



## **Knee Manipulation Under Anesthesia**

*Clinical Guidelines for Medical Necessity Review*

**Version:** 1.0  
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## Guideline Information:

**Specialty Area:** Diseases & Disorders of the Musculoskeletal System (M00-M99)

**Guideline Name:** Knee Manipulation Under Anesthesia - Single Service

**Literature review current through:** 11/3/2023

**Document last updated:** 11/3/2023

**Type:**  Adult (18+ yo) |  Pediatric (0-17yo)

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# Medical Necessity Criteria

## **Service: Knee Manipulation Under Anesthesia**

### General Guidelines

- **Units, Frequency, & Duration:** When medical necessity is met based on described clinical criteria, and exclusionary criteria are absent, knee manipulation under anesthesia (MUA) may be approved as a single service.
- **Criteria for Subsequent Requests:** Repeat knee MUA is generally indication for patients that do not reach more than 90 degrees of flexion within six to 12 weeks following a previous knee MUA.<sup>1-2</sup>
- **Recommended Clinical Approach:** Knee MUA is a non-invasive technique utilized to treat scar tissue and stiffness following surgery (e.g., total knee arthroplasty), fracture, or anterior cruciate ligament repair. The procedure is indicated when there is less than a 90 degree range of motion. To break arthrofibrosis, gentle pressure is applied while the patient is sedated.<sup>1</sup> The manipulation under anesthesia, if necessary, should be performed ideally within 3 months of the initial total knee arthroplasty or surgical procedure or injury if medically appropriate.
- **Exclusions:** Cancer (including bone) or infection.

### Medical Necessity Criteria

#### Indications

→ **Knee Manipulation** is considered appropriate if **ANY** of the following is **TRUE**:

- ◆ Arthrofibrosis following **ANY** of the following:<sup>3</sup>
  - Total knee arthroplasty; **OR**
  - Knee surgery (ACL repair or other procedure); **OR**
  - Fracture; **OR**
- ◆ Failure of conservative management for greater than 3 months, including **ALL** of the following:
  - Physical therapy including self-directed or home exercise program; **AND**
  - Oral steroid or anti-inflammatory medication; **AND**
  - **ANY** of the following:
    - Corticosteroid injection if medically appropriate; **OR**
    - Corticosteroid injection is contraindicated

## Non-Indications

→ **Knee Manipulation** is not considered appropriate if **ANY** of the following are **TRUE**:

- ◆ Bone cancer; **OR**
- ◆ Radiographic osteopenia<sup>4</sup>; **OR**
- ◆ Local infection.

## Level of Care Criteria

Inpatient or Outpatient.

## Procedure Codes (HCPCS/CPT)

HCPCS/CPT Code	Code Description
27570	Manipulation of knee joint under general anesthesia (includes application of traction or other fixation devices)

# Medical Evidence

Fackler et al. (2022) reviewed eight studies (240 patients) to assess the outcomes of arthroscopic lysis of adhesions (LOA) with knee manipulation under anesthesia (MUA). This includes knee arthrofibrosis. The time between index surgery and the combined LOA with MUA was 8.4 months. An improvement in arc of motion was 41.6 degrees following the procedure. The authors conclude that the combined LOA and MUA is safe and effective.<sup>3</sup>

Colacchio et al. (2019) reviewed 142 cases of knee MUA that were performed following total knee arthroplasty (TKA). Evidence shows positive outcomes including range of motion (average increase of 11 degrees). Timing of the procedures range from three months to one year. Overall, the authors conclude that knee MUA may help patients avoid revision TKA.<sup>2</sup>

## National and Professional Organization

The **American Academy of Orthopaedic Surgeons (AAOS)** published a clinical practice guideline on the *Surgical Management of Osteoarthritis of the Knee*. The guideline includes evidence in support of MUA of the knee.<sup>5</sup>

## References

1. Baum KS, Luo TD, Comadoll S, et al. Alternative technique for knee manipulation under anesthesia. *Arthroplast Today*. 2017 Dec 6;4(4):452-453. doi: 10.1016/j.artd.2017.07.006. PMID: 30569008; PMCID: PMC6287960.
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3. Fitzsimmons SE, Vazquez EA, Bronson MJ. How to treat the stiff total knee arthroplasty? A systematic review. *Clin Orthop Relat Res*. 2010 Apr;468(4):1096-106. doi: 10.1007/s11999-010-1230-y. PMID: 20087698; PMCID: PMC2835585.
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5. Weber KL, Jevsevar DS, McGrory BJ. AAOS clinical practice guideline: Surgical management of osteoarthritis of the knee - evidence-based guideline. *J Am Acad Orthop Surg*. 2016 Aug;24(8):e94-6. doi: 10.5435/JAAOS-D-16-00160. PMID: 27355287.

# Clinical Guideline Revision History/Information

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## Review History
