



## CDPH Health Advisory

### Updates on Identification, Laboratory Testing, Management and Treatment, and Vaccination for Mpox Virus Infection in California

April 6, 2023

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The California Department of Public Health (CDPH) has issued a Health Advisory to provide clinicians with updated information on mpox virus infections. Although the number of California mpox cases has significantly decreased from the height of the outbreak, cases (including severe cases of mpox) are still occurring as are delays in recognition and diagnosis.

Providers in LA County are encouraged to visit the LAC DPH [Mpox Provider Hub](#) for local resources.

Please read the CDPH advisory below or view [online](#).

To view this and other communications or to sign-up to receive LAHANs, please visit <http://publichealth.lacounty.gov/lahan>.



State of California—Health and Human Services Agency  
**California Department of Public Health**



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### Health Advisory

To: Healthcare Providers

**Subject: Updates on Identification, Laboratory Testing, Management and Treatment, and Vaccination for Mpox Virus Infection in California**

4/4/2023

## Key Messages

- Although the number of new cases in the current mpox outbreak has significantly decreased, people in California are still developing mpox, including severe mpox disease.
- The California Department of Public Health (CDPH) is aware of delays in mpox being considered in the differential diagnosis of people with symptoms consistent with mpox, testing for mpox, and testing for HIV and STDs in people with mpox.
- People who are immunocompromised, whether due to HIV or other conditions, are at higher risk for severe symptoms of mpox than people who are immunocompetent.
  - Because people with HIV-associated immunocompromise are at risk for severe manifestations of mpox, the HIV status of all sexually active adults and adolescents with suspected or confirmed mpox should be determined through further testing.
- This advisory provides updates to information and recommendations about severe mpox, including recent Center for Disease Control and Prevention (CDC) interim clinical treatment considerations for severe mpox.

## Background

CDPH continues to work with local health departments (LHDs) and California healthcare providers on cases of mpox. Since the beginning of the outbreak in May 2022, over 86,000 cases of mpox, including 112 deaths, have been reported to WHO from 110 countries as of [March 21, 2023](#). To date, in the [United States](#), there have been over 30,000 cases, including 38 deaths. In [California](#), there have been over 5,700 cases, including [249 hospitalized cases](#) and two deaths, to date.

Although the number of California mpox cases has significantly decreased from the height of the outbreak, cases (including severe cases of mpox) are still occurring and are concerning. Close, sustained skin-to-skin contact, including sexual contact, with a person with mpox appears to be the most significant risk factor associated with mpox transmission. In this outbreak, most of the reported infections have been in gay, bisexual, or other men who have sex with men (MSM). **However, it is important to remember that any person, regardless of gender identity or sexual orientation, can become infected and spread mpox if exposed.**

Mpox lesions can be present in sensitive areas, such as genital and perianal areas, and be very painful. Reported complications of mpox in the United States include severe pain, bacterial superinfection, severe pharyngeal swelling with concern for airway compromise, inability to eat/drink, and death. The risk of severe disease is greater in those who are immunocompromised.

## Recommendations

### Identifying Patients with Mpox

Fever and other prodromal symptoms (e.g., chills, lymphadenopathy, malaise, myalgias, or headache) and respiratory symptoms (e.g., sore throat, nasal congestion, or cough) can begin before a rash or lesions appear, but can sometimes occur after or not at all. Detailed information is available discussing [clinical recognition](#), [clinical presentation](#), and [epidemiologic criteria](#).

- People with [epidemiologic risk factors](#) for mpox who have rashes and receive differential diagnoses related to rashes of more common infections (e.g., varicella zoster, herpes, syphilis) should also be carefully evaluated for concurrent characteristic mpox symptoms and be considered for testing.
- If there are no identified epidemiologic risk factors for mpox infection, other possible causes of rash in adults should be further considered, including secondary syphilis, herpes simplex, varicella zoster, and enteroviruses. In children without identified epidemiologic risk criteria for mpox, enteroviruses, varicella zoster, molluscum contagiosum, and herpes simplex should be considered in the differential diagnosis.
- The mpox rash can also be confused with other rash illnesses that may occur in people with HIV, including herpes zoster (shingles), scabies, molluscum contagiosum, herpes, syphilis, chancroid, lymphogranuloma venereum, allergic skin rashes, and drug eruptions.
- **NOTE:** Immunocompromised persons, including persons with advanced, untreated or inadequately suppressed HIV infection, may present with an atypical rash, including a disseminated rash, that may make diagnosis more challenging.

CDPH is aware of cases in which mpox was not considered in the differential diagnosis, mpox testing was delayed, or HIV testing was delayed in cases with suspected or known mpox. [A recent CDC Morbidity and Mortality Weekly Report \(MMWR\)](#) found possible undetected mpox among persons accessing homeless services. In addition, a recent [global case series](#) of HIV-infected persons with mpox found that at time of mpox diagnosis, 9% of the cases had not yet been diagnosed with HIV. It is highly important to [test for HIV](#) and [other sexually transmitted infections \(STIs\)](#) when testing for mpox and providing HIV and STI treatment as soon as possible for those who test positive.

People at increased risk of more severe infection:

- Children <8 years of age
- Anyone pregnant or breastfeeding
- The immunocompromised
- Those with a history of atopic dermatitis or eczema
- Those with HIV infection and a CD4 count <350mm<sup>3</sup>

If you have a suspect pediatric case, please contact your [LHD](#) as we strongly encourage consultation and testing of suspect pediatric cases within the California public health lab network. It is also very helpful to submit lesion photos if they are available.

## Severe Mpox

Persons with advanced and uncontrolled HIV are at [higher risk for severe](#) (PDF) or prolonged mpox disease. Therefore, [medical treatment](#) and close [monitoring](#) for those in this population with mpox infection is particularly important.

Compared with other persons with mpox, a recent [global case series](#) demonstrated that persons with inadequately treated HIV, particularly those with CD4 counts <200 per mm<sup>3</sup> were more likely to have severe mpox disease relative to those with a CD4 cell count of 200–350 cells per mm<sup>3</sup> and compared with previous reports in which most individuals had a CD4 cell count of more than 500 per mm<sup>3</sup>. Of the people with [severe manifestations of mpox](#) for whom CDC has been consulted, the majority have had HIV with CD4 counts <200 cells per mm<sup>3</sup>.

Persons with mpox and inadequately treated HIV have also been [reported](#) to have higher rates of secondary bacterial infection, more prolonged illness (and thereby also a longer period of infectiousness), as well as a higher likelihood of a confluent or partially confluent rash, rather than discrete lesions.

In contrast, recent [reports](#) of patients with HIV infection and mpox who are on effective antiretroviral therapy (ART) have noted no deaths or evident excess hospitalizations to date. Providers should consider both viral suppression and CD4 count in weighing the risk of severe outcomes from mpox for any patient with HIV.

## Testing Patients for Mpox

Testing is highly recommended to be performed on specimens from persons for whom mpox is suspected.

Testing for mpox virus is currently available through local public health laboratories and multiple commercial laboratories. Samples sent to public health labs will need to be coordinated with the LHD. Healthcare providers must specify the ordering facility and provider address on commercial lab orders to ensure results are routed to the appropriate LHD.

Please see: [CDC Guidelines for Collecting and Handling Specimens for Mpox Testing](#).

Guidance for specimen collectors includes:

- Collector should wear appropriate [personal protective equipment](#).
- Use two sterile synthetic swabs for each lesion.
- Vigorously swab the lesion to collect adequate DNA. Do not de-roof the lesion before swabbing.
- Place swab in a sterile container that has a gasket seal and can be shipped under the required conditions.
- Swabs from different lesions and any other specimens (e.g., scabs) should be placed in different containers.

Mpox and other *Orthopoxvirus* infections are explicitly reportable by healthcare providers and laboratories to the LHD of the residence of the case (Sections 2500 and 2505 of Title 17 of the California Code of Regulations).

## Specialized Testing

Specimens from clusters or outbreaks, severe cases and/or treatment or vaccine failures, and pediatric cases may be appropriate for additional non-diagnostic testing, such as whole genome sequencing (WGS) and antiviral resistance testing. Such results will not be available for patient management or treatment but will help to illuminate the changes that may be occurring in mpox disease.

## Mpox Management and Treatment Guidance

The time from exposure to symptom onset ranges from approximately three days to three weeks ([CDC Signs and Symptoms](#), [CDC Science Brief](#), [Emerging Infectious Diseases](#)). People with suspected mpox should vaccinate and isolate while awaiting testing results and, if confirmed, should follow the recommendations in the [CDPH Mpox Home Isolation Guidance for the General Public](#).

There is a growing body of evidence that shows some people can spread mpox virus to others from one to four days before symptoms of mpox appear ([CDC](#)). Healthcare providers should recommend that patients exposed to mpox **avoid sexual contact with others during the 21-day monitoring period** and follow other [CDPH recommendations for exposed people](#). To date, there is no evidence that people who never develop symptoms have spread the virus to others. Those who are suspected or are exposed are highly recommended for post-exposure prophylaxis vaccination. Further details on mpox vaccine guidance appear below.

Supportive care and treatment of symptoms should be initiated for all patients with mpox infection. This may include topical medicines or other clinical interventions to control itching, nausea, vomiting, and pain ([CDC Mpox Pain Management](#)). For further information, see [CDPH Supportive Care Suggestions](#).

Tecovirimat (also called TPOXX), an antiviral medication available through an expanded access Investigational New Drug (EA-IND) protocol for the treatment of mpox infection, is available at sites throughout California.

TPOXX can be ordered through the local [Medical Health Operational Area Coordination \(MHOAC\)](#). See: [CDC guidance on obtaining and using TPOXX \(Tecovirimat\)](#) for the required forms and documentation.

For more information on prescribing or accessing tecovirimat for your patients, please contact your [LHD](#) or [submit an inquiry to CDPH](#).

Healthcare providers should consider tecovirimat treatment for people with severe infection, illness complications (including pain not controlled with supportive care), and risk factors for progression to severe infection (children <8 years of age, pregnant or immunocompromised people, or those with a history of atopic dermatitis or eczema). Treatment is strongly encouraged to be considered for high-risk suspect cases who have pending lab results and suspect cases who have severe symptoms.

## CDC Treatment Considerations for Severe Mpox

The [CDC MMWR: Interim Clinical Treatment Considerations for Severe Manifestations of Mpox](#) contains a management algorithm outlining the approach to patients with suspected, probable, or confirmed mpox. This guidance is intended to aid decision-making regarding the earliest use of effective medical counter measures (MCM) when indicated ([CDC Management Algorithm](#)).

The MMWR article also contains a [summary table](#) with comprehensive information about each MCM, including mechanism of action, safety, efficacy, and dosing, which should be reviewed along with the management algorithm when deciding about administration or cessation of MCMs.

## Additional Considerations

Identification of exposed people and effective [isolation](#) of suspect cases will help reduce community spread of mpox. Further detail information can be found in the [CDPH Mpox Public Health Guidance](#) and the [CDPH all guidance page](#).

## Mpox Vaccine Guidance

[CDC](#) and [CDPH](#) recommend vaccination for people who have been exposed to mpox and any person who MAY be at risk for mpox infection. JYNNEOS vaccine is approved by the U.S. Food and Drug Administration (FDA) to prevent both mpox and smallpox when given as a series of two doses given 28 days apart. **Persons are not considered fully vaccinated until 14 days after their second dose.**

JYNNEOS vaccine is currently available in the United States from the federal [Strategic National Stockpile](#). Please contact your [LHD](#) for information on how to become a JYNNEOS vaccine provider.

Some individuals are at higher risk for mpox infection and/or complications of mpox infection. They should be considered a priority and are **strongly encouraged** to receive the vaccination to decrease infection spread, minimize serious illness, and prevent fatalities. This includes any of the following:

- Known close contacts of people who have mpox
  - Post-exposure prophylaxis is most effective at preventing disease when given within four days after exposure. Vaccination 4-14 days after exposure may reduce symptoms but may not prevent disease.
- Anyone living with HIV. It is recommended that additional efforts be made to reach those with a CD4 count <350/mm<sup>3</sup>, an unsuppressed HIV viral load, or an opportunistic infection, due to increased risk for mpox complications
- Any man or trans person who has sex with men or trans persons
- People who use or who are eligible for HIV pre-exposure prophylaxis (PrEP)
- Sex workers
- Sexual partners of the above groups
- People who have had direct skin-to-skin contact with one or more people AND know others in their community who have had mpox infection
- People who have been diagnosed with a bacterial sexually transmitted disease (STD) (e.g., chlamydia, gonorrhea, syphilis) in the past 3 months
- People who anticipate experiencing the above risks

The JYNNEOS vaccine may be administered subcutaneously using the standard regimen ([subcutaneous route](#) (PDF)) or intradermally ([intradermal route](#) (PDF)). People of any age with a history of developing keloid scars and individuals younger than 18 years of age should receive the vaccine via the subcutaneous route. Patients with concerns about intradermal administration due to potential stigma or other personal reasons should be offered subcutaneous doses. CDC recommends that health care providers have both subcutaneous and intradermal vaccine administration options available on site so patients choose their preferred route of administration.

## Resources

### CDC:

- [CDC Mpox Case Count Global Map](#)
- [CDC Clinical Recognition](#)
- [CDC Epidemiologic Criteria](#)
- [CDC Case Definition](#)
- [CDC Treatment Information for Healthcare Professionals](#)
- [CDC Clinical Considerations for Treatment and Prophylaxis of Mpox Infection in People Who are Immunocompromised](#)
- [CDC Specimen Collection](#)
- [CDC Signs and Symptoms](#)
- [CDC Science Brief Science Behind Transmission](#)
- [CDC Serial Interval and Incubation Period Estimates of Monkeypox Virus Infection](#)
- [CDC If You're a Close Contact](#)
- [California Emergency Medical Services Authority](#)
- [CDC Interim Clinical Treatment Considerations for Severe Manifestations of Mpox](#)

### CDPH:

- [CDPH Isolation and Quarantine Guidance](#)
- [CDPH Clinical Assist Tool for Mpox Evaluation](#) (PDF)
- [CDPH Mpox Exposure Management](#)
- [CDPH Mpox General Public Health Guidance](#) (PDF)
- [CDPH Mpox Vaccines](#)
- [CDPH Supportive Care Suggestions](#)
- [CDPH Severe Mpox Infection in People with Untreated HIV and a Weakened Immune System](#) (PDF)
- [California Communicable Disease Control Officer Contact Information](#)

### Other Resources:

- [WHO Mpox virus variants](#)
- [Mpox in people with advanced HIV infection: a global case series](#)

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