



Epicondyle Fracture: Postoperative Management Clinical Pathways Synopsis

Objective of Clinical Pathway

To provide follow-up care standards for patients requiring open reduction and internal fixation (ORIF) repair of medial epicondyle fractures. The Epicondyle Fracture Clinical Pathway provides guidance regarding initiation of rehabilitative therapy to enhance recovery and minimize variation of care.

Background

Medial epicondyle fractures account for 12-20% of all pediatric and adolescent elbow fractures (Pathy & Dodwell, 2015; Pezzutti et al., 2020). Despite the common occurrence of such fractures, optimal medical management and rehabilitation strategies are not well established (Pezzutti et al., 2020). Patients may be managed with immobilization alone, or surgical intervention followed by a period of immobilization (Hughes et al., 2019). In either case, prolonged immobilization may lead to chronic pain, joint stiffness, muscle atrophy, or more severe complications (Boyd et al., 2009). Due to the lack of clear guidance for the management of these patients and the potential for long-term complications, this pathway was developed to provide recommendations for rehabilitation and progression following surgical repair.

Target Users

- Orthopaedic Surgery Practitioners (Physicians, Fellows, Residents, Nurse Practitioners)
- Physical Therapists / Occupational Therapists (PT/OT)
- Perioperative Nurses

Target Population

Inclusion Criteria

- Otherwise healthy children ≥ 8 years of age

Exclusion Criteria

- Child with:
 - Medial epicondyle fracture with distal humerus fracture
 - Comorbidities, social or behavioral concerns for which atypical therapy plan is anticipated

Practice Recommendations

Practice recommendations are based on consensus among providers with knowledge of the existing evidence and expertise in the surgical and post-operative management of patients with medial epicondyle fractures.

Additional Questions Posed by the Clinical Pathway Committee

No clinical questions were posed for this review.

Value Implications

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

- Decreased unwarranted variation in care
- Decreased frequency of complications associated with delayed follow-up

Organizational Barriers and Facilitators

Potential Barriers

- Variability of acceptable level of risk among providers

Potential Facilitators

- Collaborative engagement across care continuum settings during clinical pathway development

Order Sets

- No order sets are associated with this pathway

** These products do not establish a standard of care to be followed in every case. It is recognized that each case is different, and those individuals involved in providing health care are expected to use their judgment in determining what is in the best interests of the patient based on the circumstances existing at the time. It is impossible to anticipate all possible situations that may exist and to prepare guidelines for each. Accordingly, these products should guide care with the understanding that departures from them may be required at times.*



Clinical Pathway Preparation

This pathway was prepared by the Evidence Based Practice (EBP) Department in collaboration with content experts from the departments of Orthopaedic Surgery and Sports Physical Therapy at Children's Mercy. The development of this pathway supports the Quality Excellence and Safety Division's initiative to promote care standardization that is evidenced by measured outcomes. If a conflict of interest is identified, the conflict will be disclosed next to the committee member's name.

Clinical Pathway Committee Members and Representation

- Kevin Latz, MD, MBA | Orthopaedic Surgery | Co-Committee Chair
- Lisa Berglund, MD | Orthopaedic Surgery | Committee Member
- Ryan Koehler, MD, MS | Orthopaedic Surgery | Committee Member
- Jason Yoder, PT, DPT | Sports Physical Therapy | Co-Committee Chair
- Andrew Melanson, PT, DPT, CSCS | Sports Physical Therapy | Committee Member

EBP Committee Members

- Todd Glenski, MD, MSHA, FASA | Anesthesiology, Evidence Based Practice
- Kori Hess, PharmD | Evidence Based Practice

Clinical Pathway Development Funding

The development of this clinical pathway was underwritten by the following departments/divisions: Orthopaedic Surgery, Sports Medicine PT/OT, and Evidence Based Practice.

Conflict of Interest

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

Approval Process

- This clinical pathway was reviewed and approved by the content experts from related departments/divisions, and the EBP Department.
- Pathways are reviewed and updated as necessary every 3 years within the EBP Department at CM. Content expert teams are involved with every review and update.

Review Requested

Department/Unit	Date Obtained
Orthopaedic Surgery	March 2024
Physical and Occupational Therapy	March 2024
Evidence Based Practice	March 2024

Version History

Date	Comments
March 2024	Version one (developed new algorithm and synopsis)
March 2026	Version two (this was not a full revision; edits included minor formatting changes, removal of policies, and removal of references to CMKC)

Date for Next Review

- March 2027

Implementation & Follow-Up

- Once approved, the pathway was presented to appropriate care teams and implemented. Care measurements will be assessed and shared with appropriate care teams to determine if changes need to occur.
- Additional announcements were made via email and relevant huddles.
- Metrics will be assessed and shared with appropriate care teams to determine if changes need to occur.

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Disclaimer

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

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References

- Boyd, A. S., Benjamin, H. J., & Asplund, C. (2009). Splints and casts: Indications and methods. *Am Fam Physician*, 80(5), 491-499.
- Hughes, M., Dua, K., O'Hara, N. N., Brighton, B. K., Ganley, T. J., Hennrikus, W. L., Herman, M. J., Hyman, J. E., Lawrence, J. T., Mehlman, C. T., Noonan, K. J., Otsuka, N. Y., Schwend, R. M., Shrader, M. W., Smith, B. G., Sponseller, P. D., & Abzug, J. M. (2019). Variation among pediatric orthopaedic surgeons when treating medial epicondyle fractures. *J Pediatr Orthop*, 39(8), e592-e596.
<https://doi.org/10.1097/bpo.0000000000001092>
- Pathy, R., & Dodwell, E. R. (2015). Medial epicondyle fractures in children. *Curr Opin Pediatr*, 27(1), 58-66.
<https://doi.org/10.1097/mop.0000000000000181>
- Pezzutti, D., Lin, J. S., Singh, S., Rowan, M., & Balch Samora, J. (2020). Pediatric medial epicondyle fracture management: A systematic review. *J Pediatr Orthop*, 40(8), e697-e702.
<https://doi.org/10.1097/bpo.0000000000001532>

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