health
Department:
Health
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INFECTION PREVENTION AND CONTROL (IPC) STANDARD OPERATING PROCEDURE (SOP) FOR HEALTHCARE MANAGEMENT OF MPOX PATIENTS

1. INTRODUCTION

Mpox is a viral zoonotic disease that belongs to the *Orthopoxvirus* genus of the *Poxviridae* family. Human disease was first identified in 1970 in a 9-month-old boy in the Democratic Republic of the Congo and since then most cases have been reported across Central and West Africa.

The incubation period of mpox is usually 6 to 13 days following exposure but can range from 5 to 21 days. The primary infection is from animals to humans, and secondary infection is human to human, and characterized by fever and rash. The mode of transmission is via contact with monkey pox vesicles on the skin, and droplet is secondary because of skin scales being inhaled. If a patient seeking care is suspected to have mpox, infection prevention and control personnel should be notified immediately.

A multi-country outbreak of mpox in humans has been reported in several regions that are not endemic for mpox virus. The situation is quickly evolving with cases being recorded in several European countries, the United States of America, Canada, and Australia. At present, the outbreak is linked to international travel, but community-based spread has also been noted in some areas. The source and linkage of cases are still under investigation.

2. PURPOSE

The aim of this Standard Operating Procedure (SOP) is to guide personnel in adhering to infection prevention and control (IPC) standards during healthcare or whilst providing care to the suspected, probable, or confirmed mpox case.

3. OBJECTIVE

To give guidance and identify IPC principles to reduce all avoidable risks during care and monitoring of mpox cases to ensure that appropriate public health measures are instituted to contain spread.

4. CASE DEFINITIONS

4.1 Suspected case: Any person presenting with an unexplained acute rash

AND

1) one or more of the following signs and symptoms:

- Headache
- Acute onset of fever (>38.5°C)
- Lymphadenopathy (swollen lymph nodes)
- Myalgia (muscle pain/body aches)
- Backache

AND

2) for which the following differential diagnoses are excluded: chickenpox, measles, bacterial skin infections, syphilis, molluscum contagiosum, allergic reactions and other locally relevant common cause of popular or vesicular rash.

N.B. it is not necessary to obtain negative laboratory results for differential diagnoses listed above to classify a case as suspected.

4.2 Probable case: A person meeting the suspected case definition AND one or more of the following:

- An epidemiological link* to a probable or laboratory-confirmed case of mpox in the 21 days prior to symptom onset.
- Travel history to a mpox endemic country** in the 21 days prior to symptom onset.
- Had multiple or anonymous sexual partners in the 21 days prior to symptom onset.
- A positive result of an orthopoxviral serological assay, in the absence of smallpox vaccination or other known exposure to orthopoxviruses.
- Hospitalised due to the illness.

*Face-to-face exposure without appropriate PPE; direct physical contact with skin or skin lesions including sexual contact; contact with contaminated materials such as clothing, bedding or utensils.

*Cameroon, Central African Republic, Congo, Democratic Republic of the Congo, Gabon, Ghana, Ivory Coast, Liberia, Nigeria, Sierra Leone, South Sudan.

4.3 Confirmed case:

A person meeting the suspected or probable case definition or is laboratory-confirmed for mpox virus by detection of unique sequences of viral DNA either by real-time polymerase chain reaction (PCR) and/or sequencing.

5. CONTACT DEFINITION

A person who had been exposed to a suspected, probable, or laboratory-confirmed mpox case since onset of symptoms and has had one or more of the following exposures:

- Face-to-face contact or was in a closed environment with a case without appropriate personal protective equipment (PPE) - this includes, amongst others,
    - persons living in the same household as a case,
    - people working closely/in the same environment as a case (e.g. colleagues, classmates etc),
    - Healthcare workers or other person providing direct care.

- Direct physical contact including sexual contact.

- Direct contact with contaminated materials such as clothing, bedding etc.

6. IPC DURING HEALTHCARE

Health workers should always follow standard precautions and perform a risk assessment to evaluate the need to use additional precautions. Standard precautions include:

- hand hygiene
- respiratory hygiene and cough etiquette
- patient placement
- personal protective equipment
- aseptic technique
- safe injections and sharps injury prevention
- environmental cleaning and disinfection
- handling of laundry and linen
- decontamination and reprocessing or reusable patient care items and equipment
- waste management.

6.1 Hand hygiene

The following five moments of hand hygiene are critical:

1. Clean your hands before touching a patient when approaching him/her.
2. Clean your hands immediately before performing a clean/aseptic procedure.
3. Clean your hands immediately after an exposure risk to body fluids (and after glove removal).
4. Clean your hands after touching a patient and her/his immediate surroundings, when leaving the patient's side.
5. Clean your hands after touching any object or furniture in the patient's immediate surroundings, when leaving – even if the patient has not been touched.

There should be an elbow-operated hand-wash basin at the entrance to the patient area of the unit

Each room should be provided with at least one clinical elbow-operated hand washbasin.

Laminated hand washing posters with clear instructions should be provided above or next to all elbow-operated hand washbasins.

Elbow-operated hand washbasins must be appropriately positioned to prevent splashing on beds, equipment or staff.

Elbow-operated hand washing basins should be placed to allow optimal workflow i.e., clean to dirty

Wall mounted antiseptic soap dispensers and clean disposable towels should be available at each elbow-operated hand washbasin.

Alcohol-based hand rub (ABHR) should be available at each elbow-operated hand wash basin and at every occupied unit.

A pedal operated refuse bin should be available at each elbow-operated hand wash basin.

6.2 Isolation room or space

Health workers should perform hand hygiene according to the WHO Your 5 moments for hand hygiene, including prior to putting on and after removing PPE.

Place patient in a well-ventilated, single patient room with dedicated bathroom or toilet.

If single patient rooms are not available, consider cohorting confirmed cases, maintaining a distance of at least 1 m between patients.

Isolation room/area should have signage posted at the entrance indicating contact/droplet precautions.

Wear PPE, including gloves, gown, a respirator (e.g. N95, FFP2) and eye protection.

Use dedicated footwear that can be decontaminated.

Health workers should be trained on procedures for safe donning and doffing of PPE.

Cover exposed lesions when others are in the room and if the patient can tolerate.

Avoid unnecessary movement of confirmed patients. If the patient must be moved or transported within or beyond the facility, ensure transmission-based precautions are maintained, place a well-fitting medical mask on the patient and cover lesions (provided the patient is able to tolerate).

The receiving facility/ward/unit should be aware that transmission-based precautions are required and, pending arrival, the need to prepare the isolation or designated area.

Precautions should remain in place until lesions have crusted, scabs have fallen off and a fresh layer of skin has formed underneath.

Severe cases (including immunosuppressed) who may experience prolonged viral shedding from the upper respiratory tract may require clinical evaluation to determine when transmission-based precautions may be discontinued.

6.3 Personal Protective Clothing (PPE)

Health workers should wear the following PPE: gloves, gown, respirator (e.g. N95, FFP2) and eye protection.

Health workers should be trained on procedures for safe putting on and removing PPE:

<u>Donning procedure:</u>

1. Put on the gown: Fully cover torso from the neck to knees, arms to end of wrist, and wrap around the back; fasten behind neck and waist.

2. Put on mask or respirator: secure ties or elastic bands at middle of head and neck; fit flexible band to nose bridge; fit snug to face and below chin
3. Put on goggles or face shield: Place over face and eyes and adjust to fit
4. Put on gloves: Extend to cover wrist of isolation gown

Doffing procedure:

If your hands get contaminated at any step during the doffing procedure, immediately wash your hands or use an alcohol-based hand sanitizer.

1. Remove gloves and gown: Grasp the gown in the front and pull away from your body so that the ties break, touching outside of gown only with gloved hands; while removing the gown, fold or roll the gown inside-out into a bundle; as you are removing the gown, peel off your gloves at the same time, only touching the inside of the gloves and gown with your bare hands; place the gown and gloves into a waste container.
2. Remove googles or face shield: Remove from the back by lifting head band and without touching the front of the goggles or face shield; if the item is reusable, place in designated receptacle for reprocessing, otherwise, discard in a waste container.
3. Remove mask from behind: Grasp bottom ties or elastics of the mask/respirator, then the ones at the top, and remove without touching the front; discard in a waste container.
4. Perform hand hygiene

6.4 Cleaning and disinfection of surfaces

PPE (gloves [heavy duty], gown, respirator [e.g. N95, FFP2] and eye protection) should be worn by health workers while cleaning and disinfecting patient care equipment and patient care areas or isolation rooms where patients were suspected or confirmed to have mpox.

Use dedicated footwear that can be decontaminated. Disposable shoe covers are not recommended.

Wet cleaning methods are preferred.

Use dedicated cleaning material.

Always clean surfaces first with detergent and water followed by disinfection with an approved disinfectant with virucidal activities: Disinfect using 70% alcohol or hypochlorite solution (concentration of 1000ppm, usually 2 sachets to 4.5L of water)

To prevent cross-contamination, cleaning must always be carried out from the cleanest area first and finish in the dirtiest area last, and always clean from top to bottom.

Particular attention should be paid to toilets and frequently touched surfaces.

Use disposable or dedicated patient care equipment and clean and disinfect equipment before use on other patients.

Dishes can be washed with detergent in automated dishwasher or manually cleaned in hot water (>55°C) while wearing domestic gloves.

6.5 Safe handling of linen

Carefully lift and roll linens. Do not shake linen or laundry as this may disperse infectious particles.

These items should be carefully placed into designated container or bag for transport to laundry services.

Linens can be machine washed with hot water at > 60°C with laundry detergent and dried according to routine procedures, preferably at high heat. If machine washing is not possible and hot water is not available, linens can be soaked in a large drum using a stick to stir with care taken to avoid splashing. The linens should be soaked in chlorine, rinsed with clean water and allowed to fully dry.

Workers in laundry area should follow standard and transmission-based precautions including:

- minimize handling, in particular avoid shaking of linen and laundry;
- wear gloves, apron or gown, a respirator (e.g. N95, FFP2) and eye protection.

6.6 Waste management

Waste should be segregated (general waste, infectious waste and sharps) and placed in appropriate bins at point of use (fill ¾ full).

Management and disposal of waste (including PPE) should be done in accordance with local regulations for infectious waste.

Ensure health workers wear appropriate PPE (e.g. gloves, gown, respirator [e.g.N95, FFP2], eye protection) during handling of waste.

Transport to designated area and storing of waste should be done in a controlled access area.

6.7 Management of deceased patients

Handling of the deceased should be kept to a minimum.

Perform hand hygiene and wear PPE according to contact and droplet precautions (gloves, gown, respirator [e.g. N95, FFP2] and eye protection) as patients with rashes that have not healed may still have infectious virus.

Ensure that any leakage of body fluids is contained.

The body should be wrapped in a cloth or shroud and transferred to the mortuary as soon as possible.

The dignity of the dead, their cultural and religious traditions, and their families should be respected and protected. Family and friends may view the body after it has been prepared for burial, in accordance with local customs. They should not touch or kiss the body and should clean their hands with soap and water or alcohol-based hand sanitizer after the viewing.

6.8 Management of exposed health care workers

Health workers should notify infection control, occupational health and public health authorities of possible exposures to receive a medical evaluation and instructions on follow up.

Health workers who have had an occupational exposure (i.e. not wearing appropriate PPE) do not need to be excluded from work if they are asymptomatic, but should undergo active surveillance for symptoms for 21 days post-exposure; and be instructed not to work with vulnerable patients.

Health workers who have had an exposure to a person with confirmed mpox should undergo medical evaluation and consideration for possible interventions (vaccination or PEP) if available.

Other useful resources

- Centers for Disease Control and Prevention, *Infection Prevention and Control of Mpox in Healthcare Settings* (May 2022), https://www.cdc.gov/poxvirus/mpox/clinicians/infection-control-healthcare.html
- Centers for Disease Control and Prevention, *Sequence for putting on Personal Protective Equipment (PPE)*, https://www.cdc.gov/hai/pdfs/ppe/ppe-sequence.pdf
- Guidelines for the management of Mpox disease, Ministry of Health and Family Welfare, Government of India (May 2022), https://main.mohfw.gov.in/sites/default/files/Guidelines%20for%20Management%20of%20Monkeypox%20Disease.pdf
- National Infection Prevention and Control Strategic Framework (March 2020), https://www.nicd.ac.za/wp-content/uploads/2020/04/National-Infection-Prevention-and-Control-Strategic-Framework-March-2020-1.pdf
- World Health Organization, Health topics: Mpox, https://www.who.int/health-topics/monkeypox#tab=tab_1
- World Health Organization, OpenWHO, *Mpox: Epidemiology, preparedness and response for African outbreak contexts*, https://openwho.org/courses/monkeypox-intermediate/items/2bUkmUOjzx4a15s3sGHYeM
- World Health Organization, *Clinical management and infection prevention and control for mpox: Interim rapid response guidance*, 10 June 2022 https://www.who.int/publications/i/item/WHO-MPX-Clinical-and-IPC-2022.1