Shoulder Manipulation Under Anesthesia (MUA) - Single Service

Clinical Guidelines for Medical Necessity Review

Version: 1
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Important Notices

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Guideline Information:

Specialty Area: Diseases & Disorders of the Musculoskeletal System
Guideline Name: Shoulder Manipulation Under Anesthesia

Literature review current through: 4/24/2024
Document last updated: 5/10/2024
Type: [**X**] Adult (18+ yo) | [_] Pediatric (0-17yo)

Table of Contents

Medical Necessity Criteria

Service: Shoulder Manipulation Under Anesthesia (MUA)

General Guidelines

- **Units, Frequency, & Duration**: None.
- **Criteria for Subsequent Requests:** None.
- **Recommended Clinical Approach:** Diabetic patients should have an acceptable glucose level on the day of surgery and a reasonable HgbA1C before surgery. For all patient populations, there is no clear difference in outcomes between capsular release and manipulation under anesthesia (MUA). The medical literature is inconsistent (and published guidelines do not provide clear indications and appropriate timeframes for intervention following conservative management failure.[1]
- **Exclusions:** None.

Medical Necessity Criteria

Indications

➔ **Shoulder Manipulation Under Anesthesia (MUA)** is considered appropriate if **ALL** of the following are **TRUE**[1-2]:

- ◆ The patient has had clinical signs and symptoms of adhesive capsulitis (frozen shoulder) for at least 3 months; **AND**
- ◆ Failure of conservative management for greater than 6 weeks, including **ALL** of the following:
  - Oral steroids, anti-inflammatory medications, or analgesics; **AND**
  - Physical therapy; **AND**
  - **ANY** of the following:
    - Corticosteroid injection if medically appropriate; **OR**
    - Corticosteroid injection is contraindicated; **AND**
- ◆ Documented external rotation is less than 50% compared to the contralateral shoulder[3]; **AND**
- ◆ Imaging findings do not identify other shoulder pathology as the primary source of the symptoms (e.g. severe arthritis).

Non-Indications

➔ **Shoulder Manipulation Under Anesthesia (MUA)** is not considered appropriate if **ANY** of the following is **TRUE**:

- ◆ Severe osteoporosis.

Level of Care Criteria

Outpatient

Procedure Codes (CPT/HCPCS)

CPT/HCPCS Code	Code Description
23700	Manipulation under anesthesia, shoulder joint, including application of fixation apparatus (dislocation excluded)

Medical Evidence

Kraal et al. (2023) conducted a randomized control trial (RCT) to assess the effectiveness of Manipulation Under Anesthesia (MUA) followed by physiotherapy (PT) compared to PT alone in treating stage 2 Frozen Shoulder (FS). The trial involved 82 patients - both groups showed significant improvement in outcomes at the one-year follow-up, including Shoulder Pain and Disability Index (SPADI) scores, Oxford Shoulder Score, pain, range of motion (ROM), and quality of life. However, MUA improved SPADI scores faster at three months and showed significantly better increases in anteflexion and abduction ROM throughout the follow-up period. No significant complications were reported in either group. The authors concluded that MUA can be considered safe and leads to a quicker recovery of ROM and improved functional outcomes compared to PT alone in the short term, but after one year, the results of MUA are comparable to PT, with slightly better ROM scores for MUA.[2]

Fairclough et al. (2023) performed a retrospective analysis to examine the long-term outcomes of MUA as a treatment for frozen shoulder (FS). The study included 398 shoulders treated between 1999 and 2010, with complete data available for 240 shoulders. The findings indicate that at a mean follow-up of 13.2 years, the majority (71.3%) had no symptoms, 16.6% had minor, and 12.1% had significant symptoms. Only a small percentage experienced a recurrence of FS or required repeat MUA. Additionally, the development of other shoulder problems, such as rotator cuff pathology or shoulder osteoarthritis, was relatively low and comparable to that of the general population. Overall, research shows that MUA for FS yields favorable long-term outcomes, with few instances of recurrence and no significant increase in the development of other shoulder issues.[4]

Brealey et al. (2020) conducted a multicenter, open-label, three-arm, randomized trial to compare the effectiveness and cost-effectiveness of three treatments for frozen shoulder. Treatments included early structured physiotherapy with a steroid injection, MUA with a steroid injection, and arthroscopic capsular release followed by manipulation. The primary outcome measured was the Oxford Shoulder Score at 12 months post-randomization. The study found that arthroscopic capsular release resulted in a statistically significant improvement in shoulder function compared to MUA or early structured physiotherapy. However, these differences were not deemed clinically significant. Serious adverse events were rare but more common in participants who underwent surgery. Qualitative data suggested that patients preferred quicker resolution of their

shoulder problems. However, none of the interventions emerged as superior, with early structured physiotherapy being accessible and low-cost, MUA being the most cost-effective, and arthroscopic capsular release carrying higher risks and costs.[5]

References

1. Redler LH, Dennis ER. Treatment of adhesive capsulitis of the shoulder. *J Am Acad Orthop Surg*. 2019 Jun 15;27(12):e544-e554. doi: 10.5435/JAAOS-D-17-00606. PMID: 30632986.
2. Kraal T, de Wit Y, The B, et al. Improved range of motion after manipulation under anesthesia versus physiotherapy for stage two frozen shoulder: A randomized controlled trial. *JSES Int*. 2023 Dec 6;8(2):293-298. doi: 10.1016/j.jseint.2023.11.004. PMID: 38464443; PMCID: PMC10920131.
3. Kraal T, Beimers L, The B, Sierevelt I, van den Bekerom M, Eygendaal D. Manipulation under anaesthesia for frozen shoulders: outdated technique or well-established quick fix? EFORT Open Rev. 2019 Mar 19;4(3):98-109. doi: 10.1302/2058-5241.4.180044. PMID: 30993011; PMCID: PMC6440298.
4. Fairclough A, Waters C, Davies T, et al. Long-term outcomes following manipulation under anaesthetic for patients with primary and secondary frozen shoulder. *Shoulder Elbow*. 2023 Apr;15(2):173-180. doi: 10.1177/17585732211070007. PMID: 37035609; PMCID: PMC10078811.
5. Brealey S, Northgraves M, Kottam L, et al. Surgical treatments compared with early structured physiotherapy in secondary care for adults with primary frozen shoulder: The UK FROST three-arm RCT. *Health Technol Assess*. 2020 Dec;24(71):1-162. doi: 10.3310/hta24710. PMID: 33292924; PMCID: PMC7750869.

Clinical Guideline Revision History/Information

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Review History	