

MLS Laboratory Update: Monkeypox testing at MDH-PHL

MAY 25, 2022

Purpose of this Message:

To update MLS laboratorians about monkeypox and the process to obtain laboratory testing at MDH-PHL and the Centers for Disease Control (CDC).

Action Item:

Be aware of the laboratory testing process and specimen collection details provided below. Please forward to appropriate partners in your health system.

Background:

Monkeypox, an *Orthopoxvirus*, is a zoonotic infection endemic to several Central and West African countries. Before May 2022, cases outside of Africa were reported either among people with recent travel to those countries or contact with a person with a confirmed monkeypox virus infection.

Since mid-May, 160 monkeypox cases have been confirmed in over 15 countries that do not normally have monkeypox, including the United States.

There is evidence of community transmission of monkeypox and evidence of transmission in persons who self-identify as gay, bisexual, or men who have sex with men (MSM), though sexual transmission has not been considered a primary driver of transmission in previous outbreaks. This is an evolving investigation and public health authorities hope to learn more about routes of exposure in the coming days. Clinicians have been given the following guidance:

- Consider monkeypox in people with an unexplained rash and:
 - Travel in the last 30 days to a country with confirmed or suspected cases of monkeypox.
 - Contact with a person with confirmed or suspected monkeypox.
 - Is a man who reports close or intimate contact with other men.
- Call the Minnesota Department of Health (MDH) if you suspect monkeypox, 651-201-5414 or 1-877-676-5414

Testing information

- MDH will provide consultation to determine the need for laboratory testing. The testing algorithm includes preliminary screening for *Orthopoxvirus* at MDH-PHL. Specimens that test positive on screening will be sent to CDC for monkeypox confirmatory testing.
 - Specimens will not be tested without prior approval.

- o Specimens that meet criteria and are approved for testing will be screened for *Orthopoxvirus* at MDH-PHL.
 - Specimens presumptive positive for *Orthopoxvirus* will be forwarded to CDC to confirm monkeypox virus.
- Laboratory diagnostic testing at MDH-PHL and CDC is performed using real-time polymerase chain reaction.
 - o Turnaround time for testing at MDH-PHL is 1-2 days
 - o If applicable, turnaround time for confirmatory testing at CDC is typically 1-2 days once they receive the specimen (we anticipate 1-2 days of transit time).
- **Acceptable specimen type(s)**: dry swabs of lesion fluid, lesion surface, and/or lesion crust.
 - o Lesion crusts must be submitted with a paired lesion swab.
 - o Submit at least two swabs: one for screening, one for confirmation.
 - o Vigorously swab or brush lesion with two separate sterile dry polyester or Dacron swabs.
 - o Break off applicator of each swab into a 1.5 or 2 mL screw-capped tube with O-ring or place entire swab in a separate sterile container.
 - o Do NOT store in viral or universal transport media.
 - o Dry swabs should be stored refrigerated within one hour of collection and shipped at refrigeration temperature.
 - o Specimens must be received within 7 days of collection or stored and shipped frozen.
- Testing for other rash illnesses, including syphilis, herpes simplex, and chickenpox if indicated, is recommended, using your standard reference laboratory.

Additional Information:

Monkeypox is an *Orthopoxvirus*, the same genus as smallpox, variola and vaccinia viruses. Incubation period is generally between 7 and 17 days. Clinical disease is very similar to smallpox and starts with a prodromal phase of 1-4 days consisting of fever, headache, and fatigue. Lymphadenopathy may occur as well. However, in the most recently reported cases, prodromal symptoms have not always occurred and some cases only had lesions in the genital and perianal region, without other symptoms. The rash is well circumscribed, hard, deep-seated and umbilicated.

Laboratory diagnostic testing for monkeypox is performed using real-time polymerase chain reaction on lesion-derived specimens, either dry swabs of lesion fluid or lesion surface, or lesion crusts. Preliminary testing for *Orthopoxvirus* will be performed at MDH-PHL; confirmatory testing to further characterize as monkeypox will be performed at the CDC.

A person is infectious from symptom onset until lesions have crusted, those crusts have separated, and a fresh layer of healthy skin has formed underneath. Human-to-human transmission occurs through direct contact with body fluids or lesion material, or prolonged contact with respiratory droplets. Indirect contact with lesion material through fomites has also been documented. Animal-to-human transmission may occur through a bite or scratch, preparation of wild game, and direct or indirect contact with body fluids or lesion material.

There is no specific treatment for monkeypox virus infection, although antivirals developed for use in patients with smallpox may prove beneficial. Persons with direct contact (e.g., exposure to the skin, crusts, bodily fluids, or other materials) or indirect contact (e.g., presence within a six-foot radius in the absence of an N95 or filtering respirator for ≥ 3 hours) with a patient with monkeypox should be monitored by health departments; depending on their level of risk, some persons may be candidates for post-exposure prophylaxis with smallpox or monkeypox vaccine under an Investigational New Drug protocol after consultation with public health authorities.

Questions about specimen submission and testing at MDH-PHL: Please contact:

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To obtain this information in a different format, call: 651-201-5200.