Cohere Medical Policy - Knee Manipulation Under Anesthesia (MUA)

Clinical Guidelines for Medical Necessity Review

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Other Notices:

Guideline Information:

Specialty Area: Disorders of the Musculoskeletal System
Guideline Name: Cohere Medical Policy - Knee Manipulation Under Anesthesia (MUA)

Date of last literature review: 12/5/2024
Document last updated: 1/8/2025
Type: [**X**] Adult (18+ yo) | [**X**] Pediatric (0-17 yo)

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Medical Necessity Criteria

Service: Knee Manipulation Under Anesthesia (MUA)

Recommended Clinical Approach

Knee manipulation under anesthesia (MUA) is a non-invasive technique utilized to treat scar tissue and stiffness (arthrofibrosis) following surgery (such as total knee arthroplasty[TKA]), fracture, or anterior cruciate ligament repair. The procedure is indicated when there is less than a 90-degree arc of motion. To break up the scar tissue and restore motion, gentle pressure is applied to the leg while the patient is under sedation.[1] When medically appropriate, MUA is ideally performed within 3 months of the initial TKA or related surgical procedure or injury.

Medical Necessity Criteria

Indications

- ➔ **Knee manipulation under anesthesia (MUA)** is considered appropriate if **ALL** of the following are **TRUE**[2]:
  - ◆ Arthrofibrosis occurs after **ANY** of the following[3,4]:
    - Total knee arthroplasty (TKA); **OR**
    - Knee surgery (ACL repair or other procedure); **OR**
    - Fracture; **OR**
    - Acute knee injury; **AND**
  - ◆ Failure of conservative management for greater than 6 weeks, including **ALL** of the following:
    - Anti-inflammatory medications, analgesics, or prescription medications (e.g., oral steroids, narcotics, neuropathic pain medications) if not contraindicated; **AND**
    - Physical therapy or physician-directed home exercise program; **AND**
    - **ANY** of the following:
      - Corticosteroid injection if medically appropriate; **OR**
      - Corticosteroid injection is contraindicated.

Non-Indications

➔ **Knee manipulation under anesthesia (MUA)** is not considered appropriate if **ANY** of the following is **TRUE**:

- Bone cancer; **OR**
- Radiographic severe osteopenia[5]; **OR**
- Local infection.

Level of Care Criteria

Inpatient or Outpatient

Procedure Codes (CPT/HCPCS)

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

Medical Evidence

Akhtar et al. (2024) conducted a meta-analysis and systematic review of the clinical outcomes of early manipulation under anesthesia (MUA) compared to delayed MUA for patients following total knee arthroplasty (TKA). While the procedure is often utilized, established guidelines do not exist regarding the timing of MUA following TKA; MUA beyond 3 months is generally not recommended. Fourteen studies were included, which analyzed 13,445 knees - 72.1% had early MUA versus 27.8% had delayed MUA. Ten studies 10 defined early MUA as occurring within 3 months of the initial TKA. Knee flexion pre-MUA and post-MUA for early and delayed groups was 71.3°/77.9° and 103.0°/96.1°, respectively. The delayed group reported a higher pre-MUA knee flexion however, both groups reported similar post-MUA flexion. The mean gain in knee flexion was 32.0° (early group) and 19.2° (delayed group). Surgical complications and revision TKA were higher in the delayed group. Overall, the early group reported a mean gain in flexion that was approximately 50% as compared to the delayed group.[6]

Abdel et al. (2024) performed a multicenter randomized clinical trial (RCT) to examine MUA with adjuvant anti-inflammatory medications and physical therapy to improve range of motion (ROM) outcomes. The 124 patients (124 TKAs) developed stiffness following TKA. ROM was less than 90° at postoperative follow-up (4 to 12 weeks after TKA); additional follow-up occurred at 1 year post-TKA. The control group had MUA and physical therapy - the treatment group underwent MUA, physical therapy, and received 1 dose of intravenous dexamethasone (8 mg) and 14 days of oral celecoxib (200 mg) prior to MUA. ROM improved a mean of 46° (from 72 to 118° immediately after MUA. At 6-week and 1-year follow-up, patients from the treatment and control groups reported similar ROM. The authors concluded that additional research is needed regarding anti-inflammatories with respect to dose, duration, and route of administration. (ClinicalTrials.gov NCT02739035).[7]

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 the arc of motion was 41.6 degrees following the procedure. The authors conclude that the combined LOA and MUA is safe and effective.[8]

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). The timing of the procedures ranged from three months to one year. Overall, the authors conclude that knee MUA may help patients avoid revision TKA.[9]

References

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Clinical Guideline Revision History/Information

Original Date: November 3, 2023		
Review History		
Version 2	1/9/2025	• Annual review. • Updated timeframe for the duration of required conservative management from 3 months to 6 weeks. • Reviewed boolean logic. • Literature review - Medical Evidence section updated (including references).