Mpox

Operational Support & Logistics
Disease Commodity Packages

Agent's Biosafety Level: BLS Level 3

Epidemic Potential: High

Last Update: 16 September 2024

mpox (WHO website)

Managing Epidemics Handbook

SURVEILLANCE	Sample Collection	Diagnosis	
		PCR	Point of Care (POC)
The presence of virus is confirmed by nucleic acid amplification testing (NAAT), such as real-time or conventional polymerase chain reaction (PCR). The collection of the sample should be performed by laboratory personnel under adequate standard operating procedures (SOPs) in health care facilities with relevant PPE. Standard sample collection safety precautions recommended. The test can be performed under core biosafety requirements similar to those under biosafety level 2, with heightened control measures applied based on local risk assessment. For lesion material, swabs can be transported dry in capped tubes or placed in viral transport media. All specimens collected for laboratory investigations should be regarded as potentially infectious and have have triple packaging, labelling, and documentation when transported. All transportation should be managed by a dangerous goods-certified shipper.	The recommended specimen type for diagnostic confirmation of monkeypox virus (MPXV) infection in suspected cases is lesion material. Vigorous swabbing of lesion material (skin, fluid, or crusts). In absence of lesions - oropharyngeal or rectal swabs (depending on clinical presentation and exposure)	Nucleic acid amplification testing (NAAT) to target conserved orthopoxvirus (OPXV) or MPXV genes	One commercially available POC test has received emergency use authorization from US Food and Drug Administration WHO recommends further research to determine diagnostic accuracy.

Diagnostic Technical Guidance (May 2024)

PREVENTION & CONTROL	Vaccine	Infection Protection & Control (IPC)	Safe and Dignified Burials	Cleaning and Waste Management
Implementation of appropriate IPC measures is essential to mitigate and control risks of transmission of mpox in health care and community settings. Implementing a hierarchy of controls is central to reducing the risk of exposure to mpox within health care settings. As such, considerations for the application of engineering and administrative controls and the use of PPE are recommended. Health workers should always follow standard precautions and perform risk assessments to evaluate the need to use transmission based precautions.	The vaccination strategy prioritizes individuals at substantially higher risk of exposure, including close contacts—such as household members and sexual partners—of confirmed cases. A combination of strategies is recommended to optimize the effectiveness of vaccination efforts.Link to mpox SPRP: https://www.who.int/publications/m/item/mpox-global-strategic-preparedness-and-response-plan	Contact and droplet precautions for suspect and confirmed cases including respirators. If AGPs performed, airborne precautions to be implemented	Perform hand hygiene and wear appropriate PPE according to contact and droplet precautions including respirators.	PPE should be worn by healthcare workers while cleaning and disinfecting patient care equipment and patient areas.This will require Gloves (heavy duty), gown, respirator, and eye protection. Perform Hand hygiene. Health care workers responsible for waste management should wear appropriate PPE such as gloves, gown, closed shoes, respirator, and eye protection) and perform hand hgiene after handling waste

Case Management and Infection Protection and Control Guidance (June 2022)

Smallpox and mpox (orthopoxviruses): WHO position paper, August 2024

CASE MANAGEMENT	Treatment	
	Supportive	
Optimal supportive care reduces the risk of complications and long-term sequelae. Specific anti-viral agents can be offered where appropriate ad available according to national protocols to slow disease progression or to treat severe infections.	IV Fluids	IV fluids critical
	Pain & Fever	Intensive care and pain relief as necessary

Key outbreak control activities considered for material supply

Note: Products for Surveillance, Prevention & Control, and Case Management are undergoing rapid and continous development and refinement. For greater clarity, please refer to most recent applicable WHO technical guidance.

INTERVENTION		COMMODITY	TECHNICAL DESCRIPTION	
SURVEILLANCE	Sample Collection	Swabs / Transport Medium Tube	Dacron or polyester flocked swabs with Viral Transport Medium	
		Phosphate Buffered Saline (PBS)	Phosphate buffered saline	pH 7.4, sterile-filtered (to be used to hydrate the dry swab upon arrival)
		Dry nylon swabs	Dry nylon swab with plastic shaft ann transport tube	
		Disposable scalpel or plastic scraper	Sterile, single use, disposable, stainless steel or plastic scraper	
		Cryo-tube screw-capped plastic tube	Polypropylene tube with attached screw-cap and labeling area	2ml
		Sequencing supplies	Dependent upon platform and protocol use	
		Triple packaging		UN3373 Category B box triple packaging
	Diagnostics	Manual PCR Kits	Nucleic acid amplification testing (NAAT) to target conserved orthopoxvirus (OPXV) or MPXV genes	
		Viral nucleic acids extraction kit	Viral DNA isolation kit validated in combination with the test kit	
		High Throughput PCR Kits	Nucleic acid amplification testing (NAAT) to target conserved orthopoxvirus (OPXV) or MPXV genes with an automated set-up	
		Point of Care testing	Based on detection of orthopoxvirus or monkeypoxvirus nucleic acids, antigens, and/or antibodies	
	Vaccine	Vaccines	Several national and regional regulatory authorities have licensed mpox vaccines or have approved their use under Emergency Use Authorization (EUA).	
		Dosing and Administration	Recommended to adhere to vaccine manufacturers' instructions on dosage and administration of vaccines including the use of adequate syringes, bifurcated needles and other ancillary equipment	
		Storage	Vaccines do have cold storage requirements. Please refer to the specific vaccine product information for the user.	

Prevention & Control	Infection Protection & Control	Gloves, Examination	Gloves, examination, nitrile, powder-free, non-sterile, single-use. Sizes: S, M, L, XL	Applicable regulations: • EU Medical Device Regulation 2017/745 Class I and PPE Regulation (EU) 2016/425 Category III, or other regional/national regulation. Applicable standards (active versions apply): • EN 455, • EN ISO 374, • ASTM D6319, or equivalent.
		Gloves, Surgical	Gloves, surgical, latex or non-latex, powder-free, sterile, single-use. Sizes: 5.5 to 9.0	Applicable regulations: • EU Medical Device Regulation 2017/745 Class IIa and PPE Regulation (EU) 2016/425 Category III, or other regional/national regulation. Applicable standards (active versions apply): • EN 455, • EN ISO 374, • ASTM D3577, or equivalent.. • Sterility as per United States Pharmacopeia and ISO 11607 and ISO 11137.
		Gloves, Protection, Heavy Duty	For waste management and for sturdy cleaning in health facilities and treatment centers, nitrile, high cracking, puncture and abrasion resistant, flock-lining to facilitate slide-in and removal, powder free, seamless, waterproof Length: min. 32 cm, reusable Min thickness: 0.46mm (17 mil) Sizes: 6,7,8,9,10,11 or S, M, L and XL	Applicable regulations: • EU PPE Regulation 2016/425 Category III, or other regional/national PPE regulation, or other regional/national regulation. Applicable standards (active version): • EN ISO 374:2024 chemical resistance for chlorine and biohazards • EN 388:2016 for abrasion, blade coup test cut, tear, puncture, TDM cut, impact • ISO 21420:2020 for protective gloves • ANSI/ISEA 105-2024.
		Gowns	Single use, disposable, length mid-calf to cover the top of the boots, light colours preferable to better detect possible contamination, thumb/finger loops or elastic cuff to anchor sleeves in place. Good breathability. Sizes: S,M, L and XL	
		Mask, Medical (Patient only)	Good breathability, internal and external faces should be clearly identified and provides a barrier between the patient and their surroundings, Adults and Peadiatric sizes	Applicable regulations: • EU Medical Device Regulation 2017/745 Class I, or other regional/national regulation. Optional, applicable standards (active versions apply): • ASTM F2100 Level 1, fluid resistant, earloop, min. 3 layers • EN 14683 Type I, fluid non-resistant, earloop, min. 3 layers, or equivalent.
		Respirator N95 / FFP2	Particulate (sub-micron) respirator. N95, Surgical N95 or FFP2-rated respirator or higher. Good breathability, Internal and external faces should be clearly identified, structured design that does not collapse against the mouth (e.g. duckbill, cup-shaped), fit-tested. Valveless designed to filter exhaled air from the wearer and inhaled air from the environment.	Applicable regulations: • EU PPE Regulation 2016/425 Category III or • US Federal Regulation 42 CFR 84 and US FDA, if appropriate, or other regional/national regulation. Applicable standards (active versions apply): • US Federal Regulation 42 CFR 84 for N95 or Surgical N95, or higher • EN 149, FFP2, or higher, or equivalent.
		Face shield	Made of clear plastic and provides good visibility to both the wearer and the patient, Adjustable band to attach firmly around the head and fit snuggly against the forehead, Fog resistant (preferable), Completely cover the sides and length of the face, May be re-usable (made of robust material which can be cleaned and disinfected) or disposable.	Applicable regulations: • EU PPE Regulation 2016/425 Category II, or other regional/national regulation. Optional, applicable standards (active versions apply): • EN 166/2002, • ANSI/ISEA Z87.1, or equivalent.
		Goggles	Good seal with the skin of the face, Flexible PVC frame to easily fit with all face contours with even pressure, Enclose eyes and the surrounding areas, Accomodate wearers with prescription glasses, Clear plastic lens with fog and scratch resistant treatments, Adjustable band to secure firmly so as not to become loose during clinical activity, Indirect venting to avoid fogging, May be re-usable (provided appropriate arrangements for decontamination are in place) or disposable.	Applicable regulations: • EU PPE Regulation 2016/425 Category II, or other regional/national regulation. Applicable standards (active versions apply): • EN 166/2002, • ANSI/ISEA Z87, or equivalent.
		Body bag	Made of linear enforced, U-shape zipper and 2 zipper pulls with tie ribs. adult size 250x120cm Protector Body Bag specifications: • 6 handles • Impermeable, linear reinforced LLDPE, LDPE, EVA, PEVA, (avoid PVC), minimum thickness 400 microns; • Should be able to hold 100-125 kilos (200-250 lbs), • Should contain no chlorides: burning of chlorides pollute the environment and can cause damage to retort chambers. Body bags should be non carcinogenic to health of funeral workers when used for cremations. • At least 6 handles included in the body bag to allow burial team to hand carry it safely • Heat-sealed: insure superior strength and safety, • Provide full containment of blood borne pathogens • Cracking point of 25 - 32 degrees below zero • Shelf life: minimum 10 years • Bag and hands should be white color	
		Refuse biohazard bag	Disposal autoclavable bag for bio-hazardous waste Material: High density polyethylene (HDPE) or polypropylene (PP) Capacity: 50 liters Size: width (60cm), length (82cm) (±10%) Thickness: min 0.04mm (1.5 ml) Colour: red and/or yellow Temperature resistant up to 121 C Printed with a sterilization patch that darkens when subject to steam Puncture, tear, and lead resistant Leak proof, flat bottom seal Black imprint "Biohazard" and tri-sickle logo according to U+2623 on one side	

	Sharps Containers (safety box)	At the point of use, during temporary storage or during handling and transport to the point of treatment and final disposal. Boxes must accept no less than 20 nbr. 0.5ml AD syringes per nominal litre of storage capacity. This capacity is to be achieved when syringes are dropped in randomly, needle first, with 25mm unsheathed non-retractable needles attached and plungers fully depressed. No syringe must protrude from the container or above the fill line and the box must be capable of being correctly and permanently closed without any risk of needle-stick injury.	• WHO performance specification E10/IC.1 • WHO/UNICEF standard E10/IC.2 or equivalent
	Detergents	e.g. OMO or Ariel or similar composition	
	Closed shoes or boots	small, medium, large,XL	
	Soap	liquid or powder or bars	
	Buckets	Chlorine and soapy water preparation	
	Damp Cleaning	Squeegee/mop head and mop stick	
	Disinfectant	Local procurement (eg. HTH, hypochlorite calcium, box of 1kg Sodium Hypochlorite / household bleach)	
	Bacterial Skin Infections	AMOXICILLIN	400mg / CLAVULANIC Acid, 57mg / 5ml, oral suspension, bottle 70ml
			1g / CLAVULANIC Acid, 200mg, powder - IV
			500mg / CLAVULANIC Acid, 125mg, tablet - PO
		CEFALEXIN	250mg, capsules - PO
			250mg, / 5ml, oral suspension, bottle 60ml - PO
			500mg, capsules - PO
		CEFTRIAXONE Sodium	Sodium, eq. 1g base, powder, vial - IV
			Sodium, eq. 250mg base, powder, vial, - IV
		CLOXACILLIN Sodium	Sodium, eq. 250mg base, capsules - PO
			Sodium, eq 500mg base, powder, vial - IV
			Sodium, eq 500mg base, capsules - PO
		DOXYCYCLINE Salt	Salt, eq 100mg base, tablets - PO
		SULFAMETHOXAZOLE / TRIMETHORPRIM	(Sulfamethoxazole/Trimethorprim) 400mg / 80mg, tablets - PO
		CLINDAMYCIN	Phosphate, eq.150mg base / 4ml, amp.
			Hydrochloride eq 300mg base, capsules - PO
	Ophthalmic presentations	TRIFLURIDINE	1% eye drops
		PREDNISOLONE ACETATE	1% eye drops
		MOXIFLOXACIN HYDROCHLORIDE	eye drops
		LUBRICATING OPHTHALMIC OINTMENT	Artificial tears
	Skin Care	LIDOCAINE	2%, jelly, sterile, tube - TOP
		VASELINE	Ointment, 100g, tube - TOP
		Bandages, Crepe	10cm x 4m
		Compress, Gauze	10 cm, 8 plies, sterile
		Soap	bar - TOP
	Mouth Lesion Care	POLYVIDONE IODINE	10%, solution, 20ml, dropper bottle - ORAL
	Pain Relief	PARACETAMOL (Acetaminophen)	120mg / 5ml, oral suspension, bottle 100ml - PO
			100mg, tablets - PO
			500mg, tablets - PO
			10mg / ml, 100ml, flexible bag PVC free - IV

CASE MANAGEMENT	Supportive Treatment		IBUPROFEN	200mg, tablets - PO
			DOCUSATE Sodium (stool softener for rectal pain)	100mg, tablets -PO
			TRAMADOL Hydrochloride (severe pain)	50mg, capsules - PO
		Diarrhoea / Rehydration	ORAL REHYDRATION SALTS (ORS)	Low osmol., sachet 20.5g / 1liter - PO
			ZINC Sulfate	eq to 20mg zinc mineral, dispersable tablets - PO
			RINGER LACTATE	1 liter, flexible bag, PVC free - IV
			DEXTROSE 5% / RINGER LACTATE	500ml, flexible bag, PVC free - IV
			DEXTROSE (Glucose)	10%, 500ml, flexible bag, PVC free - IV
			SODIUM Chloride	0.9%, 100ml, flexible bag, PVC free - IV
				0.9%, 1 liter, flexible bag, PVC free - IV
			GLUCOSE Hypertonic	50%, 50ml, vial - IV
		Seizure	DIAZEPAM	5mg / ml, 2ml, amp. - IV
		Agitation	HALOPERIDOL	5mg / ml, 1ml, amp. - IV
		Dyspepsia	OMEPRAZOLE	20mg, gastro-resistant capsules - PO
		Antihistamine	LORATADINE	10mg, tablets - PO
		Nausea	ONDANSETRON Hydrochloride	eq. 20mg / ml base, 2ml, amp. - IV
				eq. 4mg base, tablets - PO
		Injection Supplies	IV cannula	18G
				20G
				22G
				24G
			Needle	s.u., Luer, 21G (0.8 x 40 mm) green, IM
				s.u., Luer, 23G, (0.6 x 30mm) blue, SC, IM child
			INFUSION SET 'Y'	Luer-lock, air inlet, sterile, s.u.
			INFUSION SET	Paediatric, precision, sterile, s.u.
			SYRINGE	s.u., Luer, 2ml
				s.u., Luer, 5ml
				s.u., Luer, 10ml
			TOURNIQUET for Phlebotomy	Elastic, 100 x 1.8 cm
			ADHESIVE TAPE	2 - 2.5 cm x 5m
			COMPRESS	Non-woven, 4 plies, 7.5cm, non-sterile
			SHARPS container	15 liters, leak resistant
			Water for injection	10ml, plastic amp.
			CHLORHEXIDINE	2%, 70% isopropyl alcohol, SWAB / WIPE

World Health Organization

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