Cohere Medicare Advantage Policy - Knee Manipulation Under Anesthesia (MUA)

Clinical Guidelines for Medical Necessity Review

Version: 1
Revision Date: March 20, 2025

Important Notices

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Other Notices:

Guideline Information:

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

Date of last literature review: 3/17/2025
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Type: [**X**] Adult (18+ yo) | [**X**] Pediatric (0-17 yo)

Table of Contents

Medical Necessity Criteria

Service: Knee Manipulation Under Anesthesia (MUA)

Benefit Category

None.

Related CMS Documents

Please refer to the CMS Medicare Coverage Database for the most current applicable CMS National Coverage.

- There are no applicable NCDs and/or LCDs for 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. Scar tissue is broken up to restore motion by applying gentle pressure to the leg while the patient is sedated.[1] The timing of the procedure is essential and an indicator of success.[2-3] When medically appropriate, MUA is ideally performed within 3 months of the initial TKA or related surgical procedure or injury.[2]

Evaluation of Clinical Harms and Benefits

Cohere Health uses the criteria below to ensure consistency in reviewing the conditions to be met for coverage of knee manipulation under anesthesia (MUA). This process helps prevent incorrect denials and inappropriate approvals of medically necessary services. Specifically, limiting incorrect approvals reduces the risks associated with unnecessary procedures, such as complications from surgery, infections, and prolonged recovery times.

The potential clinical harms of using these criteria may include:

- Delayed treatment. Akhtar et al (2024) noted a high risk of revision TKA when knee MUA was delayed. Patients who underwent MUA between 0 to 3 months had a lower rate of revision TKA compared to patients who underwent MUA between 6 and 12 months.[3]
- Continued knee stiffness. Range of motion (ROM) will not improve without treatment, which may include knee MUA. Scar tissue is also a concern following MUA.[2,4]
- Increased healthcare costs and complications from the inappropriate use of emergency services and additional treatments.

The clinical benefits of using these criteria include:

- Improved patient outcomes through timely and appropriate access to the procedure. Knee MUA may provide better patient outcomes, including increased ROM and pain management.[2] Patients with early MUA demonstrated a mean gain of flexion almost double that of patients who reported later MUA. Delayed MUA also resulted in a high-risk of complications, including revision TKA.[3]
- Reduction in complications and adverse effects from unnecessary procedures. Proper use of diagnostic criteria can prevent unnecessary surgeries and associated risks.
- Enhanced overall patient satisfaction and healthcare experience.

This policy includes provisions for expedited reviews and flexibility in urgent cases to mitigate risks of delayed access. Evidence-based criteria are employed to prevent inappropriate denials, ensuring that patients receive medically necessary care. The criteria aim to balance the need for effective treatment with the minimization of potential harms, providing numerous clinical benefits in helping avoid unnecessary complications from inappropriate care.

In addition, the use of these criteria is likely to decrease inappropriate denials by creating a consistent set of review criteria, thereby supporting optimal patient outcomes and efficient healthcare utilization.

Medical Necessity Criteria

Indications

- ➔ **Knee manipulation under anesthesia (MUA)** is considered appropriate if **ALL** of the following are **TRUE**:
  - ◆ Arthrofibrosis occurs after **ANY** of the following[5-7]:
    - Total knee arthroplasty (TKA); **OR**
    - Knee surgery (ACL repair or other procedure); **OR**
    - Fracture; **OR**
    - Acute knee injury; **AND**
  - ◆ Failure of conservative management (e.g., rest, analgesics, physical therapy, oral or injectable corticosteroids) must be documented. Documentation should include detailed evidence of the measures taken, rather than solely a physician's statement.

Non-Indications

- ➔ **Knee manipulation under anesthesia (MUA)** is not considered appropriate if **ANY** of the following is **TRUE**:
  - ◆ Bone cancer; **OR**
  - ◆ Radiographic severe osteoporosis[8]; **OR**
  - ◆ Unable to comply with postoperative rehabilitation; **OR**
  - ◆ Local infection.

Level of Care Criteria

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)

Disclaimer: G, S, I, and N Codes are non-covered per CMS guidelines due to their experimental or investigational nature.

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 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, while 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% compared to the delayed group.[3]

Abdel et al (2024) performed a multicenter randomized clinical trial (RCT) to examine the efficacy of knee MUA with adjuvant anti-inflammatory medications and physical therapy to improve range of motion (ROM). 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 1 year post-TKA. The control group had MUA and physical therapy - the treatment group underwent MUA and physical therapy and received 1 dose of intravenous dexamethasone (8 mg) and oral celecoxib (200 mg) for 14 days before 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 should focus on anti-inflammatories concerning dose, duration, and route of administration. (ClinicalTrials.gov NCT02739035).[9]

Fackler et al (2022) reviewed eight studies (240 patients) to assess the outcomes of arthroscopic lysis of adhesions (LOA) with knee 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.[10]

Colacchio et al (2019) reviewed 142 cases of knee MUA that were performed following TKA. Evidence shows positive outcomes, including ROM (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.[11]

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