



# Monkeypox infection prevention and control guidance for primary and acute care settings

16 August 2022

## Scope

This document provides guidance on infection prevention and control (IPC) measures for primary and acute healthcare settings in the European Union/European Economic Area (EU/EEA) to prevent healthcare-associated transmission of monkeypox (MPX).

## Target audience

Healthcare workers (HCWs) in general practitioner (GP) offices and primary care clinics as well as HCWs in acute care hospitals and hospital administrators in the EU/EEA.

## Background

### Epidemiology

Since early May 2022 and as of 8 August 2022, 29 EU/EEA countries have reported 13 912 confirmed cases of MPX [1]. Two deaths were reported by one country (Spain). In this current outbreak in non-endemic countries, most cases have been detected in males aged between 18-50 years, and primarily among men who have sex with men (MSM). The mean age of cases is currently 38 years (median 37 years, IQR [31-44]), and 99% of cases have been male. Four hundred and fifty-five cases have been hospitalised, of which 163 cases required clinical care, 101 cases were hospitalised for isolation purposes, and 191 were hospitalised for unknown reasons [2].

### Transmission of monkeypox virus

Monkeypox virus (MPXV) is predominantly transmitted through direct contact with body fluids or lesion material, prolonged face-to-face contact, or fomites (e.g. contaminated linens). There is still uncertainty about the role played by respiratory droplets and aerosols, and the risk to healthcare workers and during travel through this transmission route; however, to date no such transmission has been reported in the current outbreak.

### Risk for healthcare workers and healthcare-associated outbreaks

Based on published reports prior to the 2022 global outbreak of MPX in non-endemic countries, the risk of exposure in well-resourced healthcare settings leading to transmission is low, with a single reported transmission event in the current literature [3, 4]. As of 11 August 2022, no cases have been reported to The European

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Surveillance System (TESSy) for which the likely mode of transmission was healthcare-associated or occupational exposure in a laboratory. The transmission mode among 56 cases who were reported to be HCWs showed a mode of transmission not related to the workplace (i.e. sexual transmission in 45 cases, person-to-person contact in three cases, unknown transmission mode in eight cases). To date, the healthcare setting has not been reported as the location of exposure in the 21 days before disease onset. Although information on the transmission mode or location of exposure has frequently been missing, the available data in TESSy, as well as data from other studies, suggest that the risk for healthcare-associated transmission is low.

As a result, ECDC proposes a two-level approach for IPC measures to prevent MPX transmission in healthcare settings, with different measures for primary care when the exposure time is limited than for the care of hospitalised patients in acute care hospitals. We also refer to other guidance documents for further reading and more details [5-9].

## General IPC measures

The following measures should be considered by all HCWs:

- Hand hygiene should be meticulously applied according to the World Health Organization's (WHO) 'My 5 Moments for Hand Hygiene' [10,11].
- Filtering facepiece (FFP) 2 respirators or medical face masks should be worn when managing suspected or confirmed MPX patients, given the uncertain role of droplet transmission of MPX and in case varicella zoster virus has not yet been excluded.
- HCWs (including auxiliary staff) should be trained on standard precautions and the use of personal protective equipment (PPE) (putting on (donning) and removing (doffing) procedures).
- Pregnant and immunosuppressed health professionals should be excluded from providing care to patients suspected or confirmed with MPX.
- PPE should be available in sufficient quantities and sizes.

## Primary care settings

The following IPC guidance refers to the management of patients with compatible history and symptoms of MPX in primary care settings (see case definitions at <https://monkeypoxreport.ecdc.europa.eu>). These settings vary significantly in the EU/EEA, particularly as regards sexual health clinics; as a result, suspected MPX cases may present to various primary settings such as GP offices/clinics and other primary care providers in the community (e.g. dermatologists, paediatricians, etc.). The current guidance considers that many GP practices in the EU/EEA are manned by a single physician without continuous availability of cleaning, reception, or other staff, and with busy waiting rooms with limited time for donning and doffing of a complete set of PPE in between patients.

### Before the patient's visit

If the reason for consultation is known in advance to be suspicion of MPX, the patient should be asked to wear a medical face mask while in the waiting area and keep the rash areas covered.

### During the patient's visit

- The patient should be placed in a well-ventilated single exam room with a closed door. The patient should be required to wear a medical face mask.
- Health professionals attending to the patient should wear gloves and a medical face mask or FFP2 respirator when examining the patient. A single use gown or apron, a high-efficiency respirator (FFP2 or equivalent) and eye protection can be used, in addition to single use gloves, especially in cases with extensive rash and/or systemic symptoms to mitigate the potential risk of transmission through respiratory droplets. Following the removal of PPE, meticulous hand hygiene should be followed.
- Testing procedures for MPXV vary by country. Patients may need to be referred for testing at specialised sites. If samples are taken in a primary care office, the use of eye protection and a single-use gown is strongly recommended, in addition to respiratory protection and gloves.

### After the patient's visit

- Cleaning and disinfection:
  - In the room where a suspected or confirmed MPX case was examined, disposable covers of the physical examination bed should be discarded carefully without shaking. The examination bed and any other room furniture that may have been contaminated with material from the rash should be carefully wiped, first with detergent and water, followed by disinfectant with virucidal activity. Disinfectants should be prepared and used according to the manufacturer's instructions. No vacuuming or dry sweeping should be used; wet cleaning is recommended. Single-use disposable cleaning equipment (e.g. disposable towels) is recommended. If disposable cleaning equipment is unavailable, the cleaning material (cloths, sponges, etc.) should be placed in a disinfectant solution effective against viruses or 0.1% sodium hypochlorite.

- Common areas should be cleaned as per standard procedures using detergent products. Avoid vacuuming and dry sweeping. Ensure that frequently touched surfaces in common areas (e.g. waiting rooms) are cleaned regularly (and disinfected if there is a risk of contamination with body fluids or lesion material). Toilets should be cleaned and disinfected with particular care.
- Waste management:
  - Disposable equipment and items that were used during the physical examination of an MPX suspected case (included used PPE) should be considered as infectious waste and discarded accordingly. The United Nations' classification of waste classifies clinical waste from MPX patients as category A (UN3549) and does not distinguish between clades of the virus. National authorities may decide to classify waste from patients infected with the currently circulating clade of MPXV as regular medical waste depending on their respective national risk assessments.
  - Gauzes or other material soaked with lesion fluid or containing scabs from the MPX case should also be disposed of as infectious waste.

## Acute care settings

The management of MPX patients in acute healthcare facilities shares similar recommendations as in the primary care settings, with additional attention to the management of hospitalised patients and their interaction with HCWs.

### Patient transportation

If the patient needs transportation to a medical facility for further evaluation or admission, this should preferably be done via ambulance.

- Ensure that the receiving facility is aware and prepared to receive the patient.
- Ensure that precautions for HCWs are in place for both the ambulance team and the receiving facility.
- The patient should be asked to wear a medical face mask and keep their lesions covered during transport with long sleeves or pants, etc.
- Ambulance staff can wear their uniforms, a respirator (FFP2 or equivalent), eye protection, and single-use gloves.
- Cleaning and disinfection of the ambulance can be performed per standard procedures and national guidance. Linen should be lifted carefully without shaking.

### Patient management

The following measures can be applied to both suspect and confirmed MPX patients in an acute care facility:

- Hospitalisation for MPX cases is not suggested unless their clinical conditions warrant it.
- Patients who need hospitalisation should be placed in a well-ventilated, single room with a dedicated toilet. If single rooms are not available and multiple MPX cases are present, their cohorting can be considered. If varicella zoster virus infection is suspected, precautions for airborne transmission should be maintained until a definitive diagnosis.
- If the patient can tolerate it, cover exposed MPX-related lesions if other persons are in the room, including HCWs when not performing a physical exam.
- HCWs caring for MPX patients (either confirmed or suspected) should wear single-use gloves and a water-resistant single-use gown, a respirator (FFP2 or equivalent), and eye protection, in addition to applying standard precautions, including meticulous hand hygiene every time PPE is removed. Dedicated footwear that can be decontaminated can be used.
- Avoid unnecessary movement of the patients within or beyond the facility. If patient movement to another facility is needed, the guidance on patient transportation can be followed.
- Precautions should be kept in place until the lesions have recovered, no new lesions materialise, and fresh, healthy skin has appeared.
- Aerosol-generating procedures should be performed by personnel wearing appropriate PPE in an airborne isolation room or, if not available, in a well-ventilated single room with a door. The room should then be ventilated, cleaned, and disinfected before it is used for other patients' care.

### Health monitoring of exposed staff

The probability of exposure to MPXV for HCWs wearing appropriate PPE is considered to be very low. However, health professionals who have had an occupational exposure to an MPX case without wearing appropriate PPE (e.g. prolonged face-to-face contact or aerosol-generating procedure without respiratory protection) should undergo active surveillance for MPX-compatible symptoms (rash, headache, fever, sore throat, fatigue, and lymphadenopathy). This involves monitoring of temperature once or twice a day for 21 days following the exposure. Exposed staff can still work, but should not care for patients at high risk for severe MPX disease (e.g. immunocompromised patients, pregnant women, neonates).

Health professionals, including laboratory personnel and cleaning staff, can be considered for pre-exposure (PrEP) vaccination with the smallpox vaccine (which also protects against MPX). In addition, post-exposure (PEP)

prophylaxis may be offered to exposed health professionals according to a risk-benefit ratio analysis regarding their health status and underlying health conditions.

## Environmental cleaning and waste management

- Personnel in charge of cleaning and disinfection of environments exposed to MPX should wear:
  - a disposable water-resistant gown;
  - disposable gloves;
  - respiratory protection (FFP2 respirator);
  - eye splash protection (goggles or visor);
  - footwear that can be decontaminated.
- Surfaces in the patient's room should first be cleaned with detergent and water and then disinfected with an approved hospital disinfectant with virucidal properties.
- Activities such as dry dusting, sweeping, and vacuuming should be avoided. Wet cleaning methods are preferred.
- Disposable or dedicated patient care equipment should be used. Patient care equipment should be cleaned and disinfected in accordance with manufacturers' instructions before use for other patients. Equipment or other supplies that cannot be disinfected should be discarded.
- Privacy curtains must be changed, removing them carefully without shaking.
- Laundry should be gently and promptly contained in an appropriate laundry bag without being shaken or handled in a manner that may disperse infectious dust in the air. Water-soluble alginate bags are also an option, as these prevent laundry staff from having to handle individual pieces of laundry.
- Toilets and frequently touched surfaces should be cleaned and disinfected multiple times per day.
- Carpets, curtains, and other soft furnishings can be steam-cleaned.
- Utensils, plates, glasses, etc. should be washed in a dishwasher at a temperature of 60°C or higher.
- Single-use disposable cleaning equipment (e.g. disposable towels) is recommended. If disposable cleaning equipment is unavailable, the cleaning material (cloth, sponge, etc.) should be placed in a disinfectant solution effective against viruses, or 0.1% sodium hypochlorite. If neither solution is available, the material should be discarded.

## Waste management

- Waste should be assessed depending on risk and handled in accordance with healthcare facility policies and local regulations. The United Nations' classification of waste classifies clinical waste from MPX patients as category A (UN3549) and does not distinguish between clades of the virus. National authorities may decide to classify waste from patients infected with the currently circulating clade of MPXV as regular medical waste depending on their respective national risk assessments.
- Waste from MPX cases, such as dressings or other material soaked with lesion fluid or containing scabs, should be handled as infectious waste.

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## References

1. European Centre for Disease Prevention and Control (ECDC). Monkeypox multi-country outbreak. Stockholm: ECDC; 2022. Available at: <https://www.ecdc.europa.eu/en/monkeypox-outbreak>
2. European Centre for Disease Prevention and Control (ECDC)/World Health Organization Regional Office for Europe (WHO/Europe). Monkeypox - Joint Epidemiological overview. Stockholm and Copenhagen: ECDC and WHO/Europe; 2022. Available at: <https://monkeypoxreport.ecdc.europa.eu/>
3. Vaughan A, Aarons E, Astbury J, Brooks T, Chand M, Flegg P, et al. Human-to-human transmission of monkeypox virus, United Kingdom, October 2018. *Emerging Infectious Diseases*. 2020;26(4):782. Available at: [https://wwwnc.cdc.gov/eid/article/26/4/19-1164\\_article](https://wwwnc.cdc.gov/eid/article/26/4/19-1164_article)
4. Zachary KC, Shenoy ES. Monkeypox transmission following exposure in healthcare facilities in nonendemic settings: Low risk but limited literature. *Infection Control & Hospital Epidemiology*. 2022;43(7):920-4. Available at: <https://www.cambridge.org/core/journals/infection-control-and-hospital-epidemiology/article/monkeypox-transmission-following-exposure-in-healthcare-facilities-in-nonendemic-settings-low-risk-but-limited-literature/98E48E5050C7D97CB2C37CD114F49515>
5. World Health Organization (WHO). Clinical management and infection prevention and control for monkeypox: Interim rapid response guidance, 10 June 2022. Geneva: WHO; 2022. Available at: <https://www.who.int/publications/i/item/WHO-MPX-Clinical-and-IPC-2022.1>
6. Centers for Disease Control and Prevention (CDC). Infection Prevention and Control of Monkeypox in Healthcare Settings. Atlanta: CDC; 2022. Available at: <https://www.cdc.gov/poxvirus/monkeypox/clinicians/infection-control-healthcare.html>
7. Robert Koch Institut (RKI). Empfehlungen des RKI zu Hygienemaßnahmen im Rahmen der Behandlung und Pflege von Patienten mit einer Infektion durch Affenpockenviren in Einrichtungen des Gesundheitswesens. Berlin: RKI; 2022. Available at: <https://www.rki.de/DE/Content/InfAZ/A/Affenpocken/Hygiene.html>
8. UK Health Security Agency (UKHSA). Guidance. Monkeypox: background information. The epidemiology, symptoms, diagnosis and management of monkeypox virus infections. London: UKHSA; 2022. Available at: <https://www.gov.uk/guidance/monkeypox>
9. Public Health Agency of Canada. Interim guidance on infection prevention and control for suspect, probable or confirmed monkeypox within healthcare settings. Ottawa: Government of Canada; 2022. Available at: <https://www.canada.ca/en/public-health/services/diseases/monkeypox/health-professionals/interim-guidance-infection-prevention-control-healthcare-settings.html>
10. World Health Organization (WHO). Save Lives – Clean Your Hands. Annual Global Campaign. Geneva: WHO; 2022. Available at: <https://www.who.int/campaigns/world-hand-hygiene-day#cms>
11. World Health Organization (WHO). Strengthening infection prevention and control in primary care: a collection of existing standards, measurement and implementation resources. Geneva: WHO; 2021. Available at: <https://apps.who.int/iris/handle/10665/345276>