Monkeypox Pathway v1.0: Table of Contents

Stop and Review

Inclusion Criteria
- Patients with suspected infection, high-risk/intermediate-risk exposure, or probable/proven monkeypox infection
- Patients in ambulatory, urgent care, ED and inpatient

Exclusion Criteria
- None

Monkeypox Care

- Suspected Infection
- Exposure
- Treatment

Appendix

Version Changes
Approval & Citation
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Monkeypox Pathway v1.0: **Suspected Infection**

**Inclusion Criteria**
- Patients with suspected monkeypox virus
- Patients in ambulatory, urgent care, ED and inpatient

**Exclusion Criteria**
- None

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**Stop and Review**

**Patient with a compatible rash concerning for monkeypox virus?**

Yes

**Refer to ED for Evaluation**

**For referring staff**
- Call 206-987-8899 (ED Communications Center)
- Inform patient and family

**Instructions for patient and/or family**
- Remain in car
- Call 206-987-8899 (ED Communications Center)
- Wait to be escorted by ED staff into ED

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**ED Evaluation**
- Determine need to test
- Confirm compatible rash
- Determine exposure history
- If high-risk exposure, lower threshold to test
- Job Aid: Monkeypox Specimen Collection and Handling Process, 13805 (for SCH only)
- If suspected eye involvement or rash near eye, consider calling Ophthalmology
- For severe disease in a patient with a compatible rash, call ID to discuss need for empiric treatment

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**Testing**
- Notify Infection Prevention if test being sent
- Call send out lab for cases in which results should be expedited (overnight samples for patients in whom suspicion of infection is high)
- UW PCR
  - Turnaround time is 1-2 days
  - Test is run once daily Mon-Sat for specimens received by early morning
  - Call back all lab results (positive or negative)

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**Admission Criteria**
- Use general clinical criteria for admission
- Monkeypox virus infection alone is not a reason for admission
- Infection requiring close monitoring (disseminated infection, dehydration, ill appearing, eye and/or CNS involvement, etc.)

**Discharge Instructions**
- Isolation until negative test result

**Admit to Special Isolation Unit**
- Notify Infection Prevention
- ID consult (if overnight, can wait until next morning unless urgent question or treatment needs to start)
**Monkeypox Pathway v1.0: Exposure**

**Inclusion Criteria**
- Patients with exposure to monkeypox virus
- Patients in ambulatory, urgent care, ED and inpatient

**Exclusion Criteria**
- Patient with a compatible rash concerning for monkeypox virus (see Suspected Infection page)

**Determine exposure history**

**High-risk or intermediate-risk exposure?**

Yes

Yes

Patient in ED?

No

**Stop and Review**

**Continue with post-exposure prophylaxis (PEP) in ED**

**Call ID**

**Email Infection Prevention for any patient determined to have high-risk exposure**

**Prophylaxis by age**

**VIGIV (< 6 months)**
- ID team needs to coordinate and prescribe as public health approval and IND paperwork is required
- ID should work with IDS and public health to obtain drug after informed consent is obtained
- Patient should not be referred to ED until these steps completed by ID

**Discharge Instructions**
- Monitor for 1 hour
- Isolation and Infection Control At Home

**Jynneos Vaccine (>= 6 months)**
- Should be given by day 4 of exposure to prevent disease
- If given day 5-14, may reduce incidence of severe disease
- EUA approved for age < 18 years. FDA fact sheets must be reviewed prior to administration:
  - Jynneos Health Care Provider Fact Sheet 08092022 (fda.gov)
  - Jynneos EUA FactSheet Recipients Caregivers 08092022 (fda.gov)
- Patient receives two doses 4 weeks apart; schedule 2nd dose in ID clinic
- Place referral order for ID clinic visit in Epic order set
- Email Infectious Disease RN with patient information and date of first vaccine dose

**Discharge Instructions**
- Monitor for 15 minutes following administration of each dose
- For patients with history of anaphylaxis, monitor for 30 minutes
- Isolation and Infection Control At Home
**Inclusion Criteria**
- Patients with probable or proven monkeypox virus
- Probable: rash plus epidemiologic link or in high-risk population
- Proven: laboratory confirmed infection (PCR positive)
- Patients in ambulatory, urgent care, ED and inpatient
- None

**Exclusion Criteria**

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**Monopoly Pathway v1.0: Treatment**

**Stop and Review**

**Inclusion Criteria**
- Patients with probable or proven monkeypox virus
- Probable: rash plus epidemiologic link or in high-risk population
- Proven: laboratory confirmed infection (PCR positive)
- Patients in ambulatory, urgent care, ED and inpatient

**Exclusion Criteria**
- None

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**Refer to ED for Treatment**

**For referring staff**
- Call 206-987-8899 (ED Communications Center)
- Inform patient and family

**Instructions for patient and family**
- Remain in car
- Call 206-987-8899 (ED Communications Center)
- Wait to be escorted by ED staff into ED

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**Call Infectious Diseases AND Infection Prevention**

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**Concern about clinical status or severe infection?**

**Yes**

**Refer to ED for Treatment**

**For referring staff**
- Call 206-987-8899 (ED Communications Center)
- Inform patient and family

**Instructions for patient and family**
- Remain in car
- Call 206-987-8899 (ED Communications Center)
- Wait to be escorted by ED staff into ED

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**No**

**Call ID to discuss and plan for potential telemedicine or in-person visit**

**Consider treatment for patients at risk of severe disease:**
- Age < 8 years
- Immunocompromised patients
- Patients with atopic dermatitis or other condition affecting skin integrity
- Rash involving anatomic areas which might result in serious sequelae, scarring or strictures
- Severe disease: hemorrhagic lesions, large # and/or confluent lesions, sepsis, encephalitis, ocular involvement
- For more information: [CDC guidance](https://www.cdc.gov)

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**Treat with tecovirimat**

- Requires informed consent and IND paperwork (must be prescribed by ID)
- Capsule can be [opened and mixed](https://www.cdc.gov)
- Can be given IV if unable to tolerate PO; should convert to PO formulation as soon as possible

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**Admission Criteria**
- Use general clinical criteria for admission
- Need for IV tecovirimat
- Severe infection requiring close monitoring
- Assess supportive care and pain control needs

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**Discharge Instructions for Patient on PO Tecovirimat**
- Will require ID follow-up (clinic will reach out to family to schedule)
- Other follow-up to be determined on a case-by-case basis
- [Isolation and Infection Control At Home](https://www.cdc.gov)

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**Admit to Special Isolation Unit**
- Notify Infection Prevention
- ID consult (if overnight, can wait until next morning unless urgent question or treatment needs to start)
- PO or IV tecovirimat

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**IV Tecovirimat**
- Cannot be given if severe renal impairment
- Monitor renal function in patients < 2 years

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**For questions concerning this pathway, contact:**
- MonkeypoxPathway@seattlechildrens.org

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**Last Updated: October 2022**
**Next Expected Review: November 2022**

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If you are a patient with questions contact your medical provider, [Medical Disclaimer](https://www.cdc.gov)
High-risk exposure: recommended regardless of risk factors

- Contact between an exposed individual’s broken skin or mucous membranes with the skin lesions or bodily fluids from a person with monkeypox -OR-
- Any sexual or intimate contact involving mucous membranes (e.g., kissing, oral-genital, oral-anal, vaginal, or anal sex (insertive or receptive)) with a person with monkeypox -OR-
- Contact between an exposed individual’s broken skin or mucous membranes with materials (e.g., linens, clothing, objects) that have contacted the skin lesions or bodily fluids of a person with monkeypox (e.g., sharing food, handling or sharing of linens used by a person with monkeypox without having been disinfected† or laundered)

Intermediate-risk exposure: recommended on an individual basis based on risk factors

- Being within 6 feet for a total of 3 hours or more (cumulative) of an unmasked person with monkeypox without wearing a surgical mask or respirator -OR-
- Contact between an exposed individual’s intact skin with the skin lesions or bodily fluids from a person with monkeypox -OR-
- Contact between an exposed individual’s intact skin with materials (e.g., linens, clothing, objects) that have contacted the skin lesions or bodily fluids of a person with monkeypox without having been disinfected† or laundered

Low risk exposure: prophylaxis not recommended

- Entry into the living space of a person with monkeypox (regardless of whether the person with monkeypox is present), and in the absence of any exposures above

https://www.cdc.gov/poxvirus/monkeypox/clinicians/monitoring.html
Summary of Version Changes

Approved by the CSW Monkeypox Pathway team for October 4, 2022, go-live

CSW Monkeypox Pathway Team:

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Emergency Medicine, Team Member
Investigational Drug Service, Team Member
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Retrieval Website: https://www.seattlechildrens.org/pdf/monkeypox-pathway.pdf

Please cite as:
Evidence Ratings

This pathway was developed through local consensus based on published evidence and expert opinion as part of Clinical Standard Work at Seattle Children’s. Pathway teams include representatives from Medical, Subspecialty, and/or Surgical Services, Nursing, Pharmacy, Clinical Effectiveness, and other services as appropriate.

When possible, we used the GRADE method of rating evidence quality. Evidence is first assessed as to whether it is from randomized trial or cohort studies. The rating is then adjusted in the following manner (from: Guyatt G et al. J Clin Epidemiol. 2011;4:383-94, Hultcrantz M et al. J Clin Epidemiol. 2017;87:4-13, Klugar et al. J Clin Epidmiol. 2021 Nov 11;S0895-4356(21)00361-9.):

- **A** Type of studies in the evidence synthesis
- **B** Initial Certainty of Evidence (CoE)
- **C** Five domains can downgrade the CoE
- **D** Three domains can upgrade the CoE
- **E** Resulting GRADE CoE

**Certainty of Evidence**
- 🌟🌟🌟🌟 High certainty: The authors have a lot of confidence that the true effect is similar to the estimated effect
- 🌟🌟🌟 Moderate certainty: The authors believe that the true effect is probably close to the estimated effect
- 🌟🌟🌟🌟 Low certainty: The true effect might be markedly different from the estimated effect
- 🌟🌟🌟🌟🌟 Very low certainty: The true effect is probably markedly different from the estimated effect

Guideline: Recommendation is from a published guideline that used methodology deemed acceptable by the team
Expert Opinion: Based on available evidence that does not meet GRADE criteria (for example, case-control studies)

Deductions labeled 1=risk bias, 2=indirectness, 3=imprecision, 4=inconsistency, 5=publication bias

Source: Carlos Cuello
Literature Search Methods
The articles cited are a representation of international experts' and national societies' resources that are currently being shared widely. A formal systematic review was not performed. A future formal systematic literature review may inform future versions of this document. Due to the rapidly evolving literature and the need for urgent guidance, a non-systematic review was used to guide the development of the initial versions of this algorithm.
Bibliography

Included Studies


Additional References
https://www.cdc.gov/poxvirus/monkeypox/clinicians/index.html
https://www.cdc.gov/poxvirus/monkeypox/clinicians/pediatric.html
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Medical Disclaimer

Medicine is an ever-changing science. As new research and clinical experience broaden our knowledge, changes in treatment and drug therapy are required.

The authors have checked with sources believed to be reliable in their efforts to provide information that is complete and generally in accord with the standards accepted at the time of publication.

However, in view of the possibility of human error or changes in medical sciences, neither the authors nor Seattle Children’s Healthcare System nor any other party who has been involved in the preparation or publication of this work warrants that the information contained herein is in every respect accurate or complete, and they are not responsible for any errors or omissions or for the results obtained from the use of such information.

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