Myocarditis
Clinical Pathway Synopsis

Objective of Clinical Pathway

To provide care standards for the patient who presents with concerns for myocarditis, including clinical assessment, testing, imaging, and consultation.

Background

Myocarditis is an acute or chronic inflammatory condition of the myocardium that causes myocardial edema, injury, and, in some cases, necrosis.[1] Myocarditis remains a recognized cause of sudden cardiac death in children and young athletes; therefore, prompt diagnosis and management are critical to reduce mortality.[2]

Diagnosing pediatric myocarditis is challenging because symptoms are often nonspecific and can range from mild to life-threatening.[1,3] The condition is frequently preceded by a viral illness occurring days to weeks before cardiac symptoms develop. Early manifestations may include fever, cough, sore throat, and fatigue, followed by chest pain, arrhythmias, or shortness of breath.[4] Because these symptoms often mimic more common noncardiac conditions, diagnosis and treatment may be delayed.[5]

The diagnosis of myocarditis requires integration of clinical findings, laboratory testing, and cardiac imaging, with endomyocardial biopsy reserved for select cases. No single test definitively confirms the diagnosis, and there are currently no established criteria to reliably distinguish clinical suspicion from possible myocarditis based solely on symptoms.[1,5] Given the variability in presentation and diagnostic evaluation, as well as the risks associated with delayed treatment, the Myocarditis Clinical Pathway Committee developed this pathway to guide clinicians in the diagnostic evaluation of suspected myocarditis and to support timely cardiology consultation.

Target Users

- Physicians (Ambulatory Pediatricians, Pediatric Emergency Medicine, Critical Care, Radiology, and Cardiology), fellows, and residents
- Nurses (Advanced Practice and Registered)
- Radiology techs and sonographers

Target Population

Inclusion Criteria

- Patients of any age presenting with concern for myocarditis (i.e., unexplained brady/tachycardia following recent illness)

Exclusion Criteria

- History of congenital heart disease (proceed with consult to cardiology)

Practice Recommendations

Please refer to the American Heart Association scientific statement on the diagnosis and management of myocarditis in children for practice.[1]

Recommendations Specific for Children's Mercy

No deviations were made from the AHA Scientific Statement on diagnosis and management of myocarditis in children, but logistical processes specific to Children's Mercy were added. This includes initial assessment, imaging, labs, and when to consult Cardiology.

Measures

- Access of the clinical pathway (website hits)

Value Implications

The following improvements may increase value by reducing healthcare and non-monetary costs (e.g., missed school/work, loss of wages, stress) for patients and families, and by reducing costs and resource utilization for healthcare facilities.

- Decreased frequency of transfers to Adele Hall Emergency Room, when appropriate, from ambulatory care settings and/or Children's Mercy Kansas
- Decreased unwarranted variation in care

Organizational Barriers and Facilitators

Potential Barriers

- Variability in experience among clinicians
- Challenges with access to healthcare and health literacy faced by some families

Potential Facilitators

- Collaborative engagement across the continuum of clinical care settings and healthcare disciplines during clinical pathway development

Bias Awareness

Our goal is to recognize the social determinants of health and minimize healthcare disparities, while acknowledging that our unconscious biases can contribute to these disparities.

Order Sets

- No order sets are associated with this clinical pathway

Educational Materials

Educational tools were reviewed by the family advisory board committee representative and a health literacy committee representative to ensure compliance with health literacy guidelines.

- What is myocarditis?
  - Intended for all patients and their families
  - Found in the Epic Patient Education and on the Myocarditis Clinical Pathway website
  - Available in English and Spanish

Clinical Pathway Preparation

This pathway was prepared by the EBP Department in collaboration with the Myocarditis Clinical Pathway Committee, composed of content experts at Children's Mercy.

Myocarditis Clinical Pathway Committee Members and Representation

- Mitchell McKinnon, MD | Pediatric Emergency Medicine | Committee Chair
- Sanket Shah, MD, MHS | Heart Center | Committee Member
- Niranjan Vijayakumar, MD | Critical Care Medicine | Committee Member
- Antonio Pringle, APRN | CICU | Committee Member
- Ryan Northup, MD | General Pediatrics | Committee Member
- Sonali Ramesh, MD | Emergency Department Fellow | Committee Member

Patient/Family Committee Member

- Jana Rojas, DPT | Patient and Family Engagement | Committee Member

EBP Committee Members

- Todd Glenski, MD, MSHA, FASA | Anesthesiology, Evidence Based Practice
- Andrea Melanson, OTD, OTR/L | Evidence Based Practice

Clinical Pathway Development Funding

The development of this clinical pathway was underwritten by the following departments/divisions: Pediatric Emergency Medicine, The Heart Center, Critical Care Medicine, Cardiac Intensive Care Unit, General Pediatrics, and Patient and Family Engagement.

Conflict of Interest

The contributors to the Myocarditis Clinical Pathway have no conflicts of interest to disclose related to the subject matter or materials discussed.

Approval Process

- This pathway was reviewed and approved by the EBP Department and the Myocarditis Committee after committee members garnered feedback from their respective divisions/departments. It was then approved by the Medical Executive Committee.

Review Requested

Department/Unit	Date
Pediatric Emergency Medicine	August 2026
Critical Care Medicine	August 2026
The Heart Center	August 2026
Cardiac Intensive Care Unit	August 2026
General Pediatrics	August 2026
Patient and Family Engagement	August 2026
Evidence Based Practice	August 2026

Version History

Date	Comments
August 2026	Version one – development of algorithm, synopsis, and revised educational handout

Date for Next Review

- August 2029

Implementation & Follow-Up

- Once approved, the pathway was implemented and presented to the appropriate care teams:
  - Announcements made to relevant departments
  - Additional institution-wide announcements were made via the hospital website and relevant huddles
  - Community clinics affiliated with CM received announcements via "Progress Notes"
- Care measurements may be assessed and shared with appropriate care teams to determine if changes need to occur.
- Pathways are reviewed every 3 years (or sooner) and updated as necessary within the EBP Department at Children's Mercy. Pathway committees are involved with every review and update.

Disclaimer

When evidence is lacking or inconclusive, options in care are provided in the supporting documents and the order set(s) and/or order panel(s) that accompany the clinical pathway.

These clinical pathways do not establish a standard of care to be followed in every case. It is recognized that each case is different, and those involved in providing health care are expected to use their judgment to determine what is in the patient's best interests based on the circumstances at the time.

It is impossible to anticipate all possible situations and ~~to~~ prepare clinical pathways for each. Accordingly, these clinical pathways should guide care, with the understanding that departures may be required at times.

References

1. Law YM, Lal AK, Chen S, et al. Diagnosis and management of myocarditis in children: A scientific statement from the American Heart Association. *Circulation*. 2021;144:e123-e135. doi:10.1161/CIR.0000000000001001.
2. Williams JL, Jacobs HM, Lee S. Pediatric myocarditis. *Cardiology Therapy*. 2023;12(2):243-260. doi:10.1007/s40119-023-00309-6
3. Canter CE, Simpson KE. Diagnosis and treatment of myocarditis in children in the current era. *Circulation*. 2014;129(1):115-128. doi:10.1161/CIRCULATIONAHA.113.001372
4. Ammirati E, Moslehi JJ. Diagnosis and treatment of acute myocarditis: a review. *JAMA*. 2023;329(13):1098-1113. doi:10.1001/jama.2023.3371
5. Hutchinson Z, Law Y. Myocarditis in children: diagnosis and management. *JHLT Open*. 2025;10:100332. Published 2025 Jul 21. doi:10.1016/j.jhlto.2025.100332