

# Monkeypox: Updates, Recommendations, and Resources

Matt Zahn, MD

Deputy Health Officer

Orange County Health Care Agency

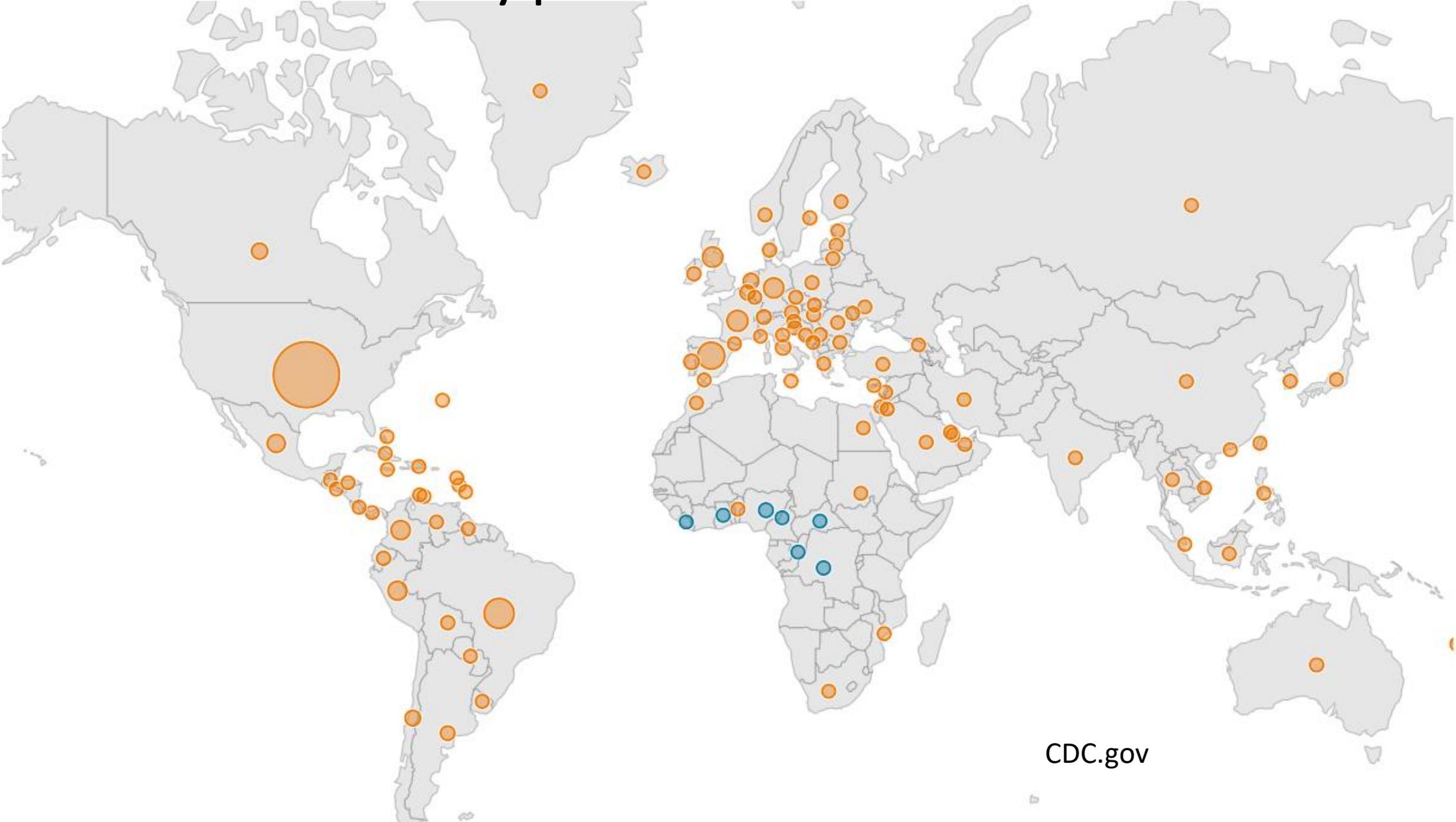


# Disclosures:

- None

# Monkeypox Outbreak in 2022

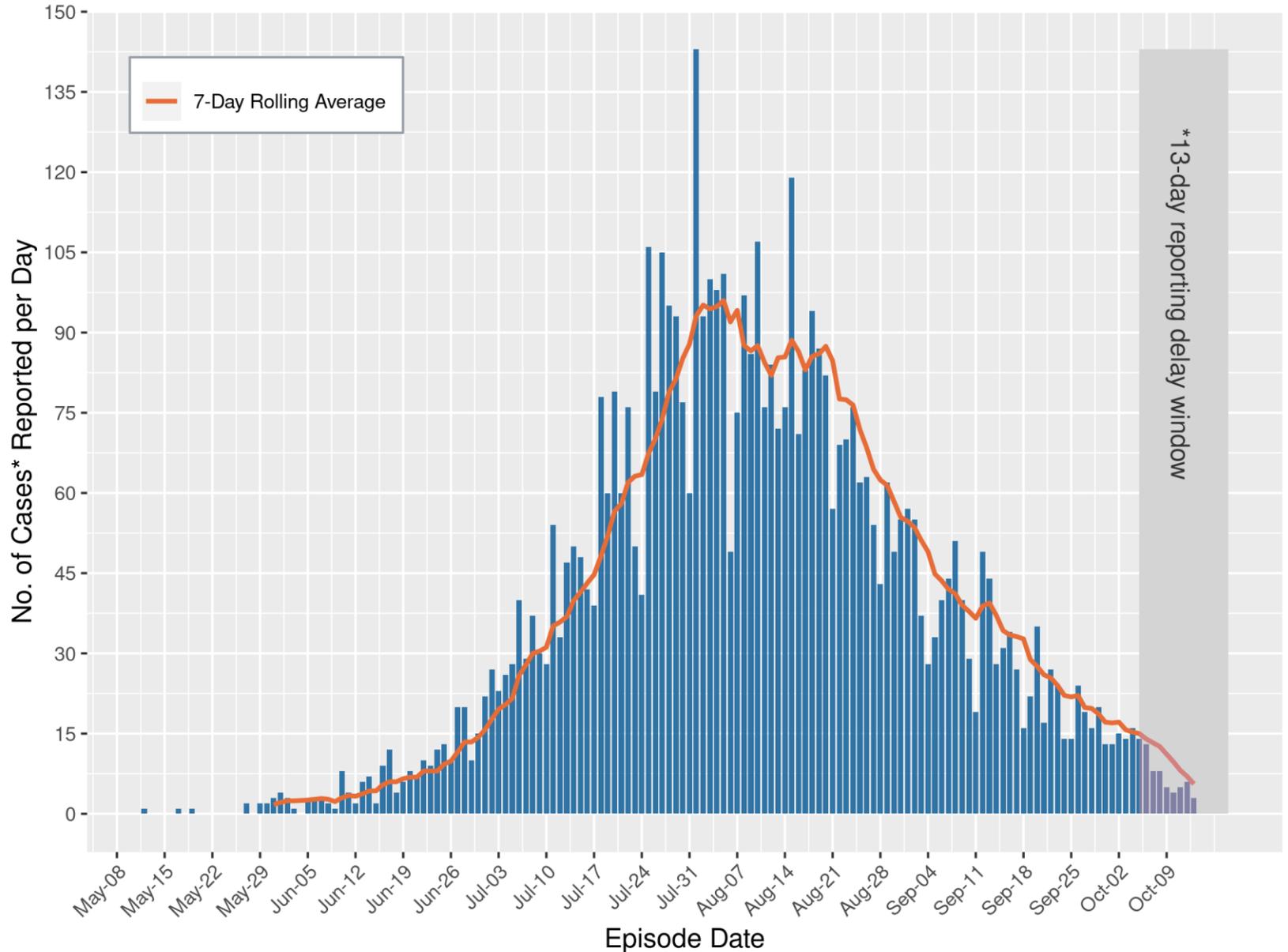
# Monkeypox Outbreak in 2022



CDC.gov

# Monkeypox Cases in California

- 5,372 cases in California



# California Monkeypox Cases: Age, Race and Ethnicity

Age Group	N	Percent*
<16	14	0.3
16-24	393	7.3
25-34	1,995	37.1
35-44	1,763	32.8
45-54	824	15.3
55-64	337	6.3
65+	46	0.9
Unknown	0	

cdph.gov

Race/Ethnicity	N	Percent*
Hispanic Or Latino	2,160	44.6
White	1,566	32.3
Black Or African American	622	12.8
Asian	280	5.8
Multiple Or Other Races	174	3.6
American Indian Or Alaska Native	20	0.4
Native Hawaiian Or Other Pacific Islander	25	0.5
Unknown	525	

# Gender Identity and Sexual Orientation for California Monkeypox Cases

Male	N	%**
<b>Male</b>	<b>5,085</b>	<b>96.2</b>
Gay or Same-Gender Loving	3,103	82.1
Bisexual	416	11
Heterosexual/Straight	257	6.8
Diverse Term	4	0.1
Unknown	1305	
<b>Transgender Male</b>	<b>16</b>	<b>0.3</b>
<b>Female</b>	<b>115</b>	<b>2.2</b>

# HIV, STI's and Monkeypox

- Among nearly 2,000 reported cases of Monkeypox (May 17 – July 22, 2022)
  - 61% had either STI in the past year or HIV
  - 41% had an STI in the past year
  - 38% had HIV
    - 82% with a suppressed viral load
    - 94% had medical care in the previous year
- The proportion of HIV infection increased over time
  - 44% with concurrent HIV infection in July 2022 data

# Monkeypox Symptoms

# Monkeypox Rash

- Frequently under 10 lesions
- Can become disseminated
- Frequently starts on perianal or genital region



# Systemic Symptoms of Monkeypox

- Fever
- Malaise
- Headache
- Muscle aches
- Lymphadenopathy- over 50% of cases in many case series
  - These symptoms may occur prior to, coincident with, or after rash develops, or not at all:

# Other Monkeypox Disease Manifestations

More serious cases can involve:

- Proctitis/Colitis
- Other rarer manifestations include ocular lesions, bronchopneumonia, encephalitis, septicemia
- Reasons for hospitalization have included:
  - Poor PO intake, dehydration
  - Pain management related to proctitis
  - Cellulitis caused by bacterial superinfection
- 5.2% of California cases have been hospitalized
- 6 deaths have been reported in the US of 28,004 cases
- 34 deaths have been reported worldwide of 75,568 cases

# Testing for Monkeypox

## Testing Is Recommended for:

- Any patients with classic rash
- In particular, those with rash and known epidemiologic risk factors

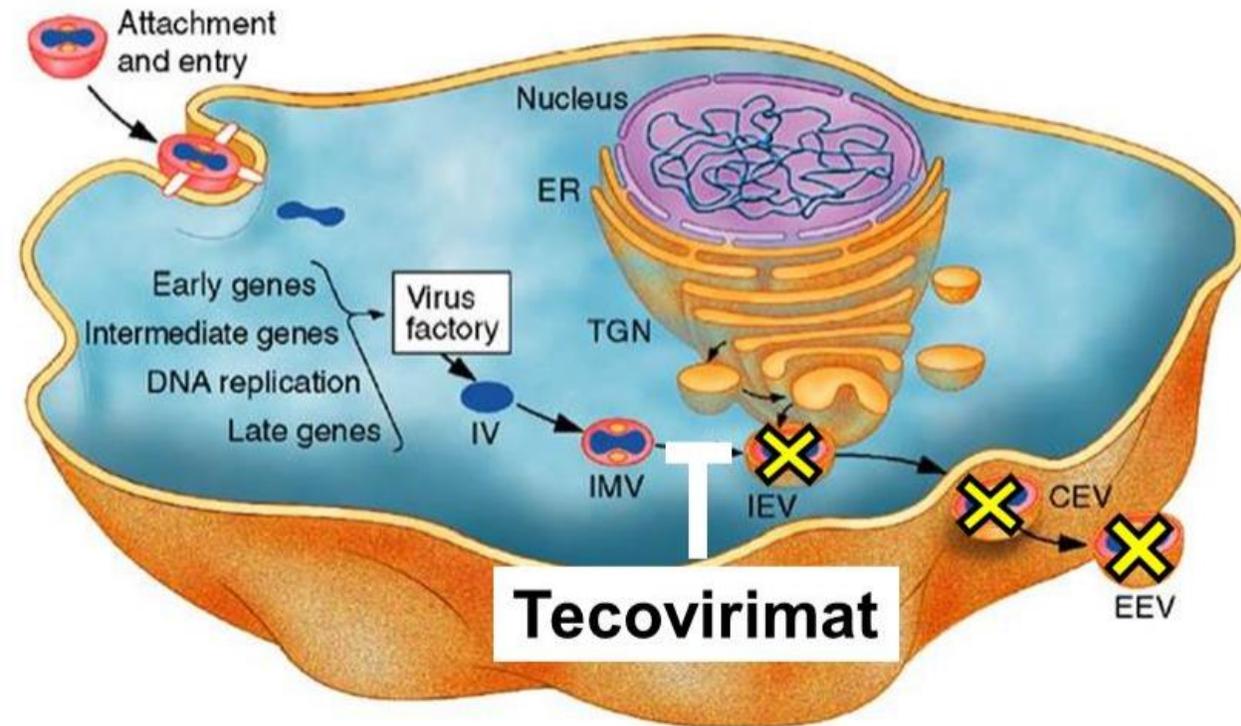
# PCR Is the Preferred Test to Diagnose Monkeypox

- PCR testing can be performed on swabs of vesicular lesions and exudate
- Test seems very sensitive and specific
- Unroofing of lesions is not recommended
- Testing is now broadly available to providers
- Providers should talk with their commercial lab to assure correct specimen collection process
- Confirmed cases must be immediately reported to public health
- Providers should be mindful that the disease has been focused to a population with specific risk factors: false positives can occur

# Treatment Recommendations

# Tecovirimat

- Human clinical trial indicated the drug was safe and well-tolerated
- Proven to be effective in treating monkeypox in animal trials
- Not enough data to demonstrate effectiveness in treating human cases of MPX.
- Available for use from the Strategic National Stockpile



# Tecovirimat Regimen

## Oral Regimen

- 40 kg to <120 kg: 600 mg PO BID for 14 days
- $\geq 120$  kg: 600 mg PO TID for 14 days

IV Regimen is available for those unable to take PO

# Tecovirimat Effectiveness?

- No human clinical trial data, no effectiveness data
- Medication is available under EUA by the Animal Rule
- NIAID is currently conducting randomized, placebo-controlled trial

# Clinical Use of Tecovirimat (Tpoxx) for Treatment of Monkeypox Under an Investigational New Drug Protocol — United States, May–August 2022

*Weekly* / September 16, 2022 / 71(37);1190–1195

*On September 9, 2022, this report was posted online as an MMWR Early Release.*

Kevin O’Laughlin, MD<sup>1,\*</sup>; Farrell A. Tobolowsky, DO<sup>1,\*</sup>; Riad Elmor, MS<sup>2</sup>; Rahsaan Overton, MPH<sup>1</sup>; Siobhán M. O’Connor, MD<sup>1</sup>; Inger K. Damon, MD, PhD<sup>1</sup>; Brett W. Petersen, MD<sup>1</sup>; Agam K. Rao, MD<sup>1</sup>; Kevin Chatham-Stephens, MD<sup>1</sup>; Patricia Yu, MPH<sup>1,†</sup>; Yon Yu, PharmD<sup>1,†</sup>; CDC Monkeypox Tecovirimat Data Abstraction Team ([VIEW AUTHOR AFFILIATIONS](#))

- Among 369 patients
  - Few adverse events were reported
  - No serious adverse events
- Median time to subjective improvement was 3 days after receiving tecovirimat

# Preventing Transmission

# Human-to-Human Transmission

Occurs by contact with:

- Monkeypox skin lesions
- Respiratory secretions
- Infectious fomites (clothing, bedding, or towels)
- Typically requires significant interaction
  - Sexual contact
  - Household contact
- Airborne transmission is clearly a minimal player in transmission if it occurs at all

# Duration of Infectiousness

- Infectious period starts from the onset of illness
- Lasts until all lesions have crusted over, those crusts have separated, and a fresh layer of healthy skin has formed under the crust.
- Time until non-infectious can last weeks

# What Precautions Should Persons with MPX Take?

Until all skin lesions are healed and other symptoms have been resolved for at least 48 hours:

- Avoid close contact with other people and pets in the home
- Keep skin lesions covered
- Clean and disinfect frequently touched items and launder clothing following CDC guidance
- Avoid sharing items

# When Can Persons with MPX Resume Activities Outside the Home?

Activities outside the home that do not involve settings of concern or physical contact with other people may be resumed when:

- Any fever or respiratory symptoms have been resolved for at least 48 hours
- No new lesions have appeared for at least 48 hours
- Any unhealed lesions can be covered with clothing or bandages
- Any lesions that cannot be covered are fully healed
- A well-fitting respirator or mask should be worn at all times when in contact with other people

<https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/MPX/MPX-Home-Isolation-Guidance-for-the-General-Public.aspx>

# Monkeypox Exposed Persons Management per CDPH Guidance

- **Exposed Persons** are those whose **mucous membranes or broken skin** came into contact with:
  - The lesions or body fluids of a person with MPX; OR
  - Materials that have contacted the lesions or body fluids of a person with MPX
- **Should be offered PEP with vaccine**
  - NOT recommended to quarantine
  - Follow up with a medical provider immediately if symptoms develop

# Casual Contact Is Very Unlikely to Cause Infection

- Casual contact settings include:
  - Casual social exposures
  - Workplace exposures
  - Healthcare facility waiting rooms
  - CDC does not provide guidance for these settings because they are at no apparent risk of transmission
- CDC guidance for schools, Early Care and Education Programs, and Other Settings Serving Children or Adolescents:
  - Settings should follow their everyday operational guidance that reduces the transmission of infectious diseases.

# Monkeypox Vaccination

# JYNNEOS Vaccine Is Recommended for Prevention of Infection and Post-Exposure Prophylaxis

- Contains live virus that does not replicate efficiently in human cells
- Two options for administration:
- Two 0.1 mL intradermal doses, given 28 days apart:
  - Preferred for persons  $\geq 18$  years of age
- Two 0.5 mL subcutaneous doses are recommended, given 28 days apart
  - For persons  $\leq 18$  years of age
  - Those with a history of keloids
  - Can be given to persons  $\geq 18$  years of age who prefer SC to ID dosing

## Incidence of Monkeypox Among Unvaccinated Persons Compared with Persons Receiving $\geq 1$ JYNNEOS Vaccine Dose — 32 U.S. Jurisdictions, July 31–September 3, 2022

Amanda B. Payne, PhD<sup>1</sup>; Logan C. Ray, MPH<sup>1</sup>; Kiersten J. Kugeler, PhD<sup>1</sup>; Amy Fothergill, PhD<sup>1,2</sup>; Elizabeth B. White, PhD<sup>1,2</sup>; Michelle Canning, MPH<sup>1</sup>; Jennifer L. Farrar, MPH<sup>1</sup>; Leora R. Feldstein, PhD<sup>1</sup>; Adi V. Gundlapalli, MD, PhD<sup>1</sup>; Kennedy Houck, MPH<sup>1</sup>; Jennifer L. Kriss, PhD<sup>1</sup>; Nathaniel M. Lewis, PhD<sup>1</sup>; Emily Sims, MPH<sup>1</sup>; Dawn K. Smith, MD<sup>1</sup>; Ian H. Spicknall, PhD<sup>1</sup>; Yoshinori Nakazawa, PhD<sup>1</sup>; Inger K. Damon, MD, PhD<sup>1</sup>; Amanda C. Cohn, MD<sup>1</sup>; Daniel C. Payne, PhD<sup>1</sup>

- Analysis of 5,402 reported monkeypox cases among males aged 18–49 years during July 31–September 3, 2022
- Average monkeypox incidence among unvaccinated persons was **14.3** (95% CI = 5.0–41.0) times higher than among persons who received 1 dose of JYNNEOS vaccine  $\geq 14$  days earlier.
- Previous studies in Africa found 85% effectiveness against infection for household contacts

# Vaccination is Recommended for Persons in Specific High-Risk Groups:

- **Any man or trans person who has sex with men or trans persons**
- Any man or trans person who is taking or is eligible for HIV PrEP
- Anyone living with HIV, particularly those with a low CD4 count, an unsuppressed HIV viral load, or an opportunistic infection
- People who have had any of the following in the past 6 months:
  - Sex at a commercial sex venue
  - Sex in association with a large public event in a geographic area where monkeypox transmission is occurring
  - Sexual partners of people with the above risks

# Vaccination is Recommended for Persons in Specific High-Risk Groups (cont'd):

- Healthcare workers who are likely to collect laboratory specimens from persons with MPX
  - For example, persons working in sexual health clinics or clinical settings that serve at risk populations).
- Laboratory workers who perform MPX testing.

# Monkeypox Vaccine Post-Exposure Prophylaxis (PEP):

- People can be vaccinated following exposure to monkeypox to help prevent illness from monkeypox virus.
- Based on animal trials:
  - PEP within 4 days from the date of exposure is thought to prevent onset of the disease.
  - 4 to 14 days after the date of exposure, vaccination may reduce the symptoms of disease, but may not prevent the disease.

# Post-Exposure Prophylaxis

Vaccination should be offered to known close contacts of people who have MPX:

- Household contacts
- Sexual contacts

# Moving Forward.....

- Efforts will continue to get high-risk populations vaccinated
  - Hispanic population has seen the highest proportional burden of disease
- Uncertain to what degree spread will occur to other community groups
- We want to work hard to get tecovirimat out to providers
- Largest risk is still in Africa

RSV

# RSV in Orange County

- Severe and rapidly increasing disease burden in pediatric health care facilities in the county
- Emergency declared to improve coordination between county healthcare facilities

PRESS RELEASE

## COUNTY HEALTH OFFICER ISSUES DECLARATION OF HEALTH EMERGENCY AND PROCLAMATION OF LOCAL EMERGENCY

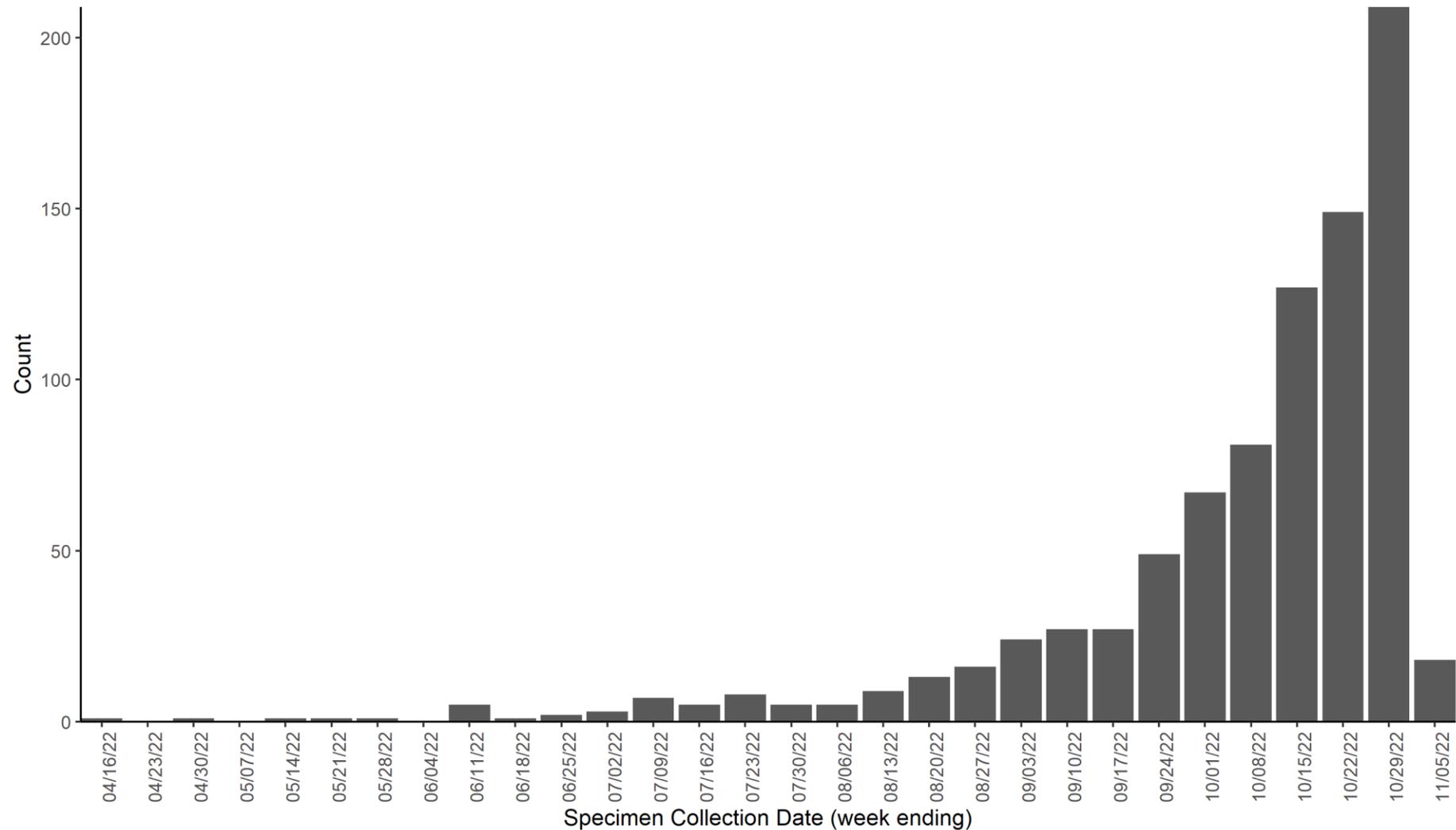
October 31, 2022

(Santa Ana, CA) – The County Health Officer today issued a Declaration of Health Emergency in Orange County due to rapidly spreading virus infections causing record numbers of pediatric hospitalizations and daily emergency room visits. Additionally, a Proclamation of Local Emergency has been declared, which allows the County to access State and Federal resources to address the situation and seek mutual aid from surrounding counties.

The OC Health Care Agency (HCA) Emergency Medical Services (EMS) is monitoring regional hospital capacity and engaging hospital and health care systems that are seeing very high patient volumes in their emergency departments and inpatient pediatric units.

# Respiratory Syncytial Virus (RSV) Laboratory Testing, Orange County, 2022

HCA/Communicable Disease Control



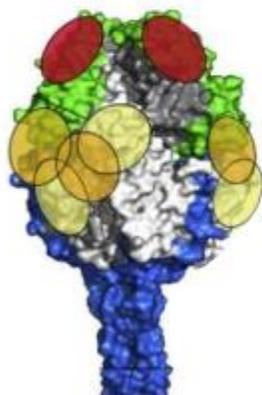
CDC surveillance has shown an increase in RSV detections and RSV-associated emergency department visits and hospitalizations in multiple U.S. regions, with some regions nearing seasonal peak levels. Clinicians and public health professionals should be aware of increases in respiratory viruses, including RSV.

## GSK's RSV older adult vaccine

The combination of RSVPreF3 (120 µg) and AS01<sub>E</sub> is designed to induce a robust humoral and cellular immune response, to help protect older adults and those with underlying comorbidities

### RSVPreF3 OA Vaccine

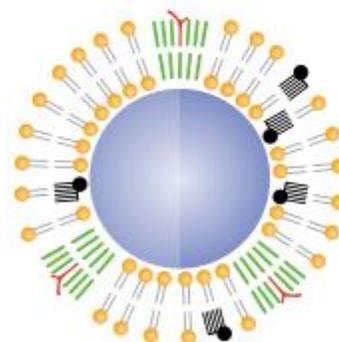
#### RSVPreF3 Antigen (120 µg)



Antigen engineered to preferentially maintain the pre-fusion conformation and display potent neutralizing epitopes to boost humoral immune response in older adults<sup>1,2</sup>



#### AS01<sub>E</sub> Adjuvant System



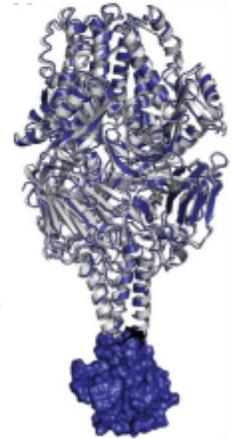
Boosts cellular immune response and restores the RSVPreF3 CD4+ T-cell level in older adults<sup>2</sup>

# Pfizer's RSVpreF Vaccine Candidate Program

## Vaccine

### Bivalent stabilized prefusion F

- Sequence based on contemporary RSV A and RSV B strains
- Elicited high neutralizing titers for both RSV A and RSV B in Phase 1/2 studies<sup>1,2,3</sup>



## Targeted Indications



### Maternal

Immunize pregnant women to prevent RSV-associated lower respiratory tract illness (LRTI) in infants from birth through 6 months of age



### Older adult

Active immunization to prevent RSV-associated LRTI in adults ≥ 60 years of age

<sup>1</sup>Falsey A., et al. J. Infect Dis 2022;225(12):2056-2066. <sup>2</sup>Walsh E., et al. J. Infect Dis 2022;225(8):1357-1366. <sup>3</sup>Baber J., et al. J. Infect Dis 2022 May 11;jiac189.

HEALTH NEWS

# Experimental RSV vaccine for pregnant women protects infants against severe illness, Pfizer says

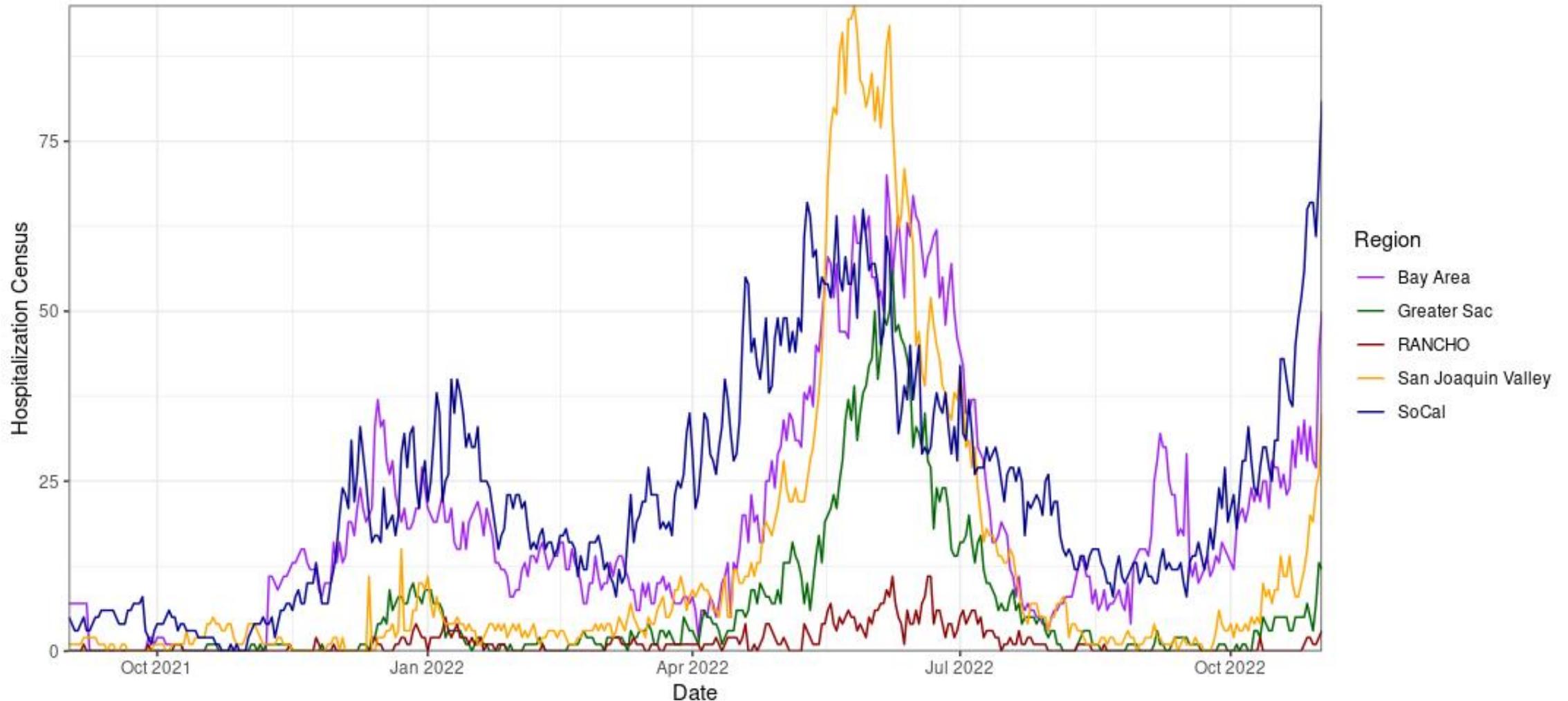
Children through 12 months old are among those with the highest risk for severe RSV infection. Pfizer plans to submit its results to the FDA by the end of the year.

🔊 TAP TO UNMUTE

YOUR VIDEO BEGINS IN 00:11

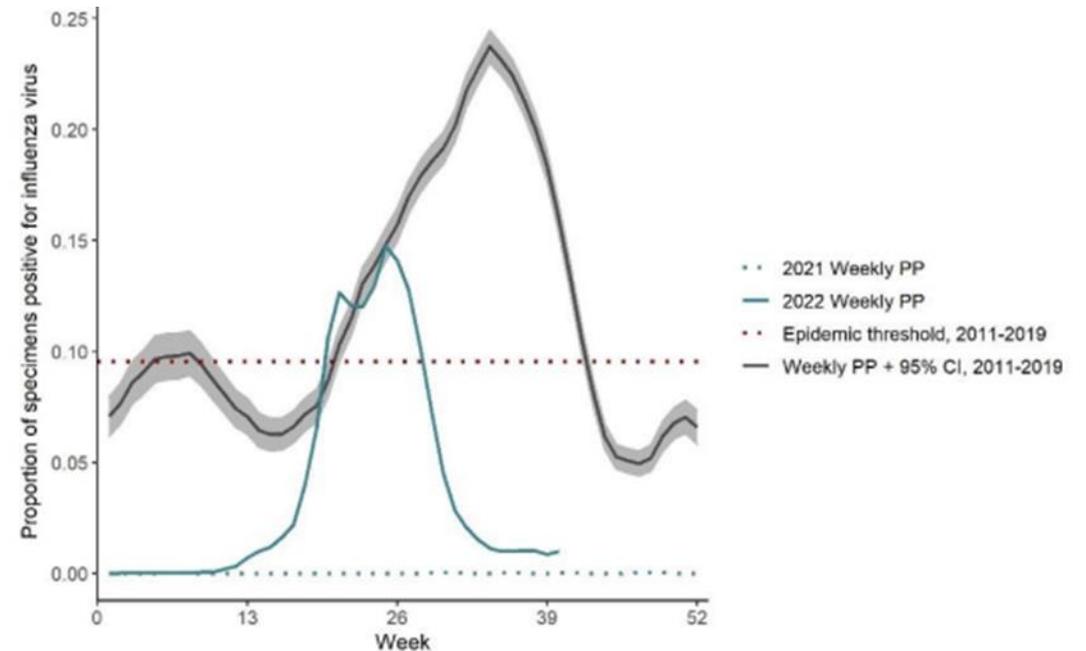
Flu hospitalizations in SoCal are above their 2021-22 season peak. While low compared with historical flu seasons, this is a very early start.

## Flu Total Hospitalizations



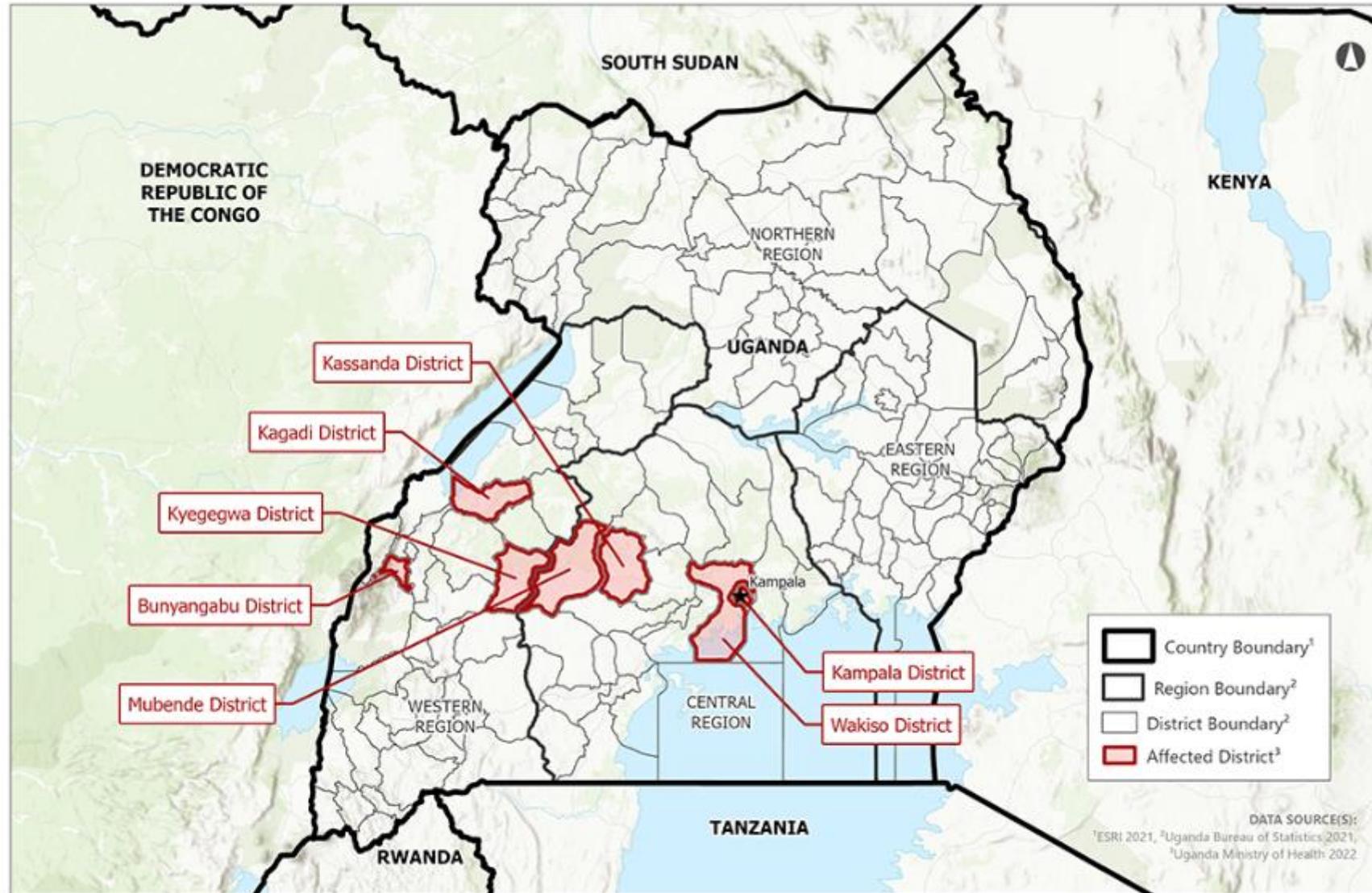
# 2022 Southern Hemisphere season

- Influenza activity has resumed in these sentinel countries following changes in transmission during the COVID-19 pandemic
- Shifted start and end periods
- Generally more severe seasons
- H3 has predominated in most of these sentinel countries
- South Africa has had significant circulation of A(H1N1) and B/Victoria viruses.



# Ebola

# Uganda: Ebola Virus Disease Outbreak 2022



**CDC**

**ATSDR**

Centers for Disease Control and Prevention  
Agency for Toxic Substances  
and Disease Registry

**GRASP**

Geospatial Research, Analysis, and  
Services Program

# Ebola Preparedness in California

- One Treatment Facility in California: Cedars Sinai
- Lab testing can be performed at LACDPH or CDPH
- Assessment hospitals?
- Local health departments is monitoring all travelers who are know to have traveled to US within 21 days of leaving Uganda
  - Orange County has monitored about 20 travelers so far
  - All are considered low risk

# For a Facility to Care for an Ebola Suspect Patient, Will Need:

- Facility infrastructure
- Patient transportation
- Laboratory
- Staffing
- Training
- PPE
- Waste management
- Worker safety
- Environmental services
- Clinical management
- Operational Coordination

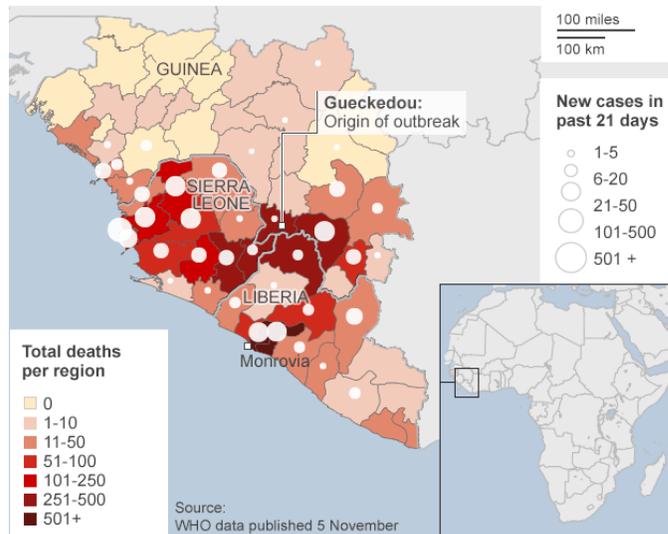
# The Risk of an Ebola Patient Coming to Any Hospital is Low

2015-16 West Africa Ebola Outbreak:  
United States Traveler Monitoring Experience

Approximately 29,000 Travelers Monitored

11 cases

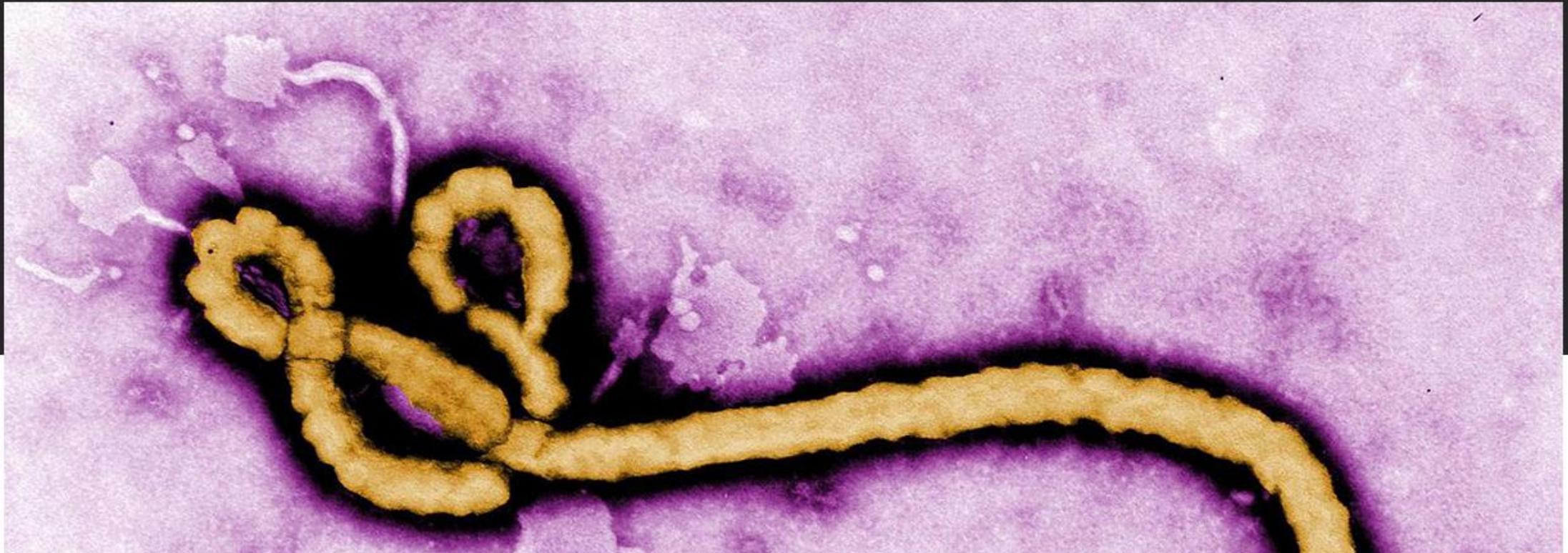
1 case in traveler who had not previously  
been identified to have Ebola risk



# Merck locates frozen batch of undisclosed Ebola vaccine, will donate for testing in Uganda's outbreak

After inquiries from Science, company confirms it produced and retains a candidate vaccine that could help bring the viral threat under control

23 OCT 2022 • 1:35 PM • BY [JON COHEN](#)



SHARE:



Thank you!  
[mzahn@ochca.com](mailto:mzahn@ochca.com)  
714-834-8180



# Comparison of Subcutaneous versus Intradermal Routes of Administration

- 149 participants received liquid SC MVA
- 146 participants received liquid ID MVA
- Similar peak geometric mean titers were seen in both groups:

Study visit day	Liquid SC 1x10 <sup>8</sup> N=149 GMT [95% CI]	Liquid ID 2x10 <sup>7</sup> N=146 GMT [95% CI]
Day 0	7.7 [7.4, 8.0]	7.7 [7.4, 7.9]
Day 14	10.0 [9.0, 11.1]	10.3 [9.3, 11.3]
Day 28	9.6 [8.7, 10.6]	10.8 [9.9, 11.9]
Day 42	45.2 [36.4, 56.2]	54.4 [43.7, 67.8]
Peak post vaccination 2	<b>49.5 [40.0, 61.3]</b>	<b>59.6 [48.1, 74.0]</b>

**Table 2. Adverse reactions reported in >10% of individuals within 15 days following any dose**

<b>Reactogenicity event</b>	<b>SC (%) N=166</b>	<b>ID (%) N=190</b>
Feeling Tired	49.7	51.3
Muscle Aches	41.3	30.4
Headache	43.1	41.4
Nausea	21.6	23.0
Change in Appetite	15.0	20.4
Chills	12.6	14.7
Joint Pain	9.0	17.8
Pain at injection site	91.0	65.4
Erythema at injection site	81.4	99.5
Induration at injection site	69.5	99.5
Itchiness	48.5	89.0
Underarm pain	18.0	20.9
Underarm swelling	6.0	10.5

Data were not available for one individual in each of the two groups

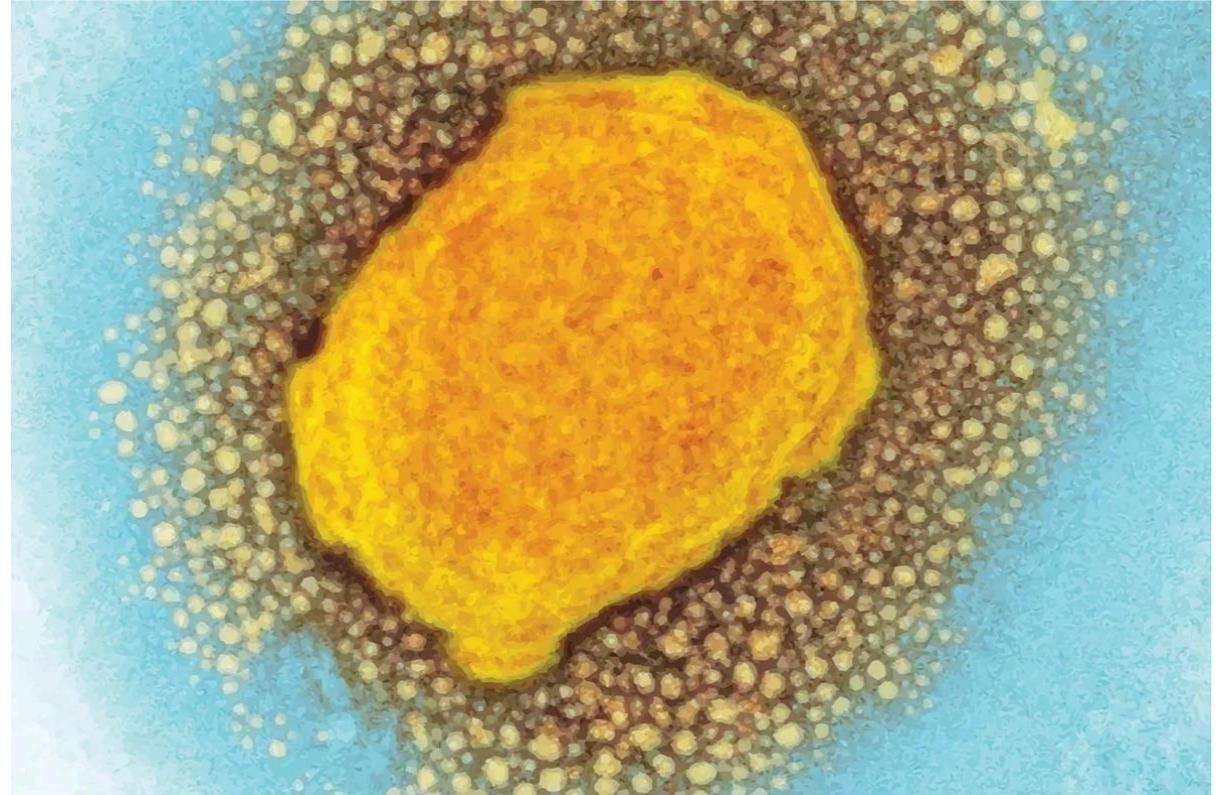
[FDA Adverse Reactions](https://www.fda.gov/media/160774/download) <https://www.fda.gov/media/160774/download>

# Learning Objectives

- Review the current monkeypox epidemiology
- Learn to recognize the clinical presentations of monkeypox
- Learn what the indications are for tecovirimat use, and how to access the medication

# Monkeypox Virus

- Double-stranded DNA virus
- Human orthopoxvirus
- Other human orthopoxviruses include variola (smallpox), vaccinia viruses



Source: Google Images

# Monkeypox Disease Historically

- The virus was originally identified in 1958 in monkeys in a Copenhagen monkey research colony
- Reservoir of the disease remains unknown though suspected to be African rodents
- The first human case identified in August 1970 in a 9-year-old child in Democratic Republic of Congo

2010-2019



\* Number reflects suspected cases  
Get the data - Created with Datawrapper

- MPX disease has been seen in several central and west African countries for decades
- Burden of observed disease has been increasing over time, particularly in the DRC
- The predominant source of identified human infections appear to have changed over time
  - Previously animal to human, later human to human
- Prior to 2022, nearly all monkeypox cases in people outside of Africa were linked to travel to Africa or through imported animals.

# Considerations for Use of Tecovirimat

- Tecovirimat should be considered broadly for treatment of monkeypox
- Empiric treatment can be considered if there is appropriate clinical indication prior to laboratory confirmation, especially in the context of limited or delayed testing.
- Situations where tecovirimat should be prioritized for use include patients with:
  - Severe disease, defined by evidence of sepsis or other clinical evidence of viremia, and lesion location or type
  - Evidence of illness complications or patient hospitalization
  - High risk for severe disease, defined as:
    - Severe immunocompromising conditions
    - Less than 8 years of age
    - Pregnant or breastfeeding
    - Diseases that could increase risk of stricture or fistula such as inflammatory bowel disease
    - Significant active exfoliative dermatologic conditions.

Table 2. 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
<b>Alternative regimen</b>				
People age $\geq 18$ years	ID	0.1 mL	2	28 days
<b>Standard regimen</b>				
<u>People age &lt;18 years</u>	Subcut	0.5 mL	2	28 days
People of any age who have a history of developing keloid scars	Subcut	0.5 mL	2	28 days

# Interim Community Exposure Risk Assessment and Recommendations for Monitoring and Postexposure Prophylaxis in Individuals Exposed to Monkeypox Virus in a Community Setting

## Degree of Exposure: **Higher**

### Recommendations

- Monitoring: Yes
- PEP<sup>†</sup>: Recommended

### Exposure Characteristics

- Contact between an exposed individual's broken skin or mucous membranes with the skin lesions or bodily fluids from a person with monkeypox -OR-
- Any sexual or intimate contact involving mucous membranes (e.g., kissing, oral-genital, oral-anal, vaginal, or anal sex (insertive or receptive)) with a person with monkeypox -OR-
- Contact between an exposed individual's broken skin or mucous membranes with materials (e.g., linens, clothing, objects, sex toys) that have contacted the skin lesions or bodily fluids of a person with monkeypox (e.g., sharing food, handling or sharing of linens used by a person with monkeypox without having been disinfected<sup>‡</sup> or laundered)

Source: CDC

# Additional CDC Comments on Isolation:

Ideally, people with monkeypox would remain in isolation for the duration of illness, which typically lasts two to four weeks. However, if a person with monkeypox is unable to remain fully isolated throughout the illness, they should do the following:

- While symptomatic with a fever or any respiratory symptoms, including sore throat, nasal congestion, or cough:
  - Remain isolated in the home and away from others unless it is necessary to see a healthcare provider or for an emergency.
  - This includes avoiding close or physical contact with other people and animals.
  - Cover the lesions, wear a well-fitting mask and avoid public transportation when leaving the home as required for medical care or an emergency.
- While a rash persists but in the absence of a fever or respiratory symptoms
  - Cover all parts of the rash with clothing, gloves, and/or bandages.
  - Wear a well-fitting mask to prevent the wearer from spreading oral and respiratory secretions when interacting with others until the rash and all other symptoms have resolved.

# What Protection Does Vaccination Offer When Given Pre-exposure?

A study of 209 monkeypox cases in Zaire from 1980-84 found that:

- 27 episodes showed evidence of human-to-human transmission, leading to 47 secondary cases
- 70% of close contacts had history of smallpox vaccination
  - No comments on how long ago immunization had occurred
- A comparison of close contacts who had/had not been vaccinated found *85% effectiveness* against infection for household contacts

Fine PE et al. The Transmission Potential of Monkeypox Virus in Human Populations. Int. J. of Epi Vol 17 (3): 643. 1988

## Table 1. Vaccination Strategies Used in the 2022 U.S. Monkeypox Outbreak

Strategy	Definition	Criteria
Post-Exposure Prophylaxis (PEP)	Vaccination <b>after known exposure</b> to monkeypox	<ul style="list-style-type: none"> <li>• People who are known contacts to someone with monkeypox who are identified by public health authorities, for example via case investigation, contact tracing, or risk exposure assessment</li> </ul>
Expanded Post-Exposure Prophylaxis (PEP++)	Vaccination <b>after known or presumed</b> exposure to monkeypox	<p>Any of the following:</p> <ul style="list-style-type: none"> <li>• People who are known contacts to someone with monkeypox who are identified by public health authorities, for example via case investigation, contact tracing, or risk exposure assessment</li> <li>• People who are aware that a recent sex partner within the past 14 days was diagnosed with monkeypox</li> <li>• Certain gay, bisexual, or other men who have sex with men, or transgender and gender diverse people who have sex with men, who have had any of the following within the past 14 days: sex with multiple partners (or group sex); sex at a commercial sex venue; or sex in association with an event, venue, or defined geographic area where monkeypox transmission is occurring</li> </ul>
Pre-Exposure Prophylaxis (PrEP)	Vaccination <b>before exposure</b> to monkeypox	<ul style="list-style-type: none"> <li>• People in certain occupational risk groups*</li> </ul>

\*People at risk for occupational exposure to orthopoxviruses include research laboratory workers performing diagnostic testing for *Monkeypox virus*, and members of health care worker response teams designated by appropriate public health and antiterror authorities (see [ACIP recommendations](#)).

Source: CDC

# When Can a Person with MPX Return to Work?

- Workers may return to work when they meet all the criteria in Section B above, AND all of the following conditions are met:
- Employment does not involve direct physical care or contact with others, e.g., massage therapy, estheticians, sex work, etc.;
- Employment is not in a setting of concern; AND
- Virtual work is not possible.

- Isolate at home
- Stay home unless it is necessary to see a healthcare provider, do not resume activities outside the home, and do not return to the workplace until:
- All MPX lesions are fully healed and a fresh layer of skin has formed at lesion sites and any other symptoms have been resolved for at least 48 hours.
- Avoid close contact with other people and animals or pets in the home;
- Keep skin lesions covered (see below).
- Stay in a separate room and use a separate bathroom, if possible. If the same bathroom must be used by others, it should be cleaned and disinfected after use by the person with MPX.
- When in the same room, both the person with MPX, as well as other household members, should wear a respirator or a well-fitting mask when in close contact (e.g., within 6 feet) for more than a brief encounter (see #3 below for more information).
- Clean and disinfect frequently touched items
- Disinfect or launder items that have been worn or handled by the person with MPX, following CDC guidance. Persons with MPX should handle their own laundry, if possible, and shaking of linens should be avoided. If laundry is done by someone other than the person with MPX, that person should not shake laundry, and, at a minimum, should cover arms, and use disposable gloves and a respirator.
- Avoid kissing, hugging, cuddling, sleeping in the same bed, or having sex or other close skin-to-skin contact with other people.
- Avoid sharing bedding, towels, utensils or cups, and electronics. Potentially contaminated items should be cleaned and disinfected before use by others.
- Avoid activities that may put viral particles in the air, like dry dusting, sweeping, and vacuuming.
- Wash hands frequently with soap and water or use an alcohol-based hand sanitizer, especially after direct contact with lesions. Other household members should also clean their hands frequently.
- Cover unhealed skin lesions to the extent possible if living with or in contact with other people.
- Cover lesions with clothing, or a piece of gauze held in place with first aid tape or a semi-permeable bandage (one that allows air to flow through, but not fluids), e.g., Tegaderm™ with a gauze pad or similar.
- Wear gloves to cover lesions on hands.
- Prevent lesions from touching other people or items that may be used by others (bedding, towels, clothing, furniture, door handles, sex toys, cutlery, etc.).
- Seek medical attention if there are any signs of a secondary bacterial infection, including fever, pus, or increasing warmth, redness, and swelling in the skin surrounding the lesions.
- Changing bandages should be performed by the person with MPX while wearing disposable gloves. Wash hands immediately following glove removal and disposal.
- If assistance is needed with cleaning or caring for skin lesions, including bandaging, the person helping should wear, at a minimum, disposable gloves, long sleeves, and a well-fitting mask or respirator.
- Any clothing that contacts the lesions during bandage changes should be immediately laundered.

# Isolation of People with Monkeypox

## **People with monkeypox remain isolated at home for the duration of illness**

- Friends, family or others without an essential need to be in the home should not visit.
- Avoid close contact with others until the rash has resolved, the scabs have fallen off, and a fresh layer of intact skin has formed.
- Do not engage in sexual activity that involves direct physical contact.
- Do not share potentially contaminated items, such as bed linens, clothing, towels, wash cloths, drinking glasses or eating utensils.
- Routinely clean and disinfect commonly touched surfaces and items, such as counters or light switches, using an EPA-registered disinfectant
- Wear well-fitting source control medical mask when in close contact with others at home.
- If possible, use a separate bathroom if there are others who live in the same household.
- People with monkeypox should avoid contact with animals (specifically mammals), including pets.

# General Prevention Measures:

- Always talk to your sexual partner/s about any recent illness and being aware of new or unexplained sores or rashes on your body or your partner's body, including on the genitals and anus
- Avoid close contact, including sex, with people with symptoms like sores or rashes
- Avoid contact with infected materials contaminated with the virus
- Avoid contact with infected animals
- Practice good hand hygiene

# Public Health Contact Investigation Emphases:

- Sexual partners
- Household contacts

# PPE for Healthcare Staff for Monkeypox Includes:

- Gown
- Gloves
- Eye protection (i.e., goggles or a face shield that covers the front and sides of the face)
- NIOSH-approved particulate respirator equipped with N95 filters or higher

# Testing is Now Broadly Available to Providers

- If clinically indicated, providers should generally test for monkeypox
- Many commercial labs offer monkeypox PCR testing
- Results come back in 2-4 days
- Providers should talk with their commercial lab to assure correct specimen collection process
- Confirmed cases must be immediately reported to public health
- Providers should be mindful that the disease has been focused to a population with specific risk factors: false positives can occur

# Monkeypox Potentially Exposed Persons Management per CDPH Guidance

- **Potentially Exposed Persons** are those whose **intact skin or clothing** came into contact with:
  - The lesions or body fluids of a person with MPX; OR
  - Materials that have contacted the lesions or body fluids of a person with MPX
- **Should be:**
  - Notified of their exposure
  - Recommended to self-monitor
  - NOT recommended to quarantine
  - Follow up with a medical provider immediately if symptoms develop

# HIV and Monkeypox

Those co-infected with HIV were more likely to have:

- Rectal pain
- Tenesmus
- Proctitis
- Rectal bleeding
- Purulent/bloody stools

Those with HIV were more likely to be hospitalized (8% vs 2%)

