

Monkeypox Biosafety Fact Sheet

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Members of the APHL Biosafety and Biosecurity Committee developed this fact sheet to assist laboratorians with safely testing potential monkeypox samples. *Each facility must perform its own site and activity specific risk assessment for monkeypox testing based on their facility needs to determine whether enhanced safety precautions are warranted.* Clinical laboratories should contact their local or state health departments to inquire about any monkeypox virus or biosafety concerns.

Information for Clinical Laboratories

Routine laboratory testing including chemistry, hematology and urinalysis on specimens from patients with suspected or confirmed monkeypox can be performed safely using the information below. The risk of occupational exposure to monkeypox has been determined to be very low.

- Routine specimen processing can be performed in BSL-2 facilities, but heightened control measures such as BSL-3 work practices should be applied based on your facility specific risk assessment.
- **BSL 3 work practices include: laboratory workers wearing of additional protective equipment, including disposable gloves, solid front gowns with cuffed sleeves and face protection (snugly fitting goggles are preferred; if a face shield is used, it should have crown and chin protection plus wrap around the face to the point of the ear) to provide a barrier to mucosal surface exposure.**
- Centrifugation should be performed using safety cups or sealed rotors. Rotors or safety cups should be loaded and opened in a Class II Biological Safety Cabinet (BSC) after centrifugation involving monkeypox specimens.
- If procedures that generate fine-particle aerosols (e.g., vortexing or sonication of specimens in an open tube) cannot be contained within a BSC, acceptable methods of respiratory protection include [NIOSH-Approved Particulate Filtering Facepiece Respirators or powered air-purifying respirators](#); these respirators provide the minimum level of respiratory protection. **Based on site specific risk assessments, facilities may consider the use of higher levels of respiratory protection. These higher levels may include the use of powered air purifying respirators.**

Decontamination of Work Surfaces

After the completion of work or at the end of the day is essential. Any [Environmental Protection Agency \(EPA\)-Disinfectants for Emerging Viral Pathogens \(EVPs\): List Q](#) currently used by health-care facilities for environmental sanitation may be used. Manufacturer's recommendations for use-dilution (i.e., concentration), contact time and care in handling should be followed.

Vaccinations

Smallpox vaccine is not recommended for personnel handling and processing routine clinical specimens from monkeypox patients (e.g., urine for urinalysis, blood for CBC, chemistries, microbiology).

Vaccination postexposure prophylaxis is recommended to be given within four (4) days from the date of exposure to prevent onset of the disease. If given between four and 14 days after the date of exposure, vaccination may reduce the symptoms of disease, but may not prevent the disease. Please contact your local public health laboratory for more information on vaccination guidance.

Viral Culture on Suspect Monkeypox Specimens

Laboratories should not attempt to perform viral culture or isolate virus from suspect specimens. If you become aware that your laboratory has isolated monkeypox using cell culture, contact your public health laboratory.

Monkeypox Medical Waste

Untreated Regulated Medical Waste (RMW) generated from suspected cases of monkeypox should be held until diagnostic confirmation of the clade has been received. If the Central African clade of monkeypox is identified, untreated RMW being shipped for off-site treatment must include enhanced packaging and shipped as Category A waste. If the West African clade of monkeypox is identified, then the untreated RMW being shipped for off-site treatment must be packaged and shipped as Category B.

Shipping Clinical Specimens

Shipping of specimens suspected of containing monkeypox virus associated with the currently circulating strain can be shipped as a Biological Substance, Category B. The West African clade does not need to be shipped as an Infectious Substance, Category A. Hospitals should contact their local or state health departments to inquire about monkeypox virus testing before contacting the US Centers for Disease Control and Prevention (CDC).

Monkeypox virus identified as belonging to the Central African clade is federally regulated by the final rule “Possession, Use, and Transfer of Select Agents and Toxins” (42 CFR § 73). **West African strains of monkeypox virus are not subject to select agent regulations.**

Identification of Central African monkeypox virus in a specimen presented for diagnosis or verification must be:

- Reported within seven (7) calendar days of identification
- Transferred in accordance with regulations or destroyed on-site by a recognized sterilization or inactivation process if the facility is not select agent registered
- Secured against theft, loss or release during the period between identification and transfer or destruction.

Information for Public Health Laboratories

Persons performing LRN monkeypox testing or those exposed to monkeypox virus and who have not received the smallpox vaccine within the last three (3) years should consider getting vaccinated. ACAM200 and JYNNEOS™ (also known as Imvamune or Imvanex) are the two currently licensed vaccines in the United States to prevent smallpox. JYNNEOS is also licensed specifically to prevent monkeypox.

Vaccination with the above vaccines can also be used to treat individuals exposed and is most effective if given as soon as exposure is identified it will be in protecting against monkeypox virus.

References

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