



NATIONAL INSTITUTE OF CHILD HEALTH GOVERNMENT OF SINDH



M POX MANAGEMENT GUIDELINES

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M pox is a viral zoonotic infection caused by the monkey pox virus (MPVX) resulting fever bodyach and a characteristic Rash
MPVX is Double-stranded DNA virus orthopoxvirus genus family poxviridae and has two phylogenetically distinct clades: Central African (Congo Basin) clade and the West African clade.

Suspect Case

- New characteristic rash **OR**
- Meets one of the epidemiologic criteria and has a high clinical suspicion[†] for M pox

Probable Case

No suspicion of other recent *Orthopoxvirus* exposure (e.g., *Vaccinia virus* in ACAM200 vaccination) **AND** demonstration of the presence of

- *Orthopoxvirus* DNA by polymerase chain reaction of a clinical specimen **OR**
- *Orthopoxvirus* using immunohistochemical or electron microscopy testing methods **OR**
- Demonstration of detectable levels of anti-orthopoxvirus IgM antibody during the period of 4 to 56 days after rash

Confirmed Case

Demonstration of the presence of *Monkeypox virus* DNA by polymerase chain reaction testing or Next-Generation sequencing of a clinical specimen **OR**

Isolation of *Monkeypox virus* in culture from a clinical specimen

Exclusion Criteria

A case may be excluded as a suspect, probable, or confirmed case if:

- An alternative diagnosis* can fully explain the illness **OR**
- An individual with symptoms consistent with monkeypox does not develop a rash within 5 days of illness onset **OR**
- A case where high-quality specimens do not demonstrate the presence of *Orthopoxvirus* or *Monkeypox virus* or antibodies to orthopoxvirus

Epidemiologic Criteria (Within 21 days of illness onset any one of following)

- 1- Contact with a person with a similar appearing rash or confirmed or probable monkeypox **OR**
- 2- Close in-person contact with individuals in a social network experiencing monkeypox activity, men having sex with men (MSM), or social event (e.g., a bar or party) **OR**
- 3- Traveled to a country with endemic /confirmed cases of monkeypox **OR**
- 4- Contact with animal or exotic pet African endemic species or used product of such animal (game meat, creams, lotions, powders, etc.)

Clinical Manifestations:

The incubation period of monkeypox virus infection is roughly 1 to 2 weeks but can range from 4 to 21 days

- Febrile prodromal, headache, myalgia, and lymphadenopathy
- Classic Rash is deep-seated and well-circumscribed lesions, often with central umbilication; and lesion progression through specific sequential stages—macules, papules, vesicles, pustules, and scabs.
- Starting on the head or face and progressing to the limbs and trunk.
- Lymphadenopathy differentiating it from chicken pox

Symptoms typically last two to three weeks and usually go away on their own or with supportive care.

People remain infectious until all of the lesions have crusted over, the scabs fallen off and a new layer of skin has formed underneath.

Actions for a confirmed or probable case:

- **ISOLATION:** As the main differential condition – varicella zoster (“chickenpox”) - is highly contagious, a precautionary approach should be adopted initially:
 - Place the patient in a negative pressure ventilation room (if available) and apply the appropriate signage on the door.
 - DO NOT allow visitors

The risk of environmental contamination and transmission increases with the increasing development and spread of skin lesions.

- **COMMUNICATION::**
 - ID consultant & Infection Prevention & Control team
 - Following assessment by the ID, if case still considered probable the local Health team should be informed.
- **STAFFING:**
 - Avoid unnecessary staff contact
 - Only staff with a clear, documented history of having had varicella/measles **OR** who are fully vaccinated against varicella/measles should care for the patient
 - Immunocompromised or pregnant staff should not care for the patient.
- **PERSONAL PROTECTIVE EQUIPMENT:**
PPE for healthcare workers caring for suspected or confirmed patients should include:
 - A fluid-repellent, disposable gown
 - Disposable gloves
 - N 95
 - Eye protection (face shield or goggles) for all interactions that may involve contact with the patient or potentially

Diagnosis

Confirmation of MPXV infection is based on nucleic acid amplification testing (NAAT), using real-time or conventional polymerase chain reaction (PCR),

Specimen Collection and Storage

- Swabs of lesion surface and/or exudate,
- Roofs from more than one lesion, or
- Lesion crusts

Specimen Type	Collection Materials	Storage Temperature	Collection purpose
Skin lesion material, including: • Swabs of lesion exudate • Lesion roofs • Lesion crusts	Dacron or polyester flocced swabs with VTM or dry swab	Refrigerate (2-8 °C) or freeze (-20°C or lower) within 1 hour of collection; -20°C or lower after 7 days *	Recommended for diagnosis
Oropharyngeal swab	Dacron or polyester flocced swabs with VTM or dry swab	Refrigerate (2-8 °C) or freeze (-20°C or lower) within 1 hour of collection; -20°C or lower after 7 days	Recommended for diagnosis if feasible, in addition to skin lesion material



MODE OF TRANSMISSION

Transmission of monkeypox virus occurs when a person comes into contact with the virus from an animal, human, or materials contaminated with the virus. The virus enters the body through broken skin (even if not visible), respiratory tract, or the mucous membranes (eyes, nose, or mouth).

Animal-to-Human (Zoonotic) Transmission

It may occur through bite or scratch, direct contact or indirect contact with body fluids or cutaneous or mucosal lesion material of infected animals such as rope squirrels, tree squirrels, Gambian poached rats, dormice, and monkeys

Monkeys and humans are incidental hosts

Human-to-Human Transmission

Primarily through droplet respiratory particles and contact

Droplet	Direct contact	Indirect contact through fomites	Vertical transmission
Respiratory particles after prolonged face-to-face contact	Thought to occur primarily through direct contact with infectious sores, scabs, or body fluids	Infected material, such as clothing or linens	

Supportive care

- Symptoms normally resolve on their own without the need for treatment.
- Analgesics and Antipyretics can be used to relieve some symptoms
- Good Hydration
- Avoid scratching skin and take care of their rash by cleaning their hands before and after touching lesions and keeping skin dry and uncovered unless they are unavoidably in a room with someone else

Antiviral therapy

INDICATION

- Those with severe disease and those at risk for severe disease (eg, those younger than eight years of age)
- patients with complications of the infection,
- immunocompromised patients)

Tecovirimat is the treatment of choice

Cidofovir/brincidofovir

Trifluorodine (and vidarabine) eye drops or ointments

INFECTION PREVENTION AND CONTROL

The identify, isolate, inform **framework** is key to reduce the risk of transmission in health care settings. Once identified, isolate apply **CONTACT AND STANDARD PRECAUTIONS**

Patient placement A patient with suspected or confirmed monkey pox infection should be placed in a single room with dedicated toileting facilities.

Special air handling is generally not required. However, an airborne infection isolation room (negative pressure) should be used for any procedures that are likely to spread oral secretions

Personal Protective Equipment

All HCP should use a gown, gloves, eye protection (goggles or face shield), and a N95. While there is no epidemiologic evidence to date that monkeypox is spread by the airborne route, at this time the CDC recommends respiratory.

All HCP determined to have had an exposure to monkeypox should be monitored for symptoms for 21 days from the day of last interaction.

Patient transport – Patient transport outside the room should be limited to those essential, the patient should wear a medical mask during transport and any exposed skin lesions should be covered with a clean sheet or gown.

Care of the environment – Standard cleaning and disinfection procedures should be performed.

When handling soiled laundry (eg, bedding, towels, personal clothing), contact with lesion material that may be present on the laundry should be avoided..

Activities such as dry dusting, sweeping, or vacuuming should be avoided.

Wet cleaning methods are preferred

Captive animals infected with monkeypox should be isolated from other animals and placed into immediate quarantine. animals come into contact should be quarantined, and observed for symptoms for 30 days.

POST-EXPOSURE MANAGEMENT

Exposure definition and risk stratification and management

High-Risk	Intermediate-Risk	Low/Uncertain Risk
Unprotected contact between a person's skin or mucous membranes and the skin, lesions, or bodily fluids from a person with monkeypox (eg, sexual contact, inadvertent splashes of patient saliva to the eyes or oral cavity of a person, ungloved contact with patient) or contaminated materials (eg, linens, clothing).	Being within six feet for three hours or more of an unmasked person with monkeypox without wearing, at a minimum, a surgical mask	Being within six feet of an unmasked person with monkeypox for less than three hours without wearing, at minimum, a surgical mask
For individuals who have had a high-risk exposure to monkeypox, we suggest post-exposure vaccination with the MVA vaccine	case-by-case basis evaluating the likelihood of transmission from the specific exposure	Post-exposure vaccination is not indicated for those with a low-/uncertain-risk exposure.

Types of vaccines —

There are two available vaccines that can reduce the risk of developing monkeypox. The modified vaccinia Ankara (MVA) vaccine) and ACAM2000 vaccine.

- **MVA vaccine** – The MVA vaccine is made from a highly attenuated, nonreplicating vaccinia virus and has an excellent safety profile, even in immunocompromised people and those with skin disorders. The MVA vaccine is administered as two doses subcutaneously four weeks apart.
- **ACAM2000** – ACAM2000 is a replication-competent smallpox vaccine that can only be used in select patients and is associated with more adverse events

1 <https://www.cdc.gov/poxvirus/monkeypox/clinicians/index.html>.

2. "Monkeypox," World Health Organization, 19 May 2022. [Online]. Available: <https://www.who.int/news-room/fact-sheets/detail/monkeypox>.

3. "Epidemiological update: Monkeypox outbreak," European Centre for Disease Prevention and Control, 20 May 2022. [Online].

4. "Monkeypox," UK Health Security Agency, 18 May 2022. [Online]. Available: <https://www.gov.uk/guidance/monkeypox#transmission>.

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