Australian STI Management Guidelines for Use in Primary Care

Mpox

Overview

• A global outbreak of mpox virus (formerly known as monkeypox) started in 2022. Within this outbreak, mpox infection has almost exclusively been diagnosed among men who have sex with men, transmitted through sexual contact and other similarly close contact.
• Most mpox infections are mild and self-limiting, but severe infection and complications can occur, especially in people who are immunocompromised.
• Mpox is vaccine-preventable using vaccinia vaccine.

July 2024 Update: *There has been an increase in Australian-based transmission of mpox in jurisdictions. Be aware of the signs and symptoms of mpox.*
• continue to offer mpox vaccination as part of routine clinical practice for eligible patients
• consider mpox as a differential in GBM with an ulcer or vesicles.

August 2024 Update: The WHO has declared the ongoing mpox outbreak in Africa a public health emergency of international concern (PHEIC). This outbreak relates to a new clade of mpox (clade Ib). This clade has not been identified in Australia.

For more information about the vaccine, please visit ASHM's mpox resource page.

Cause

- Mpox virus, an enveloped double-stranded DNA virus of the genus Orthopoxvirus.

Clinical presentation

Symptoms
Painful lesions on skin and mucosal surfaces. Lesions evolve from macules, to papules, to vesicles, to pustules, to crusted scabs. Typically last 3 weeks, but can be longer.
Proctitis, anal pain and/or anal bleeding.
Prodromal symptoms: Generalised centrifugal rash, fever, lymphadenopathy, headache, muscle pain, joint pain, back pain. Typically last up to 5 days.
Asymptomatic infection is rare.
Complications
Secondary bacterial cellulitis of affected skin or mucosal surfaces (common)
Severe pain from lesions. Anorectal pain may require management in hospital (uncommon)
Dehydration due to vomiting, diarrhoea, and/or oral lesions preventing oral intake (uncommon)
Sepsis (less common)
Pneumonia (rare)
Encephalitis (rare)
Keratitis, leading to permanent vision loss (rare)

See ASHM's mpox page for images.

Special considerations

Complications are more common in people who are immunocompromised, such as people living with HIV with a CD4 count < 200 cells/uL.

Diagnosis

Site/Specimen	Test	Consideration
Lesion fluid	NAAT of dry swab	Ideally collected when a vesicle or pustule is de-roofed
Lesion tissue or crust	NAAT of material in dry container	Best test if no fluid-filled vesicles or pustules are available for testing
Skin biopsy	NAAT of skin biopsy in dry container	Alternative test if no vesicles, pustules or crusts are available for testing

Anorectal swab	NAAT of dry swab	Alternative test if patient presents with anal symptoms and cannot tolerate anoscopy for collection of sample under direct vision

NAAT – Nucleic acid amplification test

Specimen collection guidance: Clinician collected | Self-collection

- Contact your local laboratory prior to specimen collection to check the availability of mpox virus tests (NAAT). Alternatively, contact your nearest hospital laboratory to arrange transport of specimen(s).
- Some laboratories have different specimen handling requirements, such as double-bagging – please contact your local laboratory to confirm prior to collecting samples.
- Specimen material should be collected using a sterile dry swab for PCR testing. Avoid using transport medium to reduce risk of leakage and avoid dilution. If dedicated dry NAAT swabs are not available, use any swab and place it in an airtight container without medium (e.g., sterile urine jar) – this may require cutting the swab length.
- Consider swabbing multiple lesions with separate swabs, and write the lesion site on the specimen containers.
- If no lesion fluid is available for collection, then dry crusts or biopsy material can be tested; also to be transported in a dry container.
- Wear adequate PPE, including gown, gloves, surgical mask, and eye protection.
- Avoid contact with contaminated materials (e.g., bedding).

Investigations

- Public laboratories have implemented mpox-specific PCR/NAAT assays.
- Some laboratories may still use Orthopox PCR/NAAT assays instead.
- Some commercial laboratories do not have a specific assay.

Clinical indicators for testing

- Testing is only indicated when patients present with symptoms suspected of being due to mpox virus.
- Asymptomatic screening for mpox virus is not recommended, as asymptomatic carriage appears rare.

Special considerations

- Swab suspected mpox lesions for HSV PCR, syphilis PCR, and LGV PCR, as these are important differential diagnoses.
- Consider swabbing suspected mpox lesions for M/C/S, as secondary bacterial cellulitis is common.
- Perform full HIV/STI screen at time of presentation, as co-infection with HIV/STIs is common.

Management

Principal treatment options		
Situation	**Recommended**	**Alternative**
Uncomplicated mpox virus infection	Supportive treatment, including analgesia, antibiotics for secondary cellulitis, and stool softeners for anal lesions.	
Severe mpox virus infection, or in those at risk of severe infection (e.g., CD4 < 200 cells/uL), or in those with complications (e.g. eye infection, severe secondary cellulitis)	Tecovirimat (TPOXX) Adults: 600mg twice daily for 14 days	Vaccinia immunoglobulin (VIG), if tecovirimat is unavailable, or in combination with tecovirimat if the patient is severely unwell. Other alternatives (e.g. cidofovir or brincidofovir) are not recommended due to low availability and/or high toxicity.

Treatment advice

- Most cases are mild and self-limited, and do not require specific antiviral therapy.
- Patients who may require antiviral therapy should be discussed with an infectious diseases physician or sexual health physician. Indications for urgent discussion with a specialist include: (1) severe mpox disease (e.g. sepsis, encephalitis, eye infection); (2) one or more complications (e.g. secondary cellulitis, dehydration, pneumonia); or (3) those at risk of severe disease (e.g. immunocompromise such as CD4 count < 200 cells/uL, children, pregnancy, breastfeeding). See Australian Human Monkeypox

Treatment Guidelines for more detail.

- Tecovirimat is held in the National Medical Stockpile and whilst it is not TGA-approved for the treatment of mpox virus infection, it appears active against orthopoxviruses *in vitro*. Common adverse effects of tecovirimat include headache, nausea, abdominal pain and vomiting, but it otherwise appears safe. Patients requiring Tecovirimat need to be discussed with a specialist.
- Vaccinia immunoglobulin (VIG) is held in the National Medical Stockpile in limited quantities. For toxicity, precautions and contraindications, see the Australian Human Monkeypox Treatment Guidelines.
- Patients who need to be admitted to hospital should be discussed with the receiving infectious diseases team prior to transport to hospital, to ensure that appropriate biocontainment strategies can be enacted.
- Consider early initiation of empiric antibiotics if secondary cellulitis is suspected.
- Consider strong analgesia for mpox lesions in troublesome areas such as the oropharynx and anorectum.
- Painful lesions may benefit from topical lignocaine.
- Anal lesions may benefit from stool softeners.
- Best-practice wound care for mpox lesions is important to reduce the risk of cellulitis.

For more information, see the Australian Human Monkeypox Treatment Guidelines.

Other immediate management

- The risk of occupational transmission is minimal if healthcare workers follow the ICEG interim guidance on monkeypox
- Upon clinical suspicion of mpox, immediately phone the local public health unit for advice on case isolation before the patient leaves the clinic. See CDNA National Guidelines for Public Health Units on Monkeypox Virus Infection.
- Cases are considered infectious until scabs have fallen off and a fresh layer of skin has formed.
- Cases with anal pain/bleeding are considered infectious until their anal symptoms have completely resolved.
- Mpox DNA has been found in the semen of men who have recovered from clinical mpox disease. This raises the possibility that mpox could be

transmitted via semen for some weeks following clinical infection. However, to date there have been no definitive mpox transmissions via semen from someone who has recently recovered from mpox. For this reason, people who have a penis and who have recently recovered from mpox may wish to use condoms for some time after recovery from their mpox infection to reduce the risk of transmission to sexual partners who have not been vaccinated or previously infected.

- Immunocompromised people are at higher risk of complications of mpox infection. Closely monitor PLHIV with a CD4 count < 200 cells/uL, or with an AIDS diagnosis in the preceding six months, or with persistent HIV viraemia (HIV VL > 200 copies/mL). For a full list of relevant immunocompromising conditions, see the Australian Human Monkeypox Treatment Guidelines.
- Pets are at risk of infection and this risk should be considered during isolation, and may need to be re-housed temporarily to avoid the risk of mpox transmission to the pet.

Special Treatment Situations

Special considerations

- Consider seeking specialist advice before treating any complicated presentation.

Situation	Recommended
Complicated or severe infection	Consider antiviral treatment and hospitalisation, after discussion with a specialist.
Immunocompromised people	Consider antiviral treatment and hospitalisation, after discussion with a specialist.
Pregnant people	Patients who are pregnant or breast feeding should be considered for specific mpox treatment. In pregnancy, VIG may be preferred over Tecovirimat.
Children (especially if < 10 years old)	Discuss with an infectious disease paediatrician, as children are at increased risk of severe infection.

Contact Tracing

- Seek immediate local Public Health Unit assistance with contact tracing.
- Contacts are stratified as low-risk, medium-risk, or high-risk, as described in the CDNA National Guidelines for Public Health Units on Monkeypox Infection.
- Medium and high-risk contacts should be offered post-exposure vaccination with a subcutaneous (not intradermal) dose of 3rd-generation vaccinia vaccine (i.e., MVA), ideally within 4 days of last contact, but up to 14 days of last contact. Post-exposure vaccination more than 4 days after last contact may not prevent infection, but it may attenuate disease severity.
- Contacts who receive post-exposure vaccination can receive an intradermal or subcutaneous vaccine dose at least 28 days after their initial subcutaneous dose, unless they develop mpox infection in the interim.
- For isolation and post-exposure vaccination advice for contacts, see CDNA National Guidelines for Public Health Units on Monkeypox Virus Infection.

Follow Up

- Depending on clinical severity, arrange regular clinical reviews by telehealth while the patient is isolating to assess progress of recovery, emergence of complications, and need for assistance with isolation.
- Arrange for a de-isolation clinical assessment, which must include examination of mpox lesions to ensure full recovery prior to de-isolation.
- Patients with laboratory-confirmed mpox infection are considered to be immune from re-infection, at least in the short to medium term after recovery, and hence do not need immunisation.

Test of Cure (TOC)

- TOC is not necessary, as this is a self-limiting infection.

Test for re–infection

- Re-testing for mpox is not necessary.

Special considerations

- Offer HIV pre-exposure prophylaxis to anyone who has recovered from

mpox infection, after conducting appropriate assessment. See PrEP Guidelines.

Auditable Outcomes

- All cases of mpox are immediately discussed with the local Public Health Unit.

Resources

- ASHM's mpox webpage
- ASHM's mpox Resource Toolkit
- ASHM's mpox vaccination training (online learning module)
- Australian Human Monkeypox Treatment Guidelines
- CDNA National Guidelines for Public Health Units on Monkeypox Virus Infection

Endorsement: These guidelines have been endorsed by the Blood Borne Viruses and Sexually Transmitted Infections Standing Committee (BBVSS).

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