

# Mpox Updates

Alameda County Public Health Department

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# Mpox cases in IL

## Situation as of 5/15/2023

- March 18 through May 15, 2023— 21 cases reported to the Chicago Dep. of Public Health
  - All male
- 17 cases (of 21 with information) were vaccinated
  - 11 with 2 dose JYNNEOS, 1 with ACAM2000, 5 with 1 dose JYNNEOS
- 5 had well controlled HIV
- None were hospitalized
- 6 (of 18 with information) had recently traveled (U.S. destinations and Mexico)

# Mpox: Transmission

- Spread person-to-person through direct contact
  - Physical contact with infectious skin rash or scabs
  - Anogenital/oropharyngeal mucosal contact
  - Touching heavily soiled items (e.g., clothing, linens)
  - Placental transfer to fetus
- Patients can be infectious up to 4 days before symptoms begin, (whether prodromal or rash symptoms) and remain infectious until lesions form scabs, scabs fall off, and a fresh layer of skin forms



**MPOX**

## Mpox and Safer Sex

Vaccination is an important tool in preventing the spread of mpox (formerly known as monkeypox). If you are at risk for mpox but haven't received your two-dose vaccine yet, temporarily changing some parts of your sex life might reduce the risk of exposure to the virus. This includes the time between your first and second shots of vaccine. Your protection will be highest two weeks after your second dose of vaccine.

Make a habit of exchanging contact information with any new partner to allow for sexual health follow-up, if needed.

Talk with your partner about the mpox symptoms and where of any rash or unexplained rashes or lesions on a part of your body, including the mouth, genitals, breasts, buttocks, anus, or vaginal or urethral area. If you or your partner have or recently had a new partner or have a new or changed sex role anywhere on your body, discuss how you and any healthcare provider in some cases, symptoms may be mild, and some people may not even know they have mpox.

If you or a partner has mpox or think you may have mpox, the best way to protect yourself and others is to avoid sex of any kind, oral, vaginal and anal sex or touching each other's bodies - while you are ill. **Dependably avoid touching any rashes.** Do not share things like towels, linens, sex toys, and toothbrushes.

Even if you feel well, here are some ways to reduce your chances of being exposed to mpox if you are sexually active:

- Take a temporary break from activities that increase exposure to mpox, until you're fully healed after your second dose. This will greatly reduce your risk.

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[www.cdc.gov/mpox](https://www.cdc.gov/mpox)

Sources: CDC [2022], [Science Brief: Detection and Transmission of Mpox](#), webpage.

CDC [2022], [Isolation and Prevention Practices for People with Mpox](#), webpage. Beeson 2023, *Lancet Microbe*.

# Mpox: Transmission Continued...

- Risk of infection through contact with low-level contaminated surfaces or objects in household or healthcare setting is considered low
- Transmission during brief interactions or between people in close proximity and for a long duration (such as passengers seated near a person with mpox on an airplane) is unlikely
- How often mpox virus is spread via respiratory secretions is unknown

# JYNNEOS Vaccine: Efficacy



## Vaccine performance

- Vaccine effectiveness (VE) ranged
- No differences observed between intradermal or subcutaneous routes

Study population	Cases; Controls	Vaccination status	VE for 2 doses (95% CI)	VE for 1 dose (95% CI)
Epic national dataset case-control study	2,193 cases; 8,319 controls	Full: 3%, Partial: 11%, Unvaccinated: 86%	66% (47-88%)	36% (22-47%)
Multi-jurisdictional case-control study	309 cases; 608 controls	Full: 23% Partial: 32% Unvaccinated: 45%	86% (74-92%)	75% (61-84%)
New York state case-control study	252 cases; 255 controls	Full: 0.8% Partial: 8% Unvaccinated: 91%	76% (48-88%)	68% (25-86%)

# Alameda County

- 250 cases mpox to date
- Since Nov 2022, we have had 10 episodic cases (no recent cases/clusters)

Race/Ethnicity of Mpox Cases

Race/Ethnicity	Case Count	Percent
Asian	18	7.20%
Black or African American	55	22.00%
Hispanic or Latino/a/x	89	35.60%
Multiple Races	6	2.40%
Other	6	2.40%
Unknown	27	10.80%
White	49	19.60%
<b>Total</b>	<b>250</b>	<b>100.00%</b>

Ages of Mpox Cases

Age Group	Case Count	Percent
<18	3	1.20%
18 to 30	70	28.00%
31 to 40	88	35.20%
41 to 50	61	24.40%
51 to 60	24	9.60%
61+	4	1.60%
<b>Total</b>	<b>250</b>	<b>100.00%</b>

# Mpox vaccine

In alignment with [CDPH Mpox Guidance](#), the Alameda County Public Health Department recommends that anyone who may be at risk for or in need of additional protection from Mpox receive the JYNNEOS vaccine. **Mpox vaccine providers should offer JYNNEOS vaccine to ANY person who may be at risk or believes they may be at risk**, and ANY person who requests vaccination should receive it. Providers should ***not require*** that a person share a reason for wanting vaccination.

## **Alameda County is working with community partners to vaccinate:**

- Gay and bisexual men, men who have sex with men, and their sex partners
- Transgender people and their sex partners
- Sex workers and their sex partners
- People with multiple sex partners
- People living with HIV
- People who had sex at any sex venue
- Healthcare workers who are likely to collect laboratory specimens from persons with Mpox (e.g., persons working in sexual health clinics or clinical settings that serve at-risk populations)
- Laboratory workers who perform Mpox testing
- Anyone who has been exposed to someone with Mpox, regardless of timeframe

# ACPHD Health Advisory

- Healthcare providers should have **high suspicion for mpox** even if a person has received two mpox vaccine doses. Prompt testing, and guidance on isolation until results of testing returned is important. Any suspect or confirmed mpox case should be reported within 24 hrs to **ACPHD by email at AcuteCD@acgov.org**.
- Healthcare providers should continue **to offer JYNNEOS Vaccine** with efforts to ensure persons who want and need the vaccine are vaccinated with the first and second dose of the vaccine. Enhanced health system efforts such as email reminders or calls to reach persons that have not completed the 2-dose vaccine series, and routine offer of mpox vaccine can improve vaccination coverage and completion. **Completion of the two-dose series provides the best protection, even if beyond the 28-day window between doses.** Here is [ACPHD guidance](#) on who should get the mpox vaccine.
- Healthcare providers **should test any suspect or confirmed MPX cases for HIV infection, syphilis, chlamydia and gonorrhea** (chlamydia and gonorrhea screening at all anatomic sites of exposure: anus, oropharynx, urethra).



# Mpox

- Although few cases have been reported outside of this cluster, mpox is anticipated to occur.
- HAN from CDC here: <https://emergency.cdc.gov/han/2023/han00490.asp>
- During the months ahead—Alameda County is working with partners to provide more opportunities for vaccination in community PODs, bars, and community clinics. Subcut doses (with option for ID if desire).
- <https://mpx.acgov.org/>
- <https://mpx.acgov.org/vaccine/>
- We are also leading more outreach/health messaging on mpox

- Thank you!

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Some miscellaneous COCA slides...

# Mpox: Testing

- Skin lesion material is the recommended specimen for initial [laboratory testing](#) at either
  - Commercial laboratories
  - At a facility within the [Laboratory Response Network](#)
- Contact the appropriate [public health department](#) or commercial laboratory to determine criteria for acceptable specimens, as this may vary
- There is a specific protocol for [submitting specimens to the CDC](#), which may differ from that of local health departments
- **High clinical suspicion is sufficient to initiate treatment**

# Other Infections Causing Rash or Proctitis

- Syphilis
- Herpes zoster
- Disseminated varicella zoster
- Disseminated herpes
- Molluscum contagiosum
- Lymphogranuloma venereum (LGV)
- Disseminated fungal infections
- Disseminated gonococcal infection
- Scabies
- Hand, foot, and mouth disease
- Chancroid
- Granuloma inguinale

**Clinicians should be aware that patients may have concurrent infections.**

# Diagnostic Evaluation for both Genital Ulcers and Proctitis

- Initial evaluation
- Syphilis serologic tests
  - If available, darkfield examination or nucleic acid amplification test (NAAT) from lesion exudate or tissue
- NAAT for gonorrhea and chlamydia
- NAAT\* or culture for genital herpes type 1 and 2

**Clinicians should be aware that patients may have concurrent infections.**

\*Preferred

# Tecovirimat (aka TPOXX): Background

- Antiviral approved by the FDA for treatment of human smallpox (not mpox)
  - May be used for non-variola orthopoxvirus infection (e.g., mpox) under a CDC-held [Expanded Access Investigational New Drug Protocol](#) for adults and children weighing at least 3 kg
- Mpox treatment efficacy
  - Animal studies suggest mortality benefit
  - Human case reports report anecdotal evidence of reduced severity and duration of illness and viral shedding
  - HOWEVER human efficacy remains unknown
- Mpox postexposure prophylaxis (PEP) efficacy is unstudied

# Tecovirimat: Availability

- Available through
  - [Study of Tecovirimat for Human Mpox Virus](#) ( **STOMP**)
  - Some health departments (limited supplies)
- Oral capsules
  - Must be taken with a full, fatty meal for adequate absorption
  - May be opened and mixed with soft food for pediatric patients <13kg
- Oral and intravenous (IV) formulations available through the Strategic National Stockpile (SNS) via consultation/email with state/local health authorities or CDC as needed



# JYNNEOS Vaccine

- Live virus vaccine produced from the *replication-deficient* vaccinia virus strain
  - Modified Vaccinia Ankara-Bavarian Nordic (MVA-BN)
  - Also known as IMVAMUNE, IMVANEX, MVA
- FDA licensed in 2019 to prevent smallpox and mpox in adults  $\geq 18$  years old<sup>1</sup>
- May be administered intradermally or subcutaneously for persons  $\geq 18$ 
  - Subcutaneously for persons  $< 18$  under Emergency Use Authorization
- Administration in 2 doses at least 4 weeks apart
- Can be used either:
  - Before potential exposure (pre-exposure prophylaxis)
  - After exposure (post-exposure prophylaxis)

Sources: FDA [2022], [Jynneos](#), webpage.

CDC [2022], [JYNNEOS Smallpox and Monkeypox Vaccine Intradermal Administration](#), webpage with pdf.

CDC [2022], [JYNNEOS Smallpox and Monkeypox Vaccine Subcutaneous Administration](#), webpage with pdf.

# JYNNEOS Vaccine: Safety

- **Safe for use in those who are immunocompromised** or have atopic dermatitis
- Demonstrated to be safe in current outbreak
- Safety not established in:
  - Pregnant persons, breastfeeding persons, or children
- Animal models using high doses showed no harm to a developing fetus
- Contraindicated in patients with prior severe allergic reaction to JYNNEOS
- **Use with caution in those with allergy to eggs, gentamicin, or ciprofloxacin**
  - Produced using chicken embryo fibroblast cells
  - Contains small amounts of gentamicin and ciprofloxacin

Sources: FDA [2022], [Jynneos](#), webpage.

CDC [2022], [JYNNEOS Smallpox and Monkeypox Vaccine Intradermal Administration](#), webpage with pdf.

CDC [2022], [JYNNEOS Smallpox and Monkeypox Vaccine Subcutaneous Administration](#), webpage with pdf.

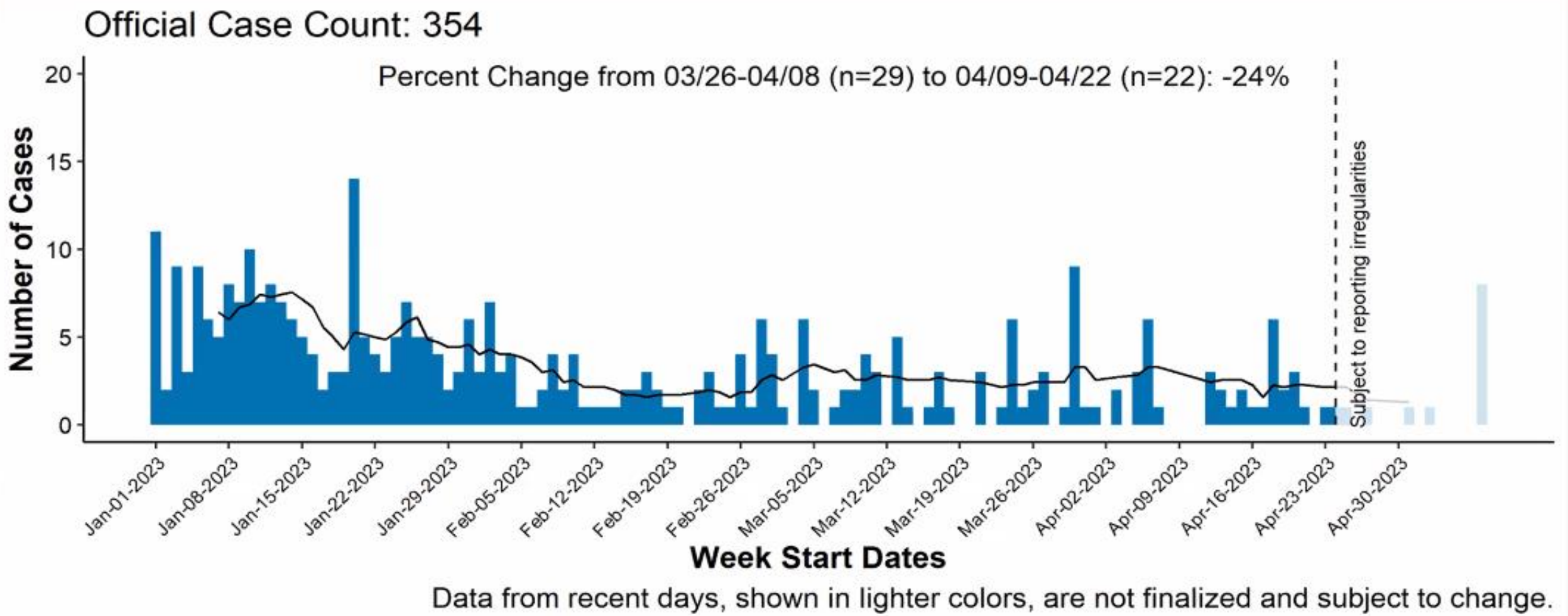
# Mpox Vaccine Postexposure Prophylaxis

- Risk exposure assessment determines need for vaccination of close contacts
- Initiate post-exposure prophylaxis (PEP)\*
  - Within 4 days of suspected exposure to minimize disease incidence
  - From 4–14 days after suspected exposure to reduce illness severity

\*Based on data from live, replicating vaccinia virus vaccines for smallpox

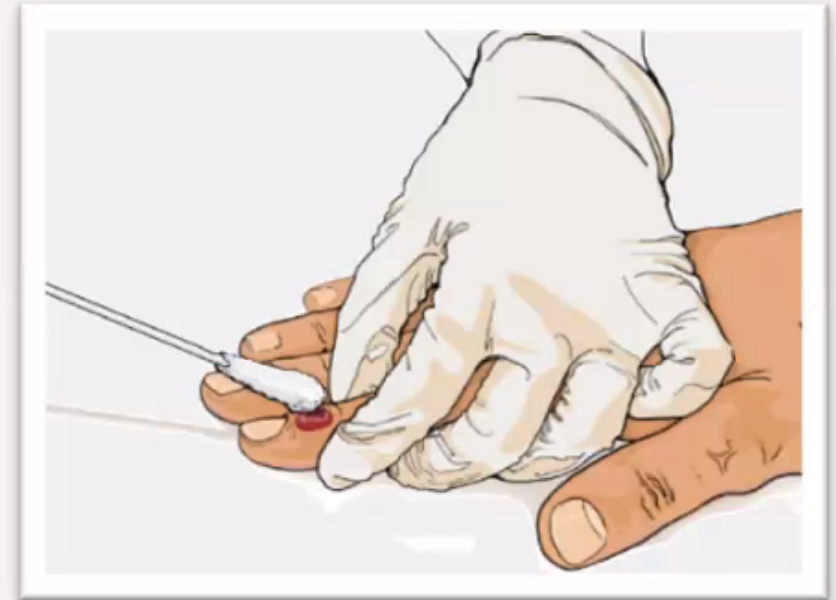
Sources: CDC [2022]. [Interim Clinical Considerations for Use of JYNNEOS and ACAM2000 Vaccines](#), webpage.  
CDC [2022], [Monitoring and Risk Assessment for Persons Exposed in the Community](#), webpage with pdf.

# Mpox cases reported to CDC: Epi Curve (since 2023) with 7-day moving average (As of 05/10/2023 at 2pm ET)



# Mpox: Specimen Collection

- Wear recommended personal protective equipment (PPE)
  - **Do not unroof or aspirate lesions** (or use sharp instruments for mpox testing) due to the risk for sharps injury
  - In severe cases, the CDC Infection Diseases Pathology Branch can assist when a biopsy is performed



Sources: CDC [2022], [Infection Prevention and Control of Mpox in Healthcare Settings](#), webpage.  
CDC [2022], [Tips for Adequate Collection of a Lesion Specimen from a Suspect Monkeypox](#), webpage,  
CDC [2022], [Guidelines for Collecting and Handling Specimens for Mpox Testing](#), webpage.  
CDC [2022], [Additional Testing of Biopsy Tissues in Severe Mpox Infections](#), webpage.

# Mpox: Examination and Diagnosis

## Frontline clinicians may first encounter patients with mpox

- Collect a complete sexual, social, and travel history for past 21 days
- Perform a thorough skin and mucosal examination (e.g., genital, anal, oral) in a room with *good lighting*
- Consider a broad differential such as syphilis, varicella zoster, herpes simplex, molluscum contagiosum, pharyngeal group A streptococcus
- Evaluate for STIs per the [2021 CDC STI Treatment Guidelines](#)
  - Persons with monkeypox may have other STIs including acute HIV
- Notify the health department of suspected, probable, and confirmed cases