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URGENT HEALTH BULLETIN

Monkeypox Testing, Treatment, and Post-Exposure Prophylaxis Update

This document contains hyperlinks and can be accessed on our

[Health Bulletin webpage \(https://kernpublichealth.com/health-bulletin/\)](https://kernpublichealth.com/health-bulletin/)

[Monkeypox webpage for Healthcare Providers \(https://kernpublichealth.com/monkeypox/providers/\)](https://kernpublichealth.com/monkeypox/providers/)

July 29, 2022

Dear Kern County Healthcare Provider:

- **Monkeypox Situational Report**

Additional cases of monkeypox infections continue to be identified among Kern County residents. Case counts are now being updated on the Kern County Public Health Services Department (KCPHSD) [Monkeypox webpage](#). The [Monkeypox Information for Healthcare Provider webpage](#) including many links and additional resource.

The [World Health Organization \(WHO\)](#) has declared the monkeypox outbreak a public health emergency of international concern.

Healthcare providers are also reminded to wear appropriate personal protective equipment (PPE) including gown gloves, eye protection, and N-95 respirator or higher when evaluating patients with suspected monkeypox infection or close contacts. Refer to [CDC's Infection Prevention and Control of Monkeypox in Healthcare Settings](#) for more information.

All suspected cases of monkeypox should be reported immediately to Kern County Public Health Services Department (KCPHSD) at 661-321-3000. After hours, on holidays, or on weekends, healthcare providers should call 661-241-3255 to reach Public Health On-Call staff.

- **Monkeypox Assessment of Symptomatic Cases**

A recent [Clinical Outreach and Communication Activity \(COCA\) Webinar](#) described the demographics of cases. The vast majority of cases have been identified among males, including persons identifying as men who have sex with men. While the epidemiological information is a crucial piece of patient assessment, it remains important to consider monkeypox in all persons with a rash. Household contacts, including children, have been diagnosed with monkeypox.

Monkeypox virus incubation period is typically 1-2 weeks. A person is not considered contagious to others during the incubation. The prodromal period may be marked with the initial symptoms of fever, malaise, headache, sore throat and cough, and/or lymphadenopathy, but not all patients report prodromal

symptoms. Persons can be contagious during this period. The onset of rash marks the symptomatic and highly contagious stage of infection. A person is infectious until fresh, healthy skin has formed over all lesions and scabs have fallen off.

Rash progress has been well-documented, though the severity of the rash has varied widely. Healthcare providers are encouraged to ask patients if they have previous photographs of their rash for comparison of the development. Photographs of rashes in various stages can be found on [CDC's Clinical Recognition](#) webpage. Rash differentials may include secondary syphilis, herpes, and varicella zoster.

Rash Stage	Duration	Characteristics
Enanthem		First lesions develop on tongue and in mouth
Macules	1-2 days	Starts on face, spread to arms and legs, then hands and feet (including palms and soles) with centrifugal distribution within 24 hours
Papules	1-2 days	Macular rash progresses to papular
Vesicles	1-2 days	By fourth to fifth day, papular rash progresses to vesicular
Pustules	5-7 days	By the sixth to seventh day, lesions progress to pustular: raised, round, deep seated and develop umbilication.
Scabs	7-14 days	By end of second week pustules have crusted and scabbed over. Scabs will remain for about a week before falling off.

- **Considerations for Monkeypox Infection in Children**

Monkeypox has been documented in children and adolescents living in endemic regions and is expected to have a clinical presentation similar to adults. Especially, but not only, if epidemiological risk factors are present, children or adolescents presenting with a consistent rash should be considered for monkeypox. Young children, children with eczema or other skin conditions, and children with immunocompromising conditions may be at increased risk for severe disease. Tecovirimat (TPOXX) is approved for use all age groups and should be considered for high-risk children. Other treatments may also be considered. JYNNEOS vaccine is not approved for use in children as it has not been studied in children or adolescents; however, it can be offered using a single-patient Expanded Access Investigational New Drug (EA IND) authorization from FDA. Differential in children may include other infections that those considered for adults, including varicella; hand, foot, and mouth disease; measles; scabies; molluscum contagiosum; herpes; syphilis (including congenital syphilis); allergic skin reactions; and drug eruptions. See [CDC's Clinical Considerations for Monkeypox in Children and Adolescents for more information](#).

- **Testing for Monkeypox**

Testing for non-variola Orthopox virus or Monkeypox virus is now offered at several commercial laboratories, including [ARUP Laboratories](#), [Aegis Sciences Corporation](#), [Labcorp](#), [Mayo Clinic Laboratories](#), [Quest Diagnostics](#), and [Westpac Lab](#). Testing is also available through Laboratory Response Network (LRN) laboratories if commercial testing is not available at your facility or for your patient. Contact KCPHSD at (661) 321-3000 for more information on testing through the LRN.

Specimen collection, transportation, and interpretation may vary by laboratory. Healthcare providers should review specifications from the appropriate laboratory prior to specimen collection. Specimens must be collected by a healthcare provider at their site where the patient is seen. Specimen collection is not offered at patient care centers or laboratory draw stations.

Healthcare providers are encouraged to complete a thorough physical exam, including skin, oral, genital, and rectal exams. Specimens should be collected from multiple locations whenever possible as the rash may be at different stages at different body sites.

Molluscum contagiosum, which should be considered in the differential for children, is an infection that is caused by a poxvirus (molluscum contagiosum virus). The non-variola orthopoxvirus testing being used at all Laboratory Response Network (LRN) locations and most commercial laboratories does not cross react with molluscum contagiosum virus.

All patients being tested for *Monkeypox virus*, including through commercial laboratories, must be reported to the KCPHSD through the California Reportable Disease Information Exchange (CalREDIE) Provider Portal or by phone at (661) 321-3000. After hours, on holidays, or on weekends, contact 661-241-3255 to reach Public Health On-Call staff.

- **Monkeypox Treatment Options**

While most people infected with monkeypox will have a mild, self-limiting disease, persons at high risk for severe illness may benefit from treatments such as [TPOXX \(tecovirimat\)](#). Tecovirimat is available under the expanded access investigational new drug (EA-IND). [Requirements for receiving tecovirimat](#) have been updated to be more streamlined. Tecovirimat treatment can be started before all EA-IND paperwork is complete, but the EA-IND forms must be completed in a timely manner. CDC's internal review board (IRB) has determined that the use of tecovirimat does not constitute research involving human subjects; it is solely for treatment use. The streamlined process also gives patients the option to see their healthcare provider virtually rather than in person. There is no pre-registration required, but healthcare providers must have the patient complete the [informed consent form](#) prior to administration.

Tecovirimat may be started in patients with high clinical suspicion of monkeypox infection and or those with significant epidemiological risk factors while testing is pending.

Tecovirimat is available in an oral capsule (200 mg) and injection for intravenous (IV) administration. The oral formulation can be held at room temperature (68°F to 77°F) until expiration. The injection for IV formulation must be stored in the refrigerator (36°F to 46°F) and cannot be frozen. See [TPOXX prescribing information](#) for more details.

Other treatment options including Vaccinia Immune Globulin (VIG), cidofovir (Vistide) and brincidofovir (CMX001 or Tembexa) may be considered.

While these treatments are licensed and approved by FDA for treatment of specific conditions, including illnesses caused by orthopoxvirus, there is no data on the effectiveness of any these treatments specifically on monkeypox infection.

See [CDC's Interim Clinical Guidance for Treatment of Monkeypox](#) for more information. To request treatment for a suspected, probable, or confirmed case of monkeypox, contact KCPHSD at 661-321-3000. After hours, on holidays, or on weekends, contact 661-241-3255 to reach Public Health On-Call staff.

- **Patient Isolation, In-Home Disinfection, Discontinuation of Isolation, and Employer Documentation**

Patients with confirmed or suspected monkeypox infection should be isolated at home unless hospital admission is medically warranted. If there are others living in the household, patients should be

encouraged to stay in a separate bedroom or living space, preferably with their own bathroom, to avoid close contact with others. Patients should be educated not to share potentially contaminated items like bed linens, clothing, towels, drinking glasses or eating utensils. Patients should be discouraged from using contact lenses to avoid inadvertent self-inoculation of the eye and avoid shaving areas where the rash has developed as this can spread the virus to other areas of the body. Commonly touched surfaces should be routinely cleaned with an EPA-registered disinfectant with an emerging viral pathogens claim ([List Q](#)). Laundry can be washed in a standard household washing machine with typical laundry detergent following the label instructions. Laundry sanitizers may be used but are not strictly necessary.

Patients should remain under isolation until monkeypox infection is ruled out or the patient's lesions have healed.

Healthcare providers are encouraged to provide appropriate documentation for patients to provide to their employer or other necessary entity that they are to isolate at home. Patients who feel well enough may be able to work from home, but should be excluded from any in-person activities until their rash has resolved. Patients who need to be isolated for several weeks may qualify for disability or other benefits.

- **Assessment of Close Contacts Cases**

Close contacts of a monkeypox case should monitor for symptoms for 21 days after their last exposure. In addition to checking for fever over 100.4°F, close contact should watch for chills, new lymphadenopathy, and a new onset of rash. Close contacts of a monkeypox case may present for assessment at earlier stages of rash development; healthcare providers should consider any rash to be highly suspicious of monkeypox. Healthcare providers should have a low threshold of testing persons who have had close contact with a monkeypox case. Healthcare providers are also reminded to also consider and rule out other rash illnesses, such as syphilis.

Close contacts who are asymptomatic and within 14 days of their last exposure to a monkeypox case should be assessed for the suitability of post-exposure prophylaxis (PEP). Close contacts who have developed symptoms are not candidates for PEP.

Close contacts who remain asymptomatic during their monitoring period can continue routine daily activities. Close contacts, however, should be advised not to donate blood, cells, tissue, breast milk, semen, or organs while in their monitoring period.

- **Postexposure Prophylaxis (PEP) after Monkeypox Exposure**

A very limited supply of JYNNEOS vaccine is available in Kern County and is currently available for PEP purposes only. Vaccine for PEP may be requested by a healthcare provider after a complete assessment of the close contact, including a physical exam. Close contacts who have developed symptoms of monkeypox infection are not indicated to receive PEP as vaccination is not anticipated to have any therapeutic effects.

CDC recommends that vaccine be given within 4 days of exposure to help prevent onset of disease. Vaccination administered between 4 and 14 days after exposure may reduce the severity of illness. JYNNEOS vaccine is indicated for use in adults 18 years of age and older who are determined to be at high risk of smallpox or monkeypox infection. It is a two-dose series given four weeks apart. Healthcare providers who start the JYNNEOS vaccine series with a patient are expected to complete the series with that patient, unless contraindicated. Review the [FDA package insert](#) for more information. A [provider](#)

[letter](#) was recently issued to update the current package insert, indicating JYNNEOS may be stored frozen (-13°F to 5°F) until expiration and can also be stored for up to 8 weeks refrigerated (36°F - 46°F) instead of 12 hours refrigerated that may be noted on original packaging.

Persons who have a history of smallpox vaccination but have a non-occupational exposure to monkeypox are recommended to receive a two-dose JYNNEOS vaccine series. Persons with a history of smallpox vaccination eligible for pre-exposure prophylaxis due to occupational exposure (e.g. laboratorian performing orthopoxvirus diagnostic testing) are recommended for a single (1) dose JYNNEOS booster vaccine.

Additional information about monkeypox vaccination can be found on the [EZIZ Monkeypox webpage](#). To request PEP for a specific patient, contact KCPHSD at 661-321-3000. After hours, on holidays, or on weekends, healthcare providers should call 661-241-3255 to reach Public Health On-Call staff.

- **Expanded Postexposure Prophylaxis (PEP++) after Potential Monkeypox Exposure**

During the current outbreak, PEP++ extends PEP to persons at high risk of having a monkeypox exposure but with no confirmed documented exposure. Tier I Priority Groups include persons who attended large public events that have been associated with multiple monkeypox cases; men who have sex with men (MSM) who have been recently diagnosed with a sexually transmitted disease, MSM who have had intimate contact with anonymous sexual partners, multiple partners, engaged in group sex, attended sex-on-premises venues, or engaged in survival or transactional sex (sex for money, drugs, shelter, etc.). Tier II Priority Groups include MSM who use or are recommended to use HIV PrEP; MSM who are living with HIV and are considered at risk for monkeypox exposure. Additional priority groups for PEP++ may include persons in congregate settings including residential substance use treatment centers; persons experiencing homelessness or using shelter services; and persons living with HIV or other significant immunocompromising conditions.

While vaccine is being prioritized for persons with a known close contact exposure to a monkeypox case, JYNNEOS vaccine may also be used for persons who meet the PEP++ criteria. Patients must be asymptomatic as vaccination is not anticipated to have any therapeutic effect on a person with monkeypox infection.

Additional information about monkeypox vaccination can be found on the [EZIZ Monkeypox webpage](#). To request PEP for a specific patient, contact KCPHSD at 661-321-3000. After hours, on holidays, or on weekends, healthcare providers should call 661-241-3255 to reach Public Health On-Call staff.

- **Tecovirimat (TPOXX) as Post-Exposure Prophylaxis (PEP)**

Tecovirimat may be considered for use as monkeypox PEP in rare circumstances, such as when vaccine is contraindicated due to an allergy to vaccine components. Per the [EA IND Protocol](#), healthcare providers must consult with CDC prior to using tecovirimat used as PEP. Contact the CDC Emergency Operations Center at 770-488-7100 or poxvirus@cdc.gov to arrange consultation.

- **Vaccination as Pre-exposure Prophylaxis (PrEP)**

Currently, most clinicians and laboratorians are not recommended to receive vaccination as orthopoxvirus pre-exposure prophylaxis (PrEP). See CDC's [Vaccine Guidance](#) for more information.

- **Treatment and PEP Considerations for Special Populations**

People with HIV who have a monkeypox infection may be at higher risk of severe or prolonged disease. People with untreated HIV who have a monkeypox infection may be at higher risk of death. There are few drug interactions expected between tecovirimat (TPOXX) and antiretroviral therapy for HIV, however dose adjustments should be considered in some circumstances. See [CDC's Clinical Considerations for Treatment and Prophylaxis of Monkeypox Virus Infection in People with HIV](#) for more information.

It is unknown if people are more susceptible to *Monkeypox virus* or if infection is more severe in pregnancy. *Monkeypox virus* can be transmitted to the fetus during pregnancy and to the newborn by close contact after birth. Monkeypox virus infection during pregnancy may contribute to poor birth outcomes, including preterm delivery, pregnancy loss, and still birth. While tecovirimat can be considered for treatment of monkeypox infection in people who are pregnant, recently pregnant, or breastfeeding, cidofovir and brincidofovir have demonstrated teratogenicity in animal studies and should not be used to treat monkeypox infection during the first trimester of pregnancy. JYNNEOS may be used for pre- or post-exposure prophylaxis but ACAM2000 should not be used on people who are pregnant or breastfeeding. See [CDC's Clinical Considerations for Monkeypox in People Who are Pregnant or Breastfeeding](#) for more information.

- **Monkeypox Resources**

This continues to be an evolving situation. Please refer to the [Kern County Monkeypox Page for Healthcare Providers](#), [CDC](#), and [CDPH](#) webpages for the most up-to-date information.

[CDC July 28, 2022 HAN](#)

[KCPHSD July 9, 2022 Urgent Health Bulletin](#)

[CDPH June 23, 2022 CAHAN](#)

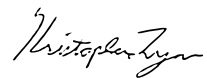
[KCPHSD June 16, 2022 Urgent Health Bulletin](#)

[CDC June 14, 2022 HAN](#)

[CDC May 20, 2022 HAN](#)

If you have any questions, please contact KCPHSD by phone at 661-321-3000, via email at publichealth@kerncounty.com, or visit our [KCPHSD website](#).

Thank you,



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Health Officer