# DRAFT

# 8.01.40 – Manipulation Under Anesthesia for Treatment of Chronic Spinal or Pelvic Pain



## Description

Manipulation under anesthesia (MUA) consists of passive movements and stretching of joints performed while the patient receives anesthesia (usually general anesthesia or moderate sedation). It has been used in various forms since the 1930s. Complications from general anesthesia and forceful long-lever, high-amplitude nonspecific manipulation procedures resulted in decreased use of the procedure in favor of other therapies. MUA was modified and revived in the 1990s. This is attributed to increased interest in spinal manipulative therapy and the advent of safer, shorter-acting anesthesia agents used for conscious sedation.

MUA is described as follows: After sedation is achieved, a series of mobilization, stretching, and traction procedures to the spine and lower extremities is performed and may include passive stretching of the gluteal and hamstring muscles with straight leg raise, hip capsule stretching and mobilization, lumbosacral traction, and stretching of the lateral abdominal and paraspinal muscles. After the stretching and traction procedures, spinal manipulative therapy (SMT) is delivered with high-velocity, short-amplitude thrust applied to a spinous process by hand while the upper torso and lower extremities are stabilized. SMT may also be applied to the thoraco-lumbar or cervical area if considered necessary to address the low back pain. The MUA takes 15-20 minutes and after recovery from anesthesia the patient is discharged with instructions to remain active and use heat or ice for short-term analgesic control. Some practitioners recommend performing the procedure on 3 consecutive days for best results. Post MUA care may include 4-8 weeks of active rehabilitation with manual therapy including SMT and other modalities.

Manipulation is intended to break up fibrous and scar tissue to relieve pain and improve range of motion. Anesthesia or sedation is used to reduce pain, spasm and reflex muscle guarding that may interfere with the delivery of therapies and to allow the therapist to break up joint and soft-tissue adhesions with less force than would be required to overcome patient resistance or apprehension. MUA is generally performed with an anesthesiologist in attendance. Manipulation has also been performed after injection of local anesthetic into lumbar zygapophyseal and/or sacroiliac joints under fluoroscopic guidance (MUJA) and after epidural injection of corticosteroid and local anesthetic (MUESI). (1)

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## Policy

Spinal manipulation (and manipulation of other joints, e.g., hip joint, performed during the procedure) under anesthesia, spinal manipulation under joint anesthesia, and spinal manipulation after epidural anesthesia and corticosteroid injection are considered **investigational** for treatment of chronic spinal (cranial, cervical, thoracic, lumbar) pain and chronic sacroiliac and pelvic pain.

Note: This policy statement does not address manipulation under anesthesia for fractures, completely dislocated joints, adhesive capsulitis (e.g., frozen shoulder), and/or fibrosis of a joint that may occur following total joint replacement.

## Policy Guidelines

CPT code 22505 specifically identifies manipulation of the spine under anesthesia:

22505: Manipulation of spine requiring anesthesia, any region.

The anesthesia administration would be coded using:

00640: Anesthesia for manipulation of the spine or for closed procedures on the cervical, thoracic or lumbar spine.

## Rationale

Randomized, placebo-controlled trials are considered particularly important when assessing treatment of low back pain, to control not only for the expected placebo effect, but to also control for the variable natural history of low back pain, which may resolve with conservative treatment alone. Dagenais et al. in a 2008 comprehensive review of the history of MUA and the published experimental literature, note that there is no research to confirm theories about a mechanism of action for these procedures and that the

only randomized, controlled trial identified was published in 1971 when the techniques for spinal manipulation were different from those used at the present time. (1)

West et al. report on a series of 177 patients with pain arising from the cranial, cervical, thoracic, and lumbar spine, as well as the sacroiliac and pelvic regions who had failed conservative and surgical treatment. Patients underwent 3 sequential manipulations with intravenous sedation followed by 4-6 weeks of spinal manipulation and therapeutic modalities; all had 6 months follow-up. On average, visual analog ratings improved by 62% in patients with cervical pain and 60% in patients with lumbar pain. (2) Kohlbeck and colleagues carried out a prospective cohort study of 68 chronic low-back pain patients. All patients received an initial 4-to 6-week trial of spinal manipulation therapy (SMT), after which 42 patients received supplemental intervention with MUA and the remaining 26 patients continued with SMT. Low back pain and disability measures favored the MUA group over the SMT-only group at 3 months (adjusted mean difference of 4.4 points on a 100-point scale, 95% confidence interval [CI] -2.2 to 11.0). This difference attenuated at 1 year (adjusted mean difference of 0.3 points, 95% CI -8.6 to 9.2). The relative odds of experiencing a 10-point improvement in pain and disability favored the MUA group at 3 months (odds ratio 4.1, 95% CI 1.3-13.6) and at 1 year (odds ratio 1.9, 95% CI 0.6-6.5. (3) Palmieri and Smoyak evaluated the efficacy of using self-reported questionnaires to study MUA using a convenience sample of 87 subjects in two ambulatory surgery centers and two chiropractic clinics. Thirty-eight patients with low back pain received MUA and 49 received traditional chiropractic treatment. A numeric pain scale and Roland-Morris Questionnaire were administered at baseline, after the procedure, and 4 weeks later. Average pain scale scores in the MUA group decreased by 50% vs. 26% in the traditional treatment group; and Roland-Morris Questionnaire scores decreased by 51% and 38%, respectively. The authors conclude that the study supports the need for large-scale studies on MUA and that the assessments are easily administered and dependable. (4)

Dougherty et al. retrospectively reviewed outcomes of 20 cervical and 60 lumbar radiculopathy patients who underwent spinal manipulation post-epidural injection (MUESI). After fluoroscopically or CT guided epidural injection of lidocaine and Depo-Medrol flexion distraction mobilization and then high-velocity, low-amplitude spinal manipulation were delivered to the affected spinal regions. Outcome criteria were empirically defined as significant improvement, temporary improvement, or no change. Among lumbar spine patients, 22 (37%) noted significant improvement, 25 (42%) reported temporary improvement, and 13 (22%) no change. Patients receiving cervical epidural injection reported the following: 10 (50%)

significant improvement, 6 (30%) temporary relief, and 4 (20%), no change. The authors note that this is the first report of the use of spinal manipulation post-epidural injection in the cervical spine. (5)

The one study of manipulation under joint anesthesia/analgesia (MUJA) found in the literature search had only 4 subjects. (6) Michaelsen noted in a paper published in 2000 that MUJA should be viewed with "guarded optimism because its success is based solely on anecdotal experience". (7)

Scientific evidence regarding spinal manipulation under anesthesia, spinal manipulation with joint anesthesia, and spinal manipulation after epidural anesthesia and corticosteroid injection is limited to observational case series and nonrandomized comparative studies. These data are insufficient to determine whether MUA improves health outcomes. Thus, it is considered investigational.

Medicare has not published a national coverage decision related to spinal MUA, MUJA, or MUESI.

References


1. Degenais S, Mayer j, Wooley JR et al. Evidence-informed management of chronic low back pain with medicine-assisted manipulation. Spine J 2008; 8(1):142-9.

2. West DT, Mathews RS, Miller MR et al. Effective management of spinal pain in one hundred seventy-seven patients evaluated for manipulation under anesthesia. J Manipulative Physiol Ther 1999; 22(5):299-308.

3. Kohlbeck FJ, Haldeman S, Hurwitz EL et al. Supplemental care with medication-assisted manipulation versus spinal manipulation therapy alone for patients with chronic low back pain. J Manipulative Physiol Ther 2005; 28(4):245-52.

4. Palmieri NF, Smoyak S. Chronic low back pain: a study of the effects of manipulation under anesthesia. J Manipulative Physiol Ther 2002; 25(8):E8-E17.

5. Dougherty P, Bajwa S, Burkke J et al. Spinal manipulation postepidural injection for lumbar and cervical radiculopathy: a retrospective case series. J Manipulative Physiol Ther 2004; 27(7):449-56.

6. Dreyfuss P, Michaelsen M, Horne M. MUJA: manipulation under joint anesthesia/analgesia: a treatment approach for recalcitrant low back pain of synovial joint origin. J Manipulative Physiol Ther 1995; 18(8):537-46.

7. Michaelson MR. Manipulation under joint anesthesia/analgesia: a proposed interdisciplinary treatment approach for recalcitrant spinal axis pain of synovial joint origin. J Manipulative Physiol Ther 2000; 23(2):127-9.


| Codes | Number | Description |
|---|---|---|
| CPT | | See policy guidelines |
| ICD-9 Diagnosis | | Investigational for all diagnoses |
| Type of Service | Therapy | |
| Place of Service | Outpatient Surgery | |

| Policy History | | |
|---|---|---|
| Date | Action | Reason |
| 05/15/02 | Add policy to Therapy section | New policy |
| 10/9/03 | Replace policy | Policy updated; no change in policy statement; additional ICD-9 coding information added |
| 03/15/05 | Replace policy | Policy updated with literature search; no change in policy statement |

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|---|---|---|
| 03/7/06 | Replace policy | Policy updated with literature search; no change in policy statement. Policy guidelines section on anesthesia coding updated |
| 1/10/08 | Replace policy | Policy updated with literature search; no change in policy statement. Policy no longer scheduled for review |
| | Replace policy | Policy completely rewritten. Scope of policy expanded to include spinal manipulation for additional indications and under various types of anesthesia - all considered investigational. |