



Preparation and Collection of Specimens

Updated August 22, 2022

Effective communication and precautionary measures between specimen collection teams and laboratory staff are essential to maximizing safety when manipulating specimens suspected to contain monkeypox virus.

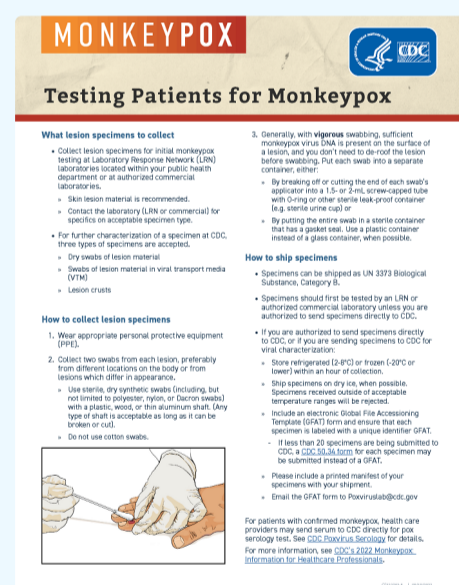
This is especially relevant in hospital settings, where laboratories routinely process specimens from patients with a variety of infectious and/or noninfectious conditions.

A labeling system should clearly distinguish all specimens, including those from patients with suspected monkeypox virus infection, which require special handling.

Laboratory exposures to poxviruses occur primarily through needle-stick injuries, direct contact with the specimen or aerosols that laboratory procedures may generate. Sharps should not be included with any specimens and should be disposed of in appropriate puncture-resistant containers for the autoclaving of infectious waste.



Specimen Collection Printout





PRINTOUT Testing Patients for Monkeypox

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Collection, Storage, and Shipment of Specimens for Monkeypox Diagnosis

Procedures and materials used for collecting specimens may vary depending on the phase of the rash (i.e., swab of lesion surface or crust from healing lesion).




For initial laboratory testing of monkeypox virus specimens at [Laboratory Response Network \(LRN\) laboratories](#) or authorized commercial laboratories, the recommended specimen type is lesion material. Specifics on the acceptable specimen type accepted within these laboratories may vary. Please contact the appropriate [public health department](#)   or commercial laboratory to determine acceptable specimens.

For further characterization of the specimen at CDC, dry swabs of lesion material, swabs of lesion material in VTM, or crusts are acceptable. To ensure specimens are stored and shipped within the required timeframe, consultation with the CDC is suggested.

Personnel who collect specimens should use personal protective equipment (PPE) in accordance with [recommendations for healthcare settings](#). Specimens should be collected in the manner outlined below. When possible, use a plastic, sterile, leak-proof container rather than glass materials for specimen collection.

Two swabs from each lesion (in general, 2-3 lesions should be sufficient) should be collected for testing. Using two sterile synthetic swabs (including, but not limited to polyester, nylon, or Dacron) with a plastic, wood, or thin aluminum shaft, swab the lesion vigorously to collect adequate DNA. Do not use cotton swabs. It is not necessary to de-roof the lesion before swabbing. Break off the end of each swab's applicator into a 1.5- or 2-mL screw-capped tube with O-ring or place the entire swab in a sterile container that has a gasket seal and is able to be shipped under the required conditions. Two swabs from each lesion should be collected, preferably from different locations on the body or from lesions which differ in appearance. Swabs and other specimens should each be placed in different containers. If using transport media, only VTM is accepted at CDC at this time; do not use universal or other transport media.

Specimen collection, storage, and shipping of human specimens is subject to CLIA restrictions. [CDC 50.34](#) form must be included for each specimen. When possible, ship specimens on dry ice. Specimens received outside of acceptable temperature ranges will be rejected.

Laboratory testing has indicated that the current monkeypox outbreak is associated with Clade IIb of monkeypox virus. The U.S. government does not consider Clade IIb of monkeypox virus as meeting the definition of Category A infectious substance under the Hazardous Materials Regulations (HMR). Therefore, specimens and material suspected or confirmed to contain Clade IIb of monkeypox virus can be shipped as UN 3373 Biological Substance, Category B. See [U.S. Department of Transportation's \(DOT\) Transporting Infectious Substances Safely](#)   and [Managing Solid Waste Contaminated with a Category A Infectious Substance](#)  (pg. 94) for further guidance.

Refer to the Poxvirus Serology test on the [CDC Test Directory](#) for further specimen storage, packaging, and shipping instructions.

For current information on the Molecular Detection test, please contact the CDC at poxvirus@cdc.gov for details on collection, storage, packaging, and shipping of specimens.

For more information, visit: <https://www.cdc.gov/laboratory/specimen-submission/>

Personal Protective Equipment Resources

[Personal Protection Equipment \(PPE\)](#)

[Sequence for Putting on Personal Protection Equipment \(PPE\)](#)  [2.85MB, 3 pages]