

MLS Laboratory Update: Monkeypox Testing Update

JULY 13, 2022

Purpose of this Message:

To update MLS laboratorians about monkeypox (MPX) testing at MDH-PHL and expanding capacity within commercial laboratories.

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:

MPX testing in Minnesota is available via the Minnesota Department of Health's Public Health Laboratory (MDH-PHL). Five commercial laboratories have started or will be offering MPX testing soon (see Announcements below). As providers have more options for MPX testing, it is still important for providers to continue to report suspected cases to MDH so that appropriate public health follow-up actions can be taken.

Specimen Collection:

When collecting a specimen for testing, care must be taken to properly follow the instructions for obtaining a proper sample and using the appropriate swabs and containers. Multiple specimens received at MDH-PHL have resulted in indeterminate results due to poor sampling techniques, so whether healthcare providers are submitting directly to MDH-PHL or a reference laboratory, it is important to follow each laboratory's collection instructions.

To ensure specimens are not rejected at MDH-PHL or CDC, please ensure the following guidelines are met.

1. Each specimen must contain two patient identifiers. Acceptable patient identifiers include patient's first name **and** last name, and date of birth (or sex **and** age). **Please note that specimen ID and case ID do not count as an identifier per the CDC.**
2. Patient identifiers should be clearly visible and not covered by other tube labels.
3. Do not place any other material (e.g., foam or other absorbent material) at the bottom of the swab or it will be rejected.
4. Ensure the information on the paperwork matches with the specimen(s) submitted. (Double check for misspelled names or transposed numbers on date of birth, etc.)

Acceptable specimen type(s): Dry swabs of lesion fluid, lesion surface, and/or lesion crust.

- Lesion crusts must be submitted with a paired lesion swab.
- **Submit two swabs for each lesion:** One for screening at MDH-PHL and one for further classification testing at CDC, if applicable.
- Vigorously swab or brush lesion with two separate sterile dry polyester or Dacron swabs.
- 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 (15 mL Falcon-type tube preferred).
- **Specimen Storage:**
 - o Do **not** store in viral or universal transport media (VTM or UTM).
 - o Dry swabs should be stored refrigerated (4°C) **within one hour of collection** and shipped at refrigeration temperature.
 - o Refrigerated specimens must be received within 7 days of collection or stored and shipped frozen (-20°C).

Testing and Reporting information:

- MDH Epidemiology will provide consultation to determine the need for laboratory testing.
 - o Please call 651-201-5414 (or toll-free at 877-676-5414) for approval prior to submission.
- Laboratory diagnostic testing at MDH-PHL and CDC is performed using real-time polymerase chain reaction (PCR).
 - o Order choice (test name) is “**Non-variola Orthopoxvirus PCR**”
 - o Test result interpretation

Test Result Interpretation

Result text	Interpretation	Notes
POSITIVE for non-variola Orthopoxvirus DNA	Specimen <i>positive</i> for non-variola orthopoxvirus; MPX positive diagnosis (presumptive)	Specimen will be sent to CDC for further characterization. Treat patient as MPX positive.
Negative for non-variola Orthopoxvirus DNA	Specimen <i>negative</i> for non-variola orthopoxvirus MPX negative diagnosis	No MPX virus detected. No further MPX testing performed.

Result text	Interpretation	Notes
EQUIVOCAL for non-variola Orthopoxvirus DNA	Result suggestive of low viral particle collection, however, the signal is too low to determine conclusively	Suggest recollection and submission of a new MPX sample, if clinically indicated. No further MPX testing performed.
Indeterminate	Specimen failed internal quality controls; result invalid	Recollect and submit new MPX sample.
Not tested	Specimen was not tested	Incomplete or unresolvable patient data; incorrectly shipped/packaged; incorrect storage temperature; arrival >7 days post-collection (refrigerated samples); etc.

- Turnaround time (TAT) for testing at MDH-PHL is typically 1-3 days.
- If applicable, specimens will be sent to CDC for further characterization.
- **Testing for other rash illnesses using your standard reference laboratory** – including syphilis, herpes simplex, and chickenpox, if clinically indicated – is recommended.

Additional Information:

For background information on MPX, disease progression, and laboratory testing, please see the [5/25/2022 MLS MPX update](#)

(<https://www.health.state.mn.us/diseases/idlab/mls/LabAlerts/220525monkeypoxvirus.pdf>)

- To reduce documentation-related delays, please use the most recent MDH-IDL General submission form, which is available online at [Forms for the Infectious Disease Laboratory](#) (<https://www.health.state.mn.us/diseases/idlab/forms.html>).
 - You can still use your lab sticker for the Facility information, if that is easiest for your send-out bench and it provides the necessary information.
- It is recommended to take **duplicate** swabs of **multiple** lesions that differ in appearance: MPX infections often have lesions at different stages at any given time and there may be different amounts of virus present in those lesions.
- If sampling more than one lesion, **each set of swabs (i.e., each pair) should come with its own paperwork.**
 - Every valid specimen will be tested and you will receive a report for each specimen: patients with multiple specimens will get multiple reports.

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- The paperwork for each set of swabs needs an anatomical site noted, indicating from where the specimen was taken.

MDH-PHL has been regularly updating monkeypox information in the [MDH Clinical Guide to Services \(https://www.health.state.mn.us/diseases/idlab/gts/testsm.html#monkeypox\)](https://www.health.state.mn.us/diseases/idlab/gts/testsm.html#monkeypox).

Laboratory send-out benches should check the website for updated information regarding specimen collection and transport, in addition to monitoring MDH Infectious Disease, Epidemiology, Prevention and Control's website at [MDH Monkeypox \(https://www.health.state.mn.us/diseases/monkeypox/index.html\)](https://www.health.state.mn.us/diseases/monkeypox/index.html).

Announcements

- Commercial testing labs have begun rolling out MPX testing.
 - As of 7/12/2022, Labcorp and Mayo Clinic Laboratories are accepting samples for MPX testing.
 - Per the CDC, three other national providers (Quest Diagnostics, Aegis Sciences, and Sonic Reference Labs) are expected to begin offering testing soon.

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.