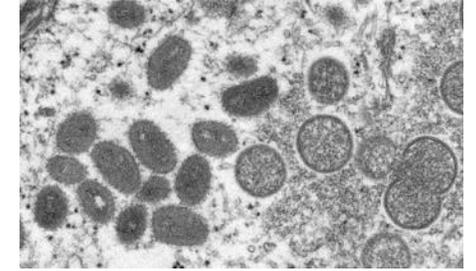
2022

2024

Late 2024 - present

Mpox discovered

Mpox first isolated in monkeys shipped from Singapore to Denmark



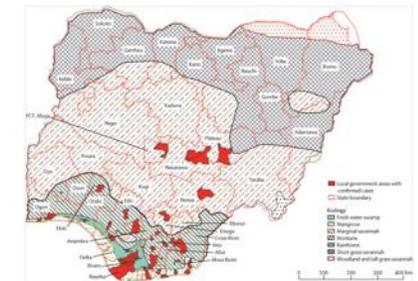
Human to Human Transmission

Sustained human to human transmission documented in DRC



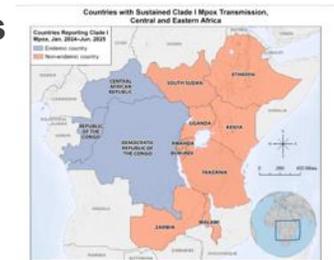
Nigeria Outbreak

183 cases in 18 states (clade II)
Thought to reflect declining smallpox immunity and increased interaction with animals



Central African Outbreaks

Since 1/2024, > 46,000 cases and > 200 deaths

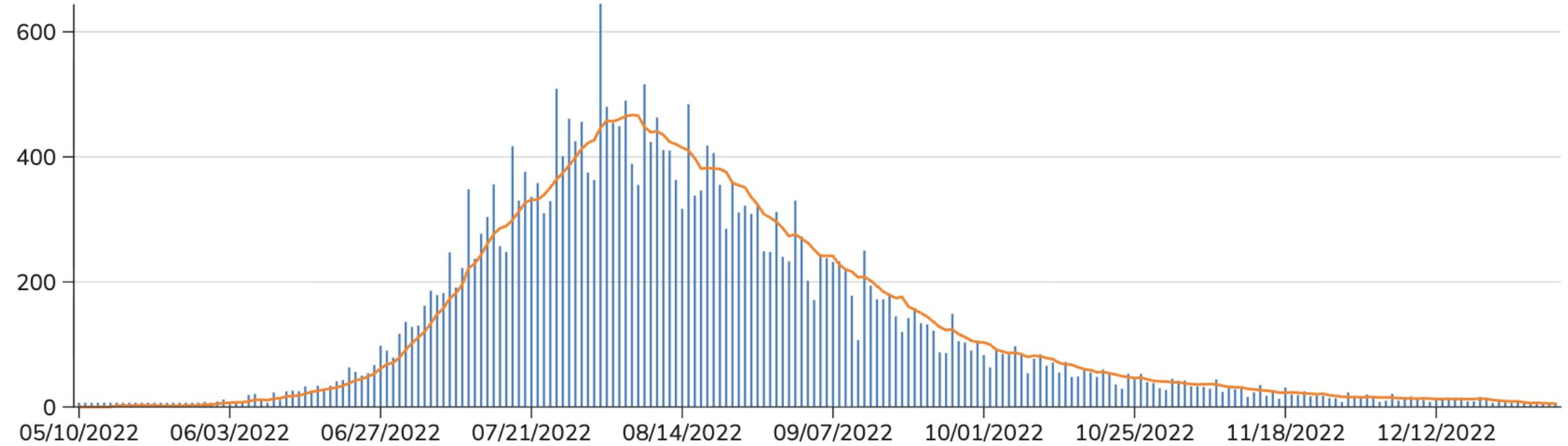


Mpox Trends in the United States

2022 ▾

Apply

[Clear Filters](#)



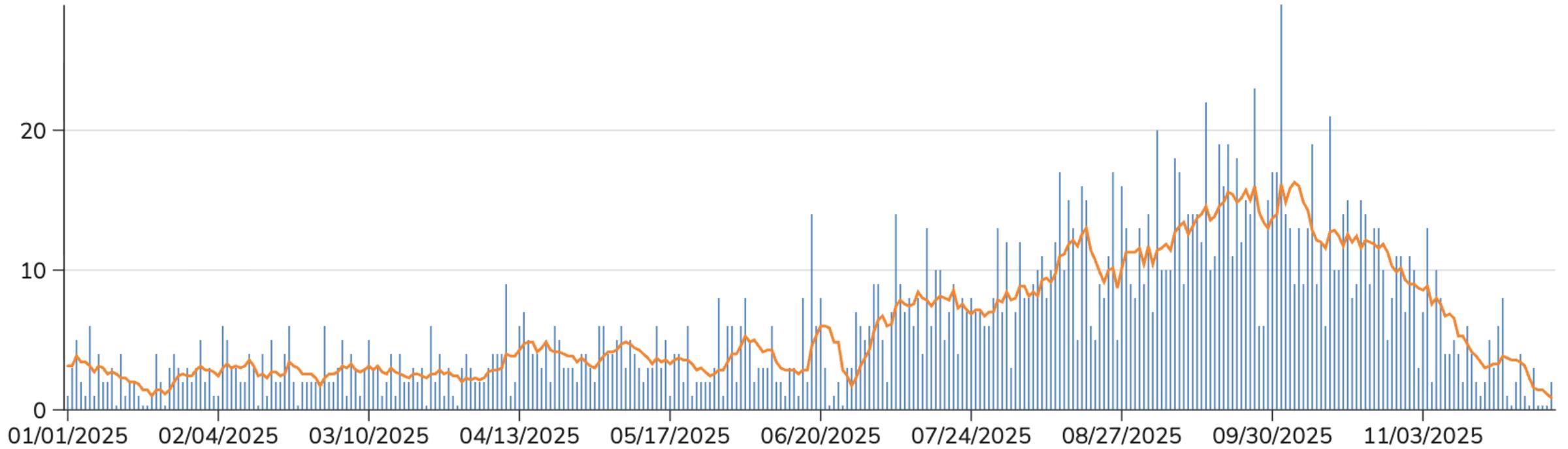
● Cases ● 7 Day Average

Mpox Trends in the United States 2025

2025 ▾

Apply

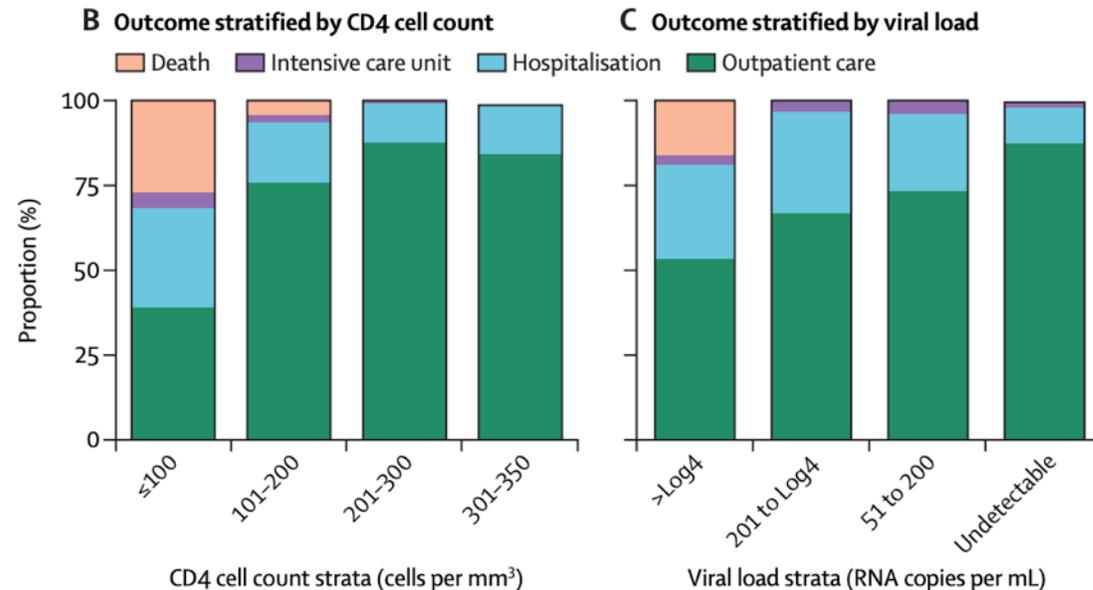
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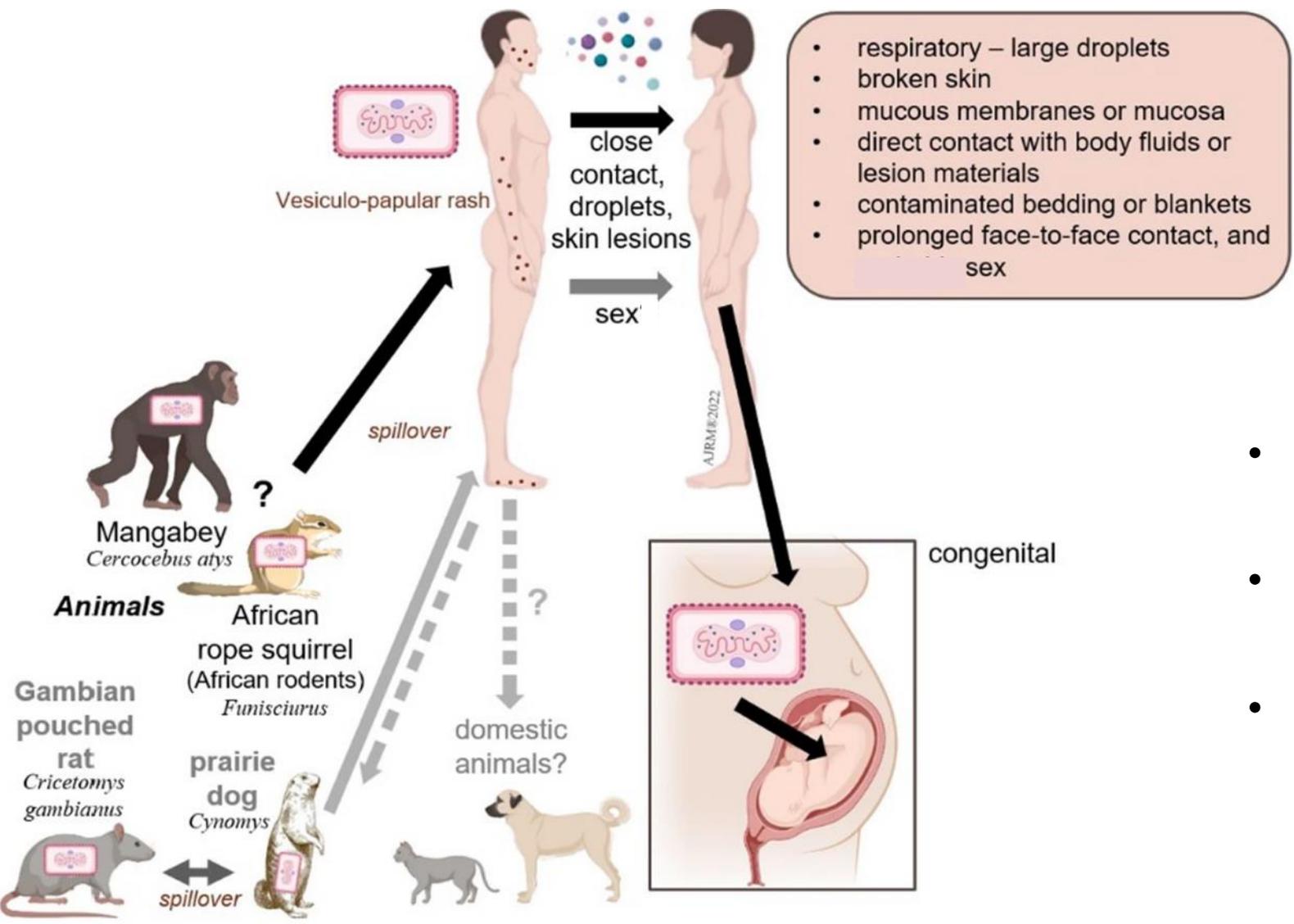


● Cases ● 7 Day Average

Mpox in People with HIV

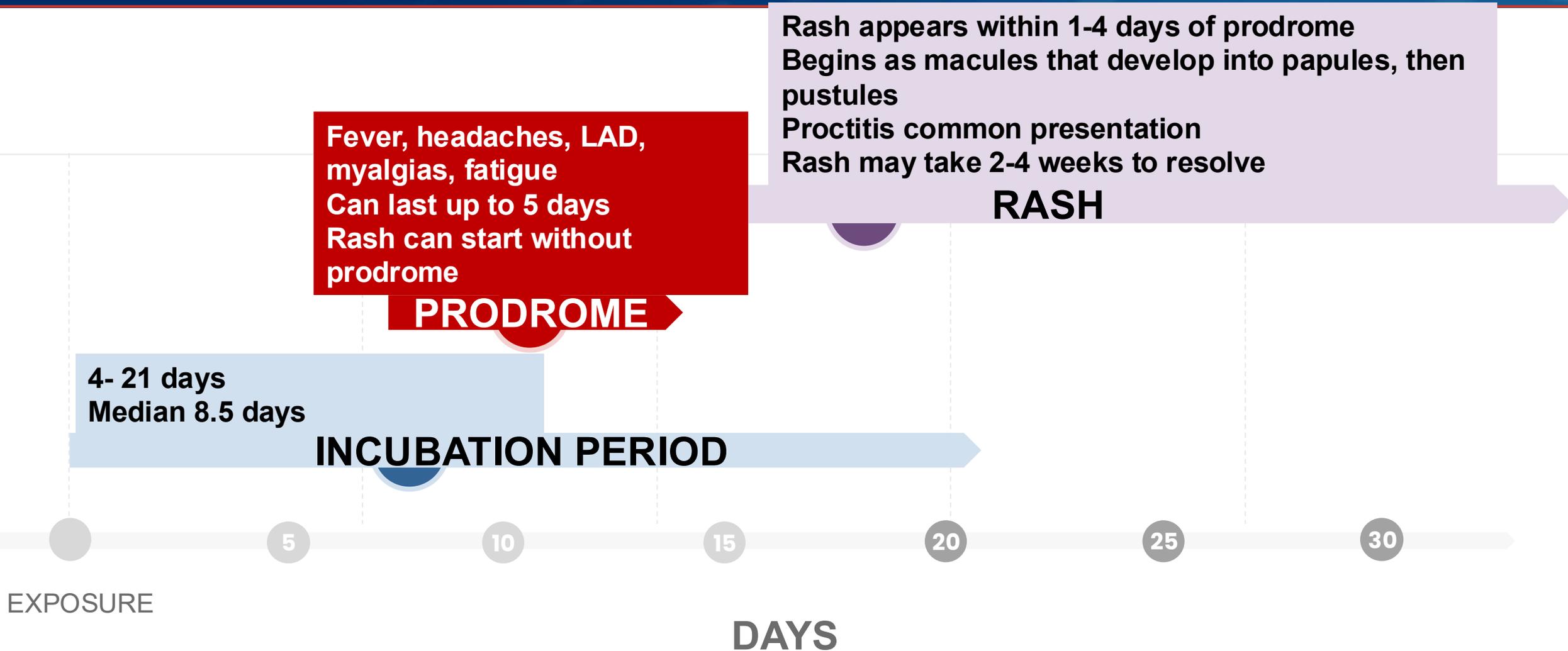
- 38-50% of cases of mpox in 2022 outbreak were in people with HIV
- More severe forms of disease seen in people with advanced HIV
- All deaths were in people in CD4 count < 200





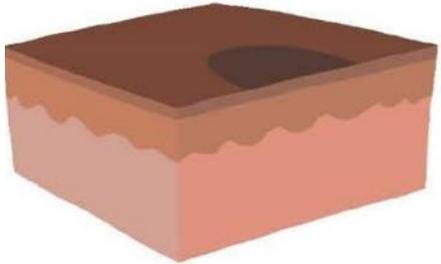
- **Zoonotic disease**
Rodents thought to be natural reservoir
- **Animal-human transmission**
Contact with bodily fluids or mucosal lesions
- **Human-human transmission**
Direct contact with infected lesions or fluid
 - Spreads during intimate contact**In utero**

Clinical Course

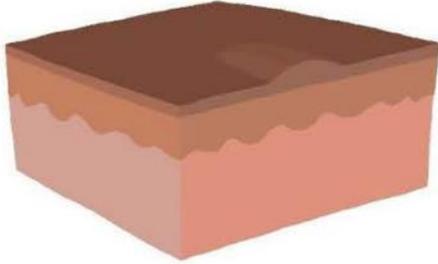


Progression of Lesions

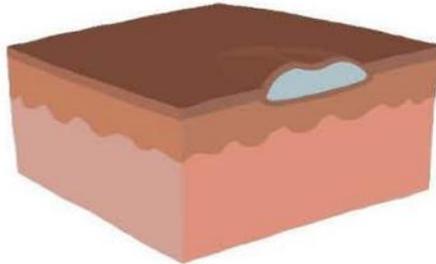
Macule



Papule



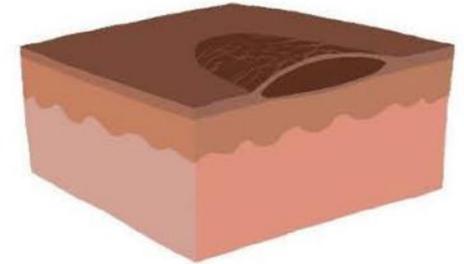
Vesicle



Pustule



Crust



Credit: Emerg Infect Dis / N. Erez et al., 2018. Retrived from: <https://wwwnc.cdc.gov/eid/article/25/5/19-0076-f1>



Credit: NEJM/ D.Kurz et al .2004 Retrived from: <https://www.nejm.org/doi/full/10.1056/NEJMoa032299>



Credit: Andrea McCollum / CDC



Credit: Toutou Likafi/ Kinshasa School of Public Health



Credit: P. Mbala /Institut Nationale de recherche biomedicale. DRC



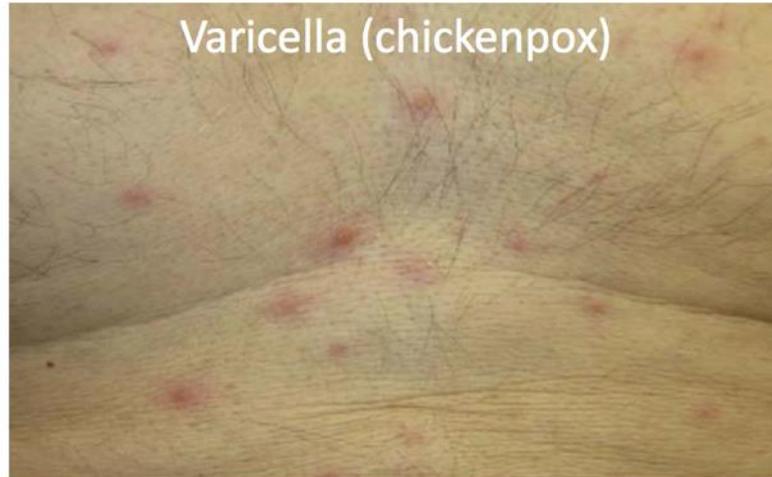
Adler H, et al. Lancet 2022
Thornhill JP et al. N Engl J Med 2022

Clinical Manifestations: Mimics

Herpes Simplex



Varicella (chickenpox)



Lymphogranuloma venereum (LGV)



Primary syphilis chancre



Condyloma lata (secondary syphilis)



Molluscum Contagiosum



Asymptomatic Infections

Brief Communication | [Published: 12 August 2022](#)

Retrospective detection of asymptomatic monkeypox virus infections among male sexual health clinic attendees in Belgium

Annals of Internal Medicine

OBSERVATIONS: BRIEF RESEARCH REPORTS

Detection of Monkeypox Virus in Anorectal Swabs From Asymptomatic Men Who Have Sex With Men in a Sexually Transmitted Infection Screening Program in Paris, France

Table. Screening for Sexually Transmitted Infections and MPXV Infection in 706 MSM Visiting the Sexual Health Clinic Between 5 June and 11 July 2022

Variable	MSM With No Symptoms of MPXV Infection	MSM With Symptoms Suggesting MPXV Infection
Total number of MSM visiting between 5 June and 11 July 2022	323	383
<i>C trachomatis</i> infections detected on anal swab, n/N (%)	32/323 (9.9)	Not tested
<i>N gonorrhoeae</i> infections detected on anal swab, n/N (%)	24/323 (7.4)	Not tested
<i>C trachomatis</i> and <i>N gonorrhoeae</i> co-infection detected on anal swab, n/N (%)	8/323 (2.5)	Not tested
<i>C trachomatis</i> infections detected on first-void urine sample or urethral swab, n/N (%)	6/323 (1.9)	Not tested
<i>N gonorrhoeae</i> infections detected on first-void urine sample or urethral swab, n/N (%)	3/323 (0.9)	Not tested
<i>C trachomatis</i> and <i>N gonorrhoeae</i> co-infection detected on first-void urine sample or urethral swab, n/N (%)	1/323 (0.3)	Not tested
MPXV-positive test result, n/N (%)	13/200* (6.5)	271/383 (71)

Treatment Recommendations

Indications for Tecovirimat

Severely immunocompromised (CD4 count < 200)

Atopic dermatitis (or other conditions affecting skin integrity)

Children

Pregnant or breastfeeding

Indications for additional therapies

Life threatening manifestations or complications

Severely immunocompromised

Concern for tecovirimat resistance (ie new lesions despite 2 weeks of treatment)

Allergic or intolerant to tecovirimat

- Mild/mod disease – manage supportively
- Severe dz: ocular, neuro, cardiac
- If severe mpox or high risk for severe mpox → directed antiviral therapy
 - Urgently consult with CDC and mpox expert
 - Start therapy as soon as possible
 - Start ART if not on ART
- Tecovirimat (through EA-IND protocol)
- Adjunctive therapy →
 - cidofovir vs brincidofovir
 - Vaccinia Immune globulin via expanded access IND

Does Tecovirimat Work?



The NEW ENGLAND
JOURNAL of MEDICINE

ORIGINAL ARTICLE



Tecovirimat for Clade I MPXV Infection in the Democratic Republic of Congo

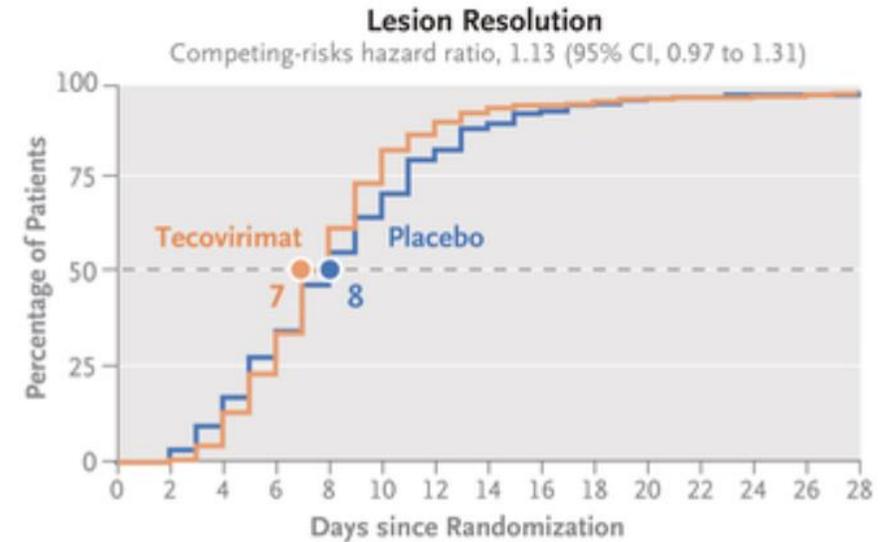
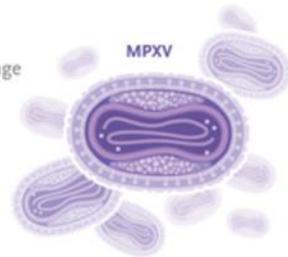
Author: The PALM007 Writing Group [Author Info & Affiliations](#)

Published April 16, 2025 | N Engl J Med 2025;392:1484-1496 | DOI: 10.1056/NEJMoa2412439 | [VOL. 392 NO. 15](#)

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Patients

- 597 children and adults
- 64% were below 18 years of age
- Male: 51%; Female: 49%



Prognosis and Complications

- Overwhelming majority of patients will do well
 - Case-fatality up to 10% in some older CI series
 - Low case-fatality in more recent CIIB disease
- More severe disease associated with immunosuppression and in children
- Complications
 - Bacterial superinfection
 - Permanent skin scarring
 - Hyper/hypopigmentation
 - Corneal scarring – vision loss
 - Pneumonia
 - Dehydration
 - Sepsis
 - Encephalitis/neuropsych symptoms

Immunizations: 2 Vaccines

• ACAM2000

- Live, replication competent *Vaccinia* virus
- Administered by pricking skin to cause a local infection
- Wound needs care for 28 days
- Virus can spread to other parts of the body or to other people
- Myocarditis/pericarditis risk ~0.6/1000
- Contraindicated in: Pregnant women, heart disease, immunocompromised, chronic skin conditions

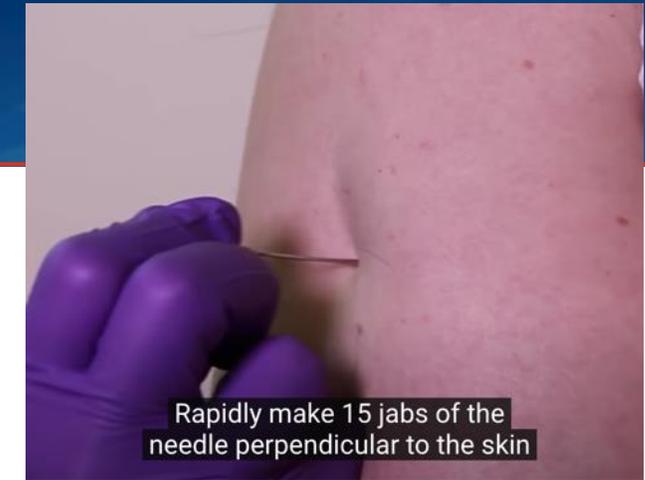
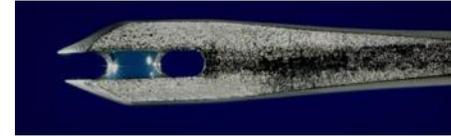


Figure 1: Progression of major cutaneous reaction after primary vaccination¹

Day 5

Day 8



Day 10

Day 14

• JYNNEOS – currently used vaccine

- Live, non-replicating virus
- Thought to be effective 2 weeks after initial immunization
- Mostly local side effect – pain at injection site
- Okay to give in pregnancy, immunosuppressed persons

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- JYNNEOS – currently used vaccine

- Live, non-replicating virus
- 2 dose vaccine, dosed 28 days apart
- Considered protected 2 weeks after 2nd dose
- Mostly local side effect – pain at injection site
- Okay to give in pregnancy, immunosuppressed persons



Prevention: JYNNEOS

ORIGINAL ARTICLE



Vaccine Effectiveness of JYNNEOS against Mpox Disease in the United States

Authors: Nicholas P. Deputy, Ph.D., Joseph Deckert, Ph.D., Anna N. Chard, Ph.D., Neil Sandberg, M.S., Danielle L. Moulia, M.P.H., Eric Barkley, B.S., Alexandra F. Dalton, Ph.D., [+7](#), and Leora R. Feldstein, Ph.D. [Author Info & Affiliations](#)

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Things we don't know:

- *How well it works in severely immunocompromised patients*
- *Duration of protection*

Table 2. Estimated Vaccine Effectiveness against Diagnosed Mpox among Persons Seeking Health Care, August 15 through November 19, 2022.*

Persons Seeking Health Care	Case Patients	Control Patients	Vaccine Effectiveness (95% CI)	
			Unadjusted	Adjusted†
	number		percent	
Unvaccinated, reference population	2022	6984		
Partially vaccinated, 1 dose	146	1000	52.0 (42.3–60.1)	35.8 (22.1–47.1)
Fully vaccinated, 2 doses	25	335	77.2 (65.0–85.1)	66.0 (47.4–78.1)

Vaccine Schedule

Vaccination Schedule and Dosing Regimens for JYNNEOS Vaccine

JYNNEOS vaccine regimen	Route of administration	Injection volume	Recommended number of doses	Recommended interval between 1st and 2nd dose
Standard regimen				
People ages 18 years and older	Subcut	0.5 mL	2	28 days (4 weeks)
People age less than 18 years ¹	Subcut	0.5 mL	2	28 days (4 weeks)
Alternative regimen				
People ages 18 years and older	ID	0.1 mL	2	28 days (4 weeks)

Post exposure vaccination: to known or presumed exposure -- 2 dose series within 4 days of exposure; but up to 14 days after exposure

Summary

- Mpox still circulating! Consider it on your differential for rash in patients at risk
- Treatment is mainly supportive unless CD4 count < 200 or severe disease
- Tecovirimat and adjunctive therapies may be used in patients with or at risk for severe disease
- Prevention with 2-dose series of JYNNEOS is recommended

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