SAN MATEO COUNTY HEALTH
PUBLIC HEALTH, POLICY & PLANNING

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HEALTH ADVISORY:

Monkeypox Virus Outbreak: Evaluation and Testing

June 17, 2022

This advisory is intended for emergency medicine, urgent care providers, infectious disease, primary care, internal medicine, family practice, pediatric, and OB/GYN providers. Please distribute as appropriate.

Overview:

- As laboratory testing capacity for monkeypox is limited at this time, owing to a restricted supply of testing reagents in the United States and the increased level of training, specialized personal protective equipment, and specialized laboratory facilities required, testing for monkeypox currently requires approval from Public Health.
- However, please do NOT call San Mateo County Public Health for approval until you have reviewed the testing criteria and made sure that your patient meets these criteria.
- Unfortunately, we do not have enough staff to help heath care providers evaluate rashes of unclear etiology. If you need a clinical consultation to decide whether a patient's rash is compatible with monkeypox, please use your normal channels and reach out to your Infectious Diseases and/or Dermatology consultants.
- Please note that at this point, only a few cases have been identified in the Bay Area and that most patients presenting with a rash do not have monkeypox and should be evaluated for alternative diagnoses, including but not limited to molluscum contagiosum, syphilis, varicella zoster, herpes and lymphogranuloma venereum (LGV). Overall, risk to San Mateo County residents is currently low.

Background Information and Situation Summary:

Monkeypox is a viral zoonosis with symptoms very similar, though clinically less severe, to those seen in the past with smallpox infections. Monkeypox virus belongs to the *Orthopoxvirus* genus which also includes the variola (smallpox) virus. Monkeypox occurs primarily in Central and West Africa and has been rarely exported to other regions. Nigeria, in particular, has had a large outbreak of monkeypox, with hundreds of cases to date. The wild animal reservoir is unknown.

Cases of monkeypox outside of Western and Central Africa are extremely rare. In 2021 there were two travel associated cases identified in the US, and prior to that the most recent cases were identified in 2003 during an outbreak of 47 cases associated with imported small mammals. Cases of monkeypox have been identified in several non-endemic countries since early May 2022; many of the cases have involved men who have sex with men (MSM) without a

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history of travel to an endemic country. However, any person irrespective of gender identity or sexual orientation can acquire and spread monkeypox.

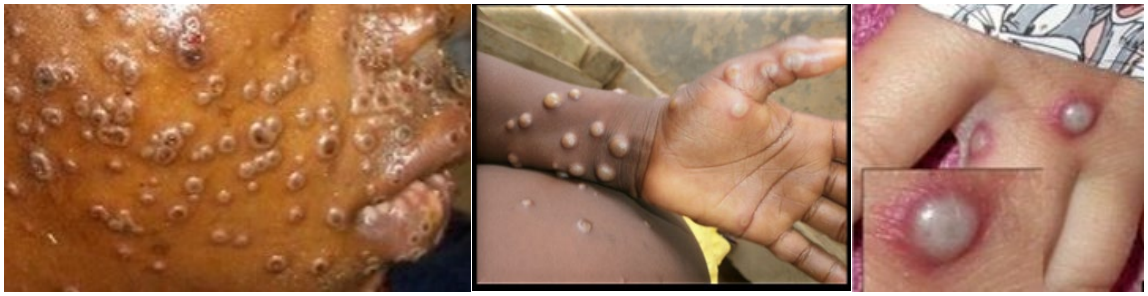
Monkeypox is usually self-limited with disease symptoms lasting 2 to 4 weeks. Complications, including secondary infections, are possible. In Africa, recent fatality rates of 3-6% have been reported by the World Health Organization; the case fatality rates of the cases occurring around the world in May 2022 may be lower. The West African clade of monkeypox virus that has been isolated in California is generally considered milder. No deaths have been reported globally from the current outbreak.

As of June 16, 2022, there have been 21 probable and confirmed cases of monkeypox identified in California. No cases have been identified in San Mateo County to date.

Clinical Presentation:

In typical cases of monkeypox, after an average incubation period of 7 to 14 days (range, 5 to 21 days), flu-like symptoms appear, and include fever, headache, lymphadenopathy, myalgia, and fatigue. This is followed approximately 1 to 3 days later with a rash that usually starts on the face or in the oral cavity and synchronously progresses across the body through stages over a period of a few days each. The rash typically concentrates on the face and extremities, including lesions on the palms and soles. Mucous membranes and genitalia may be involved. The appearance and progression of the rash is very characteristic, evolving sequentially from macules (lesions with a flat base) to papules (slightly raised firm lesions), vesicles (lesions filled with clear fluid), pustules (lesions filled with yellowish fluid), and crusts which dry up and fall off. Lesions are often described as painful until the healing phase when they become itchy. In cases where exposure to the virus has occurred through sexual contact, the initial lesions may occur in the genital, anal, perianal, or oral areas.

Monkeypox lesions are typically firm, well circumscribed, deep-seated, and umbilicated. Please see below for pictures of a characteristic rash:



Source: Centers for Disease Control and Prevention

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However, many recently reported cases are presenting **atypically** with:

- scattered lesions or lesions localized to a specific body site rather than a diffuse rash
- lesions not involving the face or extremities, including lesions that begin in the genital or perineal/perianal area and do *not* spread further
- lesions appearing on a specific anatomic site at different (**asynchronous**) stages of development (e.g., vesicles and pustules existing side-by-side)
- lesions appearing **before or in the absence of prodrome** (lymphadenopathy, fever, chills, headache, myalgias, malaise and fatigue)
- only a few small lesions, or even just a single lesion
- symptoms of proctitis, anorectal pain, tenesmus, and rectal bleeding caused by ulcerative skin lesions

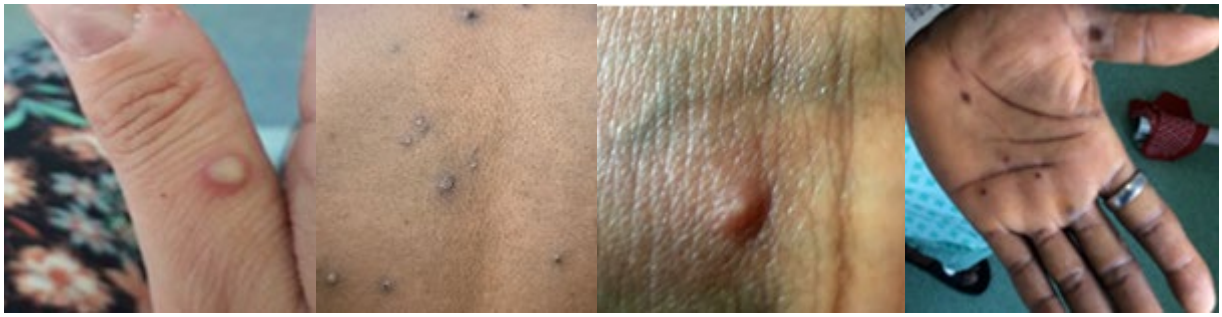

Photo Credit: NHS England High Consequence Infectious Diseases Network

A high index of suspicion is therefore necessary. When evaluating patients with a rash that could be consistent with monkeypox, other more common causes of rash, such as molluscum contagiosum, herpes, varicella zoster and syphilis should be considered and tested for, as appropriate. Please refer to Clinical Recognition | Monkeypox | Poxvirus | CDC for additional information.

Who Should Be Tested:

Anyone with a rash consistent with monkeypox as delineated above OR anyone meeting one of the following epidemiologic criteria **within 21 days** of illness onset, along with a high clinical suspicion for monkeypox.

Epidemiologic criteria:

- Contact with a person or people with a similar appearing rash or who received a diagnosis of confirmed or probable monkeypox **OR**
- Close or intimate in-person contact with individuals in a social network experiencing monkeypox activity, which currently includes men who have sex with men (MSM) who meet partners through an online website, digital application (“app”), or social event (e.g., a bar or party) **OR**

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- Travel outside the US to a country with confirmed cases of monkeypox or where *Monkeypox virus* is endemic, i.e., West African and Central African countries including Democratic Republic of the Congo, Nigeria, Cameroon, Republic of the Congo, Central African Republic, Benin, Gabon, Ivory Coast, Liberia, Sierra Leone, South Sudan, and Ghana (identified in animals only)
- Contact with a dead or live wild animal or exotic pet that is an African endemic species or use of a product derived from such animals

Historically, sporadic accounts of patients co-infected with Monkeypox virus and other infectious agents (e.g., varicella zoster, syphilis) have been reported, therefore a positive test for another infectious agent should not necessarily preclude Monkeypox testing in a patient presenting with a history and signs and symptoms that are suggestive of Monkeypox.

Testing Procedure:

If a patient is evaluated and monkeypox is considered to be high on the differential diagnosis, wearing appropriate PPE, **collect two swabs from each lesion**. It is very important that TWO swabs be collected from each lesion as CDC will validate any Orthopoxvirus result by testing the paired dry swab specimen. If multiple lesions are present, collect specimens from different locations on the body and/or from lesions with different appearances, or if only 1 location is affected, collect specimens from more than 1 lesion. At this time, up to a total of 3 lesions should be swabbed, for a total of 6 swabs collected. Collect specimens as follows:

1) **Prior to sending specimens to the San Mateo County Public Health Laboratory, please contact the Communicable Disease Control Program at 650-573-2346. Please note that this number is only for use by medical providers and should not be distributed further.**
2) When collecting specimens, full personal protective equipment (PPE) should be worn (gloves, gown, eye protection (goggles or face shield) and a N95 or equivalent or higher-level respirator).
3) Vigorously swab lesion (unroofing, if possible) with two separate sterile dry polyester or Dacron swabs. Careful unroofing of the lesion may improve testing results.
4) Break off each swab into a sterile 1.5- or 2-mL screw-capped tube with O-ring, or place each entire swab into a separate sterile container. Include the scab if possible.
5) Keep swab dry; do not add or store in any type of transport media.
6) Note: please mark/label duplicate swabs with identical number so they are easy to distinguish from separate lesion collections, e.g., Swab #1 from left thigh.
7) If specimens are collected after hours, but will be shipped within 24-72 hours, they should be stored at 4°C. If they will be held longer than 72 hours, they should be kept at -80°C.
8) A VRDL General Purpose Specimen Submittal Form must be completed electronically for each specimen container and included with the specimens.

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9) All specimens should be routed to the San Mateo County Public Health Laboratory. If you have questions regarding specimen processing or delivery, please call the Public Health Laboratory at 650-573-2500. The Public Health Laboratory is open Monday-Friday 8am-12pm and 1pm-5pm and is closed on holidays.

Infection Control:

Human-to-human transmission of monkeypox occurs through large respiratory droplets and by direct contact with body fluids or lesion material, as well as through fomites (such as clothing or bedding) contaminated by the virus.

Patients presenting with symptoms concerning for monkeypox should be placed as soon as possible in a single-person exam room with the door closed, or an airborne infection isolation room, if available. The patient should remain masked, as tolerated (as currently required for all persons in healthcare settings) and any exposed skin lesions should be covered with a sheet or gown. In addition, please consider telemedicine evaluation in a medically stable patient, in order to mitigate the risk of spread to healthcare personnel and other patients.

Healthcare personnel (HCP) evaluating patients with suspected monkeypox should wear the following **personal protective equipment (PPE)**: gloves, gown, eye protection (goggles or face shield) and a N95 or equivalent or higher-level respirator. HCP should don PPE before entering the patient's room and use during all contact with the patient. HCP should remove and discard gloves, gown and eye protection, and perform hand hygiene prior to leaving the patient's room; the N95 respirator should be removed, discarded and replaced with a mask for source control after leaving the patient's room and closing the door.

Any EPA-registered hospital-grade disinfectant can be used for **cleaning and disinfecting** environmental surfaces. Take care when handling soiled laundry (e.g., bedding, towels, personal clothing) to avoid contact with lesion material. Soiled laundry should never be shaken or handled in manner that may disperse infectious particles.

Any patient being tested for Monkeypox should be counseled to implement appropriate **transmission precautions**. Patients should remain in isolation for the duration of their infectious period (i.e., until all lesions have resolved, the scabs have fallen off, and a fresh layer of intact skin has formed). Patients who do not require hospitalization but remain potentially infectious to others should isolate at home. They should abstain from contact with other persons and pets, and should wear appropriate personal protective equipment (e.g., clothing to cover lesions, face mask) to prevent further spread.

Advise patients with prodromal symptoms (e.g., fever, malaise, headache) and one or more epidemiologic risk factors for monkeypox to self-isolate. If a rash does not appear within 5 days, the illness is unlikely to be monkeypox and alternative etiologies should be sought.

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Additional Resources:

- Updated Case-finding Guidance: Monkeypox Outbreak—United States, 2022
- CDC COCA Call What Clinicians Need to Know About Monkeypox in the United States and Other Countries (05/24/2022)
- HAN Archive - 00466 | Health Alert Network (HAN) (cdc.gov)
- Clinical Recognition | Monkeypox | Poxvirus | CDC
- CDC U.S. Monkeypox Outbreak 2022: Situation Summary
- WHO Monkeypox

The Communicable Disease Control Program is available to help meet the reporting needs of, and answer questions for, San Mateo County providers. To report a disease or outbreak, please call 650-573-2346, Monday through Friday, 8:00 am to 5:00 pm, or fax a Confidential Morbidity Report (CMR) to 650-573-2919. You may download an electronic copy of the CMR at smchealth.org/cmr. Web-based reporting via CalREDIE is also available. Please contact us if you would like to know more about, and sign up for, web-based reporting. Non-urgent questions and/or general inquiries may be directed to SMCCDControl@smcgov.org.

Categories of urgency levels:
Health Alert: conveys the highest level of importance; warrants immediate action or attention.
Health Advisory: provides important information for a specific incident or situation; may not require immediate action.
Health Update: provides information regarding an incident or situation; unlikely to require immediate attention.