

Monkeypox outbreak 2022 - guidance

This guidance covers the pathway and clinical considerations in the care of a child or young person (CYP) with suspected monkeypox, and a CYP contact of a confirmed case of monkeypox.

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A separate guideline is under development by RCOG which is expected to address prevention of mother to child transmission prior to, during and following delivery including breastfeeding guidance. Those areas are not covered by this guideline.

Background

Epidemiology

Monkeypox virus (MPXV) is endemic in Western and Central Africa. A global outbreak is currently (from May 2022) occurring in non-endemic countries

including the UK, continental Europe, Australia, Canada & the United States of America. Cases in this outbreak have mostly, but not exclusively, occurred in individuals who identify as gay, bisexual and other men who have sex with men. Monkeypox is currently classified as a High Consequence Infectious disease (HCID). It is transmitted by close physical contact with lesions (including shed skin cells in e.g. bed linen) and by respiratory droplet spread.

There is relatively little published data on monkeypox in children. In outbreaks in West and Central Africa, younger children had a higher mortality rate than adolescents and adults. It is currently thought that this risk is greatest in infants and the immunocompromised.

[Further background information is available on the GOV.UK website](#)

Case definitions

These are defined nationally by UKHSA. Please note these may change as the situation evolves - [see latest definitions](#).

Possible case

A person with a febrile prodrome. Febrile prodrome consists of fever $\geq 38^{\circ}\text{C}$, chills, headache, exhaustion, muscle aches (myalgia), joint pain (arthralgia), backache, and swollen lymph nodes (lymphadenopathy). compatible with monkeypox infection where there is known prior contact with a confirmed case in the 21 days before symptom onset.

Or, a person with an illness where the clinician has a high suspicion of monkeypox (for example, this may include prodrome or atypical presentations with exposure histories deemed high risk by the clinician, or classical rash without risk factors).

Probable case

A person with an unexplained rash on any part of their body plus one or more classical symptom or symptoms of monkeypox infection. Acute illness with fever ($>38.5^{\circ}\text{C}$), intense headaches, myalgia, arthralgia, back pain, lymphadenopathy. since 15 March 2022 and either:

- has an epidemiological link to a confirmed or probable case of monkeypox in the 21 days before symptom onset, **or**
- reported a travel history to West or Central Africa in the 21 days before

symptom onset, **or**

- is a gay, bisexual or other man who has sex with men

Currently, it would appear to be highly unlikely that a CYP has monkeypox in the absence of one of these three epidemiological risk factors.

Clinical features

The incubation period for monkeypox is between 5 and 21 days. Monkeypox infection is usually a self-limiting illness and most people recover within several weeks. However, severe illness can occur in some individuals, with children, pregnant women and the immunosuppressed thought to be most at risk.

Classically, monkeypox begins with a prodrome with fever, headache, muscle aches, backache, swollen lymph nodes, chills and exhaustion. Within 1 to 5 days, a rash develops, often beginning on the face then spreading to other parts of the body, often the palms and soles before spreading elsewhere centrally (see pictures [here](#) and [here](#)). The rash changes and goes through different stages (macule -> papule -> vesicle -> pustule) before finally forming a scab which later falls off.

Whilst monkeypox rash often demonstrates the 4 “**Ps**”; **P**ustules, **P**eripheral, **P**alms/soles, **P**hadenopathy, not all cases will have these features. An individual is contagious until all the scabs have fallen off and there is intact skin underneath. The scabs may also contain infectious virus material.

Differential diagnoses

Common differentials for a vesicular and similar rashes in children include chickenpox, HSV, enteroviral infection and molluscum contagiosum. Classically, monkeypox lesions are all at a similar stage of maturation, unlike chickenpox where they appear over several days leading to lesions at different stages at any time. Note that this is not always the case, and monkeypox lesions can appear in crops over several days in some individuals making this distinction unreliable. Chickenpox rash typically begins centrally on the trunk and spreads peripherally. Monkeypox is classically described as beginning peripherally (face, extremities including palms and soles) and spreading centrally. Again, in the current outbreak, rashes have been atypical - sometimes more localised and often present in the genital area. Vesicular rashes of enterovirus can also be primarily peripheral such as in hand, foot and mouth disease.

In the absence of an identified epidemiological risk factor, monkeypox is exceptionally unlikely at the present time in the UK. However, in the presence of an epidemiological risk factor, any CYP with a compatible clinical picture should undergo PCR testing to rule out monkeypox.

Guidance Part A: CYP with suspected monkeypox

Please see [pathway flowchart in Appendix A](#)

1. Arrangements for clinical assessment

Staff assessing CYP with suspected monkeypox should wear personal protective equipment (PPE) in accordance with [national](#) and local guidance.

An epidemiological risk factor may be known in advance raising suspicion of monkeypox. Where possible and safe to do so, assess the child outside healthcare premises to minimise risk of spread of infection. This may include use of repurposed COVID-19 testing pods outside hospitals. Referrals who are otherwise well should ideally be seen in such a facility where available. As an alternative, consider the possibility of a home assessment with appropriate PPE and waste disposal arrangements carefully planned in advance. Take advice from your local IPC and infection teams.

For young people over 13 years of age where sexual contact is the identified risk factor for suspected monkeypox, consider referral to a sexual health centre. This may provide opportunity for comprehensive sexual health assessment and

advice, alongside testing for monkeypox. For any presentation based on sexual contact, consider whether this raises any safeguarding concerns.

If assessment outside the department is not possible, or if the patient requires assessment in the Emergency Department for other clinical reasons, precaution must be taken to prevent possible transmission of infection. Follow local guidance to isolate the child in a dedicated cubicle as soon as the risk is identified, ideally on entering the Department, if not possible in advance of arrival. If such isolation is not possible, provide patients with a fluid resistant surgical mask and cover any visible lesions (using an appropriate combination of gown, gloves and surgical cap), and remain at least 1 metre away from other people.

Staff should ensure they are wearing appropriate PPE. For possible/probable cases this includes gloves, a fluid repellent surgical facemask, and an apron. The facemask should be replaced with an FFP3 respirator and eye protection if the case presents with a lower respiratory tract infection with a cough and / or changes on their chest x-ray indicating lower respiratory tract infection. Eye protection is also required if there is a risk of splash to the face and eyes (for example when taking diagnostic tests). Follow [national](#) and local guidance around waste disposal and cleaning afterwards.

Clinical assessment of a CYP with suspected monkeypox should be performed with the least physical contact and with the fewest people that is required for safe assessment. It should be done by the most appropriately senior professionals available in appropriate PPE. Consider the use of digital photography with consent and appropriate governance to enable more specialist staff to advise on whether lesions are concerning or not.

If following assessment monkeypox is suspected and you are proceeding with testing, consider maintaining a log of staff who enter the cubicle or have contact with the patient, in case subsequent contact tracing is required.

Further advice is available from regional paediatric infectious diseases teams.

2. How to clinically assess and test for monkeypox in a child

[Download a PDF of these questions below](#)

Useful questions to ask

Questions for all:

- When did the rash start?
- Where did the rash begin? Palms and soles or centrally?
- How large are the lesions?
- Total number of lesions? 1-10 / 10-100 / 100 +
- Status of lesions – vesicles? scabbing over? When did last new lesion appear?
- Any eye/mouth/genital/rectal lesions? [ask with appropriate relevance and sensitivity if young person is sexually active]
- Any lesions causing particular concern? e.g. pain/bleeding.
- Fever?
- Headache?
- Vomiting? Able to keep down fluids?
- Diarrhoea?
- Fatigue or lethargy?
- Breathing difficulties?
- Any other symptoms?
- Do they feel they are getting better? Same? Worse?
- Any comorbidities, and specifically immunodeficiency/immune suppression
- Confirm address and contact details

Questions for those with a contact with a confirmed monkeypox case:

- Note details of the exposure including time and nature

Questions for those with a travel history:

- Countries visited with dates of arrival and departure

Questions for young people:

- Complete psychosocial history using HEADSS tool
- Are they sexually active?
- If so ask about last sexual contact, ask if they are sexually active and consider asking if relevant
- Last sexual contact?
- High risk factors for the current outbreak are individuals who identify as MSM.

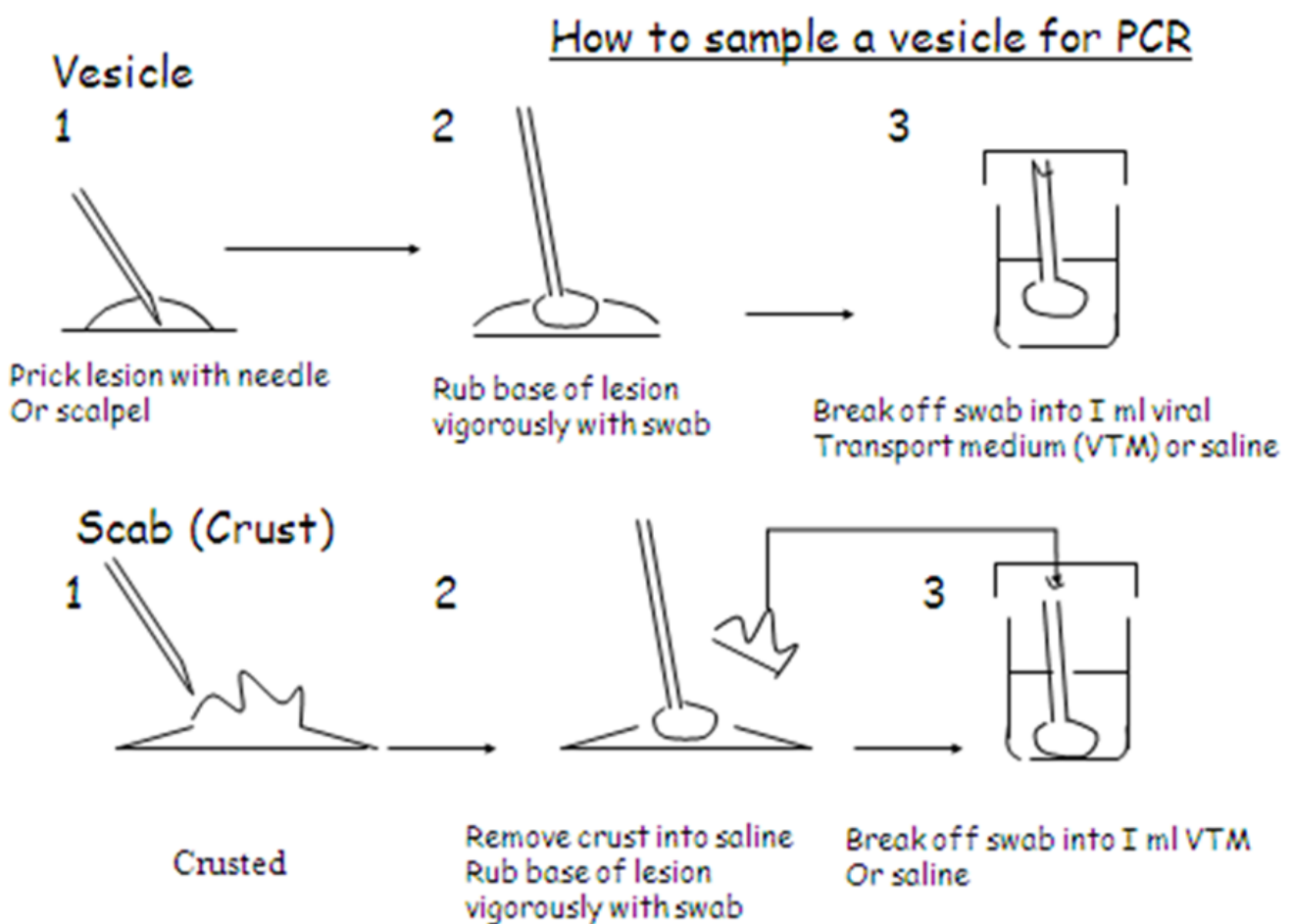
3. How to test for monkeypox in a child

Two viral swabs of skin lesions should be taken (see figure of optimal way to

sample from a lesion). If the lesions are not yet vesicular/pustular and just dry macular/papular lesions, a throat swab should be taken in addition. Follow local guidance from your local virology/infection team as to how these samples should be labelled and transported. Ensure 24/7 contact details for the referring team are on the request to allow prompt communication of the result.

At the same time, further tests may be required considering alternate diagnoses, such as a further viral swab of vesicles for HSV/VZV/enterovirus PCR. Consider the need to take a bacterial culture if lesions appear secondarily infected. It is recommended that all swabs are taken at the same time to minimise risk of exposure to staff.

The optimal way to swab a vesicle/pustule is shown in the diagram below.



[View image on full screen](#)

4. Child with suspected monkeypox who is well enough to return home

It is important to consider how well a child can isolate whilst at home, particularly

from others who may be at higher risk. This includes other children, pregnant women and the immunocompromised. Consider asking about whether they share a bedroom, and whether there is a separate bathroom/toilet they can use.

If the clinical presentation is strongly suggestive of monkeypox, and other alternative diagnoses seem highly unlikely, consider applying this more stringent level of isolation even prior to confirmation. This may lead to a decision to admit to hospital for the protection of others, particularly if home isolation is not practical.

As others in the household may be infected, they should ideally also remain at home until the result is available. This usually takes around 48 hours. This may require a risk assessment based on exposure since symptom onset.

All these situations require careful planning, with consideration of the care and emotional needs of the child and other children in the household, alongside the need to protect those at high risk.

Provide families with a copy of [Appendix B: How to isolate if you are suspected of having monkeypox](#) and contact details for your team.

It is the responsibility of the assessing team to maintain daily virtual contact with the child to monitor wellbeing and clinical progression until the result of the PCR test is available.

- If the PCR result is positive and monkeypox confirmed, the HCID pathway will be activated by the laboratory. Arrangements for further assessment and management will be made by the national HCID network. The local Health Protection Team will commence contact tracing and provide further guidance. The team who sent the test is required to inform the patient/carer of the positive test result, and advise regarding ongoing isolation pending the decision of the HCID network meeting.
- If the result is negative, it is the responsibility of the team who sent the test to inform the family of the result and assuming there are no other infection control concerns, advise them to end isolation.

5. Child with suspected monkeypox who requires hospital admission

Following local assessment, an unwell child who is still deemed to have suspected monkeypox may require hospital admission. In such a situation, continue to follow guidance regarding enhanced PPE, minimising staff contact with the child, and

care with waste disposal. In these circumstances, local teams are advised to discuss patients with the paediatric infectious diseases teams at their nearest airborne HCID centre (see list at end of document).

Use the [checklist in Appendix C](#) to ensure you have done all that is required.

In the event that the patient is confirmed to have monkeypox, they will be automatically referred to the HCID network for ongoing care planning.

Guidance Part B. Child contacts of confirmed case of monkeypox

There is a [national framework for risk assessing both the exposure and the vulnerability of the contact](#). Actions may include varying degrees of isolation of contacts, passive or active monitoring and eligibility for vaccination. This recognises the increased risk of more severe disease in children.

UKHSA has undertaken an assessment of the safety of Imvanex® vaccine for prevention of monkeypox. It can be used in infants and children. For children under one year of age, it is advised that a risk assessment should be undertaken in conjunction with a PID consultant prior to offering vaccination.

If an adult with confirmed monkeypox is unable to isolate away from a child in the household, this will lead to a recommendation that the adult case is admitted to hospital, following UKHSA guidance.

A child contact who is considered to have had an unprotected exposure will require active monitoring. This requires a daily assessment of wellbeing and whether any symptoms have developed. Signs/symptoms of concern include headache, fever, chills, sore throat, malaise, fatigue, rash, and lymphadenopathy. It can be performed remotely by telephone or video call. Responsibility for this monitoring is with the Health Protection Team. There may be situations where it is beneficial for a paediatric clinician to assist some elements of this, and paediatricians should be prepared to assist HPTs as required. Further support and advice is available from regional PID teams with further input from HCID paediatric clinicians.

Contacts being monitored who develop any symptom consistent with monkeypox should be considered a suspected case and be managed according to Part A of this guideline. They will require face to face assessment and possible

hospital admission. This is likely to require careful planning. It may be possible to arrange a home assessment and testing. If this is not practical or clinically appropriate, admission to an HCID unit may be the most appropriate solution to maintain safety. It is recommended to involve HCID paediatric infectious diseases teams early in such discussions even prior to the diagnosis being confirmed.

Paediatric Airborne High Consequence Infectious Disease Units

Call switchboard and ask for Paediatric Infectious Disease doctor on-call.

Hospital / Trust	Switchboard
Evelina London Children's Hospital (Guys & St Thomas' NHS Foundation Trust)	020 7188 7188
St Mary's Hospital, London (Imperial College Healthcare NHS Foundation Trust)	020 3312 6666
Alder Hey Children's NHS Foundation Trust, Liverpool	0151 228 4811
Newcastle upon Tyne Hospitals NHS Foundation Trust	0191 233 6161

Appendix A: Monkeypox in children & young people - quick guide

[Download a PDF of this flowchart below](#)

Child or young person presenting with a vesicular and/or pustular rash and febrile prodrome

Epidemiological Risk Factors?

- Known contact with confirmed or suspected monkeypox case in last 21 days?
- Household adult male member with vesicular or pustular rash?
- Young person: male who has sex with males?
- Recent travel from West & Central Africa?

YES ↓

Plan

- Consider location – away from other patients is ideal, alternatively designated cubicle – consider referral to Sexual Health Centre if over 13 and relevant
- Wear correct PPE (minimum FRSM, gloves and apron; +/- eye protection & FFP3)

History

- See question list overleaf

Test

- Send viral swab for monkeypox PCR and additional tests for differential diagnosis
- Consider investigations for alternative diagnoses

Requires admission?

- See Appendix 3
- If unwell, admit to side room with own toilet facility
- PPE: FFP3, gown, gloves, eye protection
- Contact paediatric HCID network

Safe for discharge?

- See Appendix 2
- Check can isolate – provide written information, red flags and your contact details – see RCPCH guidance

NO ↓

Unusual rash or other high clinical index of suspicion
Step-wise testing recommended
Send two swabs from lesion, one to be stored by virology pending initial results

If no alternative diagnosis, negative for other viruses, re-assess and discuss with paed ID
Request stored swab is sent for monkeypox PCR

Clinically consistent with alternate diagnosis, e.g. chicken pox or hand, foot & mouth disease with history of contact or known current circulation of virus

Routine clinical management, including providing red-flag advice

Other tests to consider:

- Extended respiratory viral panel
- Swab lesion for VZV/HSV/enterovirus
- Throat swab and stool for enterovirus
- Syphilis serology and PCR in neonate

Ask family to take photos on a daily basis

Appendix B: How to isolate if you are suspected of having monkeypox

[Download a PDF of this guidance below](#)

Please return straight home.

The person with suspected monkeypox should wear a mask and cover all skin lesions.

- Isolate if possible in a room separate from other household members
- Where not possible aim to keep 1 metre away from others and avoid all skin to skin contact.
- If possible, use a different bathroom to other household members.
- Non-household members should not visit the residence.
- Avoid any physical contacts.
- Do not leave the residence.
- Pets should be excluded from infected person's environment.
- If contact with other household members is unavoidable – all should wear surgical masks and skin lesions should be covered.
- Maintain good hand hygiene with soap and water.
- Linen and towels should not be shared.
- Avoid shaking used laundry to prevent dispersing of infectious particles.
- Dishes and utensils can be cleaned with soap and water.
- Contaminated surfaces should be cleaned with alcohol or chlorine-based household disinfectants.
- If possible, take photographs of the rash as it evolves day by day - your doctor will advise on how to send these

Your hospital team will maintain contact with you to check on your / your child's progress.

Should you need to contact the hospital, please call [enter phone number] and and ask for [enter name/team].

Appendix C: Actions when admitting a child with suspected monkeypox

[Download a PDF of this checklist below](#)

Task	Mark when completed
Allocate cubicle with en suite or commode (negative pressure if available, otherwise neutral)	
Inform IPC team - plan waste disposal	
Put up signage about No entry and need for appropriate PPE	
Ensure supply of PPE available	
Start a log of entry/exit to the room	
Inform paediatric consultant	
Discuss with HCID paediatric infectious disease team (one of Evelina / St Marys / Newcastle / Alder Hey - see contacts above)	

Downloads

[Appendix A - quick guide flowchart](#)62.12 KB

[Appendix B - How to isolate if you are suspected of having monkeypox](#)102.48 KB

[Appendix C - Actions when admitting a child with suspected monkeypox](#)123.16 KB

[How to clinically assess and test for monkeypox in a child - questions to ask](#)78.22

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