Spinal manipulation done with or without manipulation of other joints (e.g., hip joint at the same time) with the patient under anesthesia; spinal manipulation under local (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.

Spinal manipulation or manipulation of other joints under anesthesia involving serial treatment sessions is considered investigational (see Policy Guidelines).

Manipulation under anesthesia involving multiple body joints is considered investigational for the treatment of chronic pain.

Policy Guidelines

This policy 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, including when more than one session may be needed to treat one of the above conditions for a single joint.

Manipulation under anesthesia of the spine may include:

- Spinal manipulation under anesthesia (SMUA) (e.g., under general anesthesia, or regional anesthesia [epidural, spinal or nerve blocks], or conscious sedation)
- Spinal manipulation under joint anesthesia (MUJA) (e.g., after an injection of a local anesthetic into lumbar facet joints or sacroiliac joints under fluoroscopic guidance)
- Spinal manipulation under epidural and corticosteroid injection (MUESI) (e.g., after an epidural injection of corticosteroid and local anesthetic into the facet or sacroiliac joints)

Coding

The following CPT code specifically identifies manipulation of the spine under anesthesia:

- 22505: Manipulation of spine requiring anesthesia, any region

Anesthesia administration for spinal manipulation would be coded using the following CPT code:

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

Manipulation under anesthesia for various joints would be coded using the following CPT codes:

- 21073: Manipulation of temporomandibular joint(s) (TMJ), therapeutic, requiring an anesthesia service (ie, general or monitored anesthesia care)
- 23700: Manipulation under anesthesia, shoulder joint, including application of fixation apparatus (dislocation excluded)
- 27275: Manipulation, hip joint, requiring general anesthesia
- 27570: Manipulation of knee joint under general anesthesia (includes application of traction or other fixation devices)
- 27860: Manipulation of ankle under general anesthesia (includes application of traction or other fixation apparatus)
Description

Manipulation under anesthesia (MUA) consists of a series of mobilization, stretching, and traction procedures performed while the patient is sedated (usually with general anesthesia or moderate sedation).

Related Policies

- N/A

Benefit Application

Benefit determinations should be based in all cases on the applicable contract language. To the extent there are any conflicts between these guidelines and the contract language, the contract language will control. Please refer to the member's contract benefits in effect at the time of service to determine coverage or non-coverage of these services as it applies to an individual member.

Some state or federal mandates (e.g., Federal Employee Program [FEP]) prohibits plans from denying Food and Drug Administration (FDA)-approved technologies as investigational. In these instances, plans may have to consider the coverage eligibility of FDA-approved technologies on the basis of medical necessity alone.

Regulatory Status

Manipulative procedures are not subject to regulation by the U.S. Food and Drug Administration.

Rationale

Background

Manipulation under Anesthesia

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. Manipulation under anesthesia (MUA) is generally performed with an anesthesiologist in attendance. MUA is an accepted treatment for isolated joint conditions, such as arthrofibrosis of the knee and adhesive capsulitis. It is also used to reduce fractures (e.g., vertebral, long bones) and dislocations.

MUA has been proposed as a treatment modality for acute and chronic pain conditions, particularly of the spine, when standard care, including manipulation, and other conservative measures have failed. MUA of the spine has been used in various forms since the 1930s. Complications from general anesthesia and forceful long-lever, high-amplitude nonspecific manipulation procedures led to decreased use of the procedure in favor of other therapies. MUA was modified and revived in the 1990s. This revival has been attributed to increased interest in spinal manipulative therapy and the advent of safer, shorter-acting anesthesia agents used for conscious sedation.

Manipulation under Anesthesia Administration

MUA of the spine is described as follows: after sedation, a series of mobilization, stretching, and traction procedures to the spine and lower extremities are 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 is delivered with high-velocity, short-amplitude thrust applied to a spinous process by hand, while the upper torso and lower extremities are stabilized. Spinal manipulative therapy may also be applied to the thoracolumbar or cervical area when necessary to address low back pain.

MUA takes 15 to 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 or more consecutive days for best results. Care after MUA may include 4 to 8 weeks of active rehabilitation with manual therapy, including spinal manipulative therapy and other modalities. Manipulation has also been performed after injection of local anesthetic into lumbar zygapophyseal (facet) and/or sacroiliac joints under fluoroscopic guidance (manipulation under joint anesthesia/analgesia) and after epidural injection of corticosteroid and local anesthetic (manipulation postepidural injection). Spinal MUA has also been combined with other joint manipulation during multiple sessions. Together, these therapies may be referred to as medicine-assisted manipulation.

This review does not address MUA for fractures, completely dislocated joints, adhesive capsulitis (e.g., frozen shoulder), and/or fibrosis of a joint that may occur following total joint replacement.

Literature Review
Evidence reviews assess the clinical evidence to determine whether the use of a technology improves the net health outcome. Broadly defined, health outcomes are length of life, quality of life, and ability to function—including benefits and harms. Every clinical condition has specific outcomes that are important to patients and to managing the course of that condition. Validated outcome measures are necessary to ascertain whether a condition improves or worsens; and whether the magnitude of that change is clinically significant. The net health outcome is a balance of benefits and harms.

To assess whether the evidence is sufficient to draw conclusions about the net health outcome of technology, two domains are examined: the relevance and the quality and credibility. To be relevant, studies must represent one or more intended clinical use of the technology in the intended population and compare an effective and appropriate alternative at a comparable intensity. For some conditions, the alternative will be supportive care or surveillance. The quality and credibility of the evidence depend on study design and conduct, minimizing bias and confounding that can generate incorrect findings. The randomized controlled trial is preferred to assess efficacy; however, in some circumstances, nonrandomized studies may be adequate. Randomized controlled trials are rarely large enough or long enough to capture less common adverse events and long-term effects. Other types of studies can be used for these purposes and to assess generalizability to broader clinical populations and settings of clinical practice.

Manipulation under Anesthesia
Dagenais et al (2008) conducted a comprehensive review of the history of manipulation under anesthesia (MUA) or medicine-assisted manipulation and the published experimental literature. They noted that there was 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 differed from those used presently.

Nonrandomized Comparative Studies
No high-quality randomized controlled trials have been identified. A comprehensive review of the literature by Digiorgi (2013) described studies by Kohlbeck et al (2005) and Palmieri and Smoyak (2002) as being the best evidence available for medicine-assisted manipulation and MUA of the spine.

Kohlbeck et al reported on a nonrandomized comparative study that included 68 patients with chronic low back pain. All patients received an initial 4- to 6-week trial of spinal manipulation.
therapy, after which 42 patients received supplemental intervention with MUA and 26 continued with spinal manipulative therapy. Low back pain and disability measures favored the MUA group over the spinal manipulative therapy-only group at 3 months (adjusted mean difference on a 100-point scale, 4.4 points; 95% confidence interval [CI], -2.2 to 11.0). This difference attenuated at 1 year (adjusted mean difference, 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 to 13.6) and 1 year (odds ratio, 1.9; 95% CI, 0.6 to 6.5).

Palmieri and Smoyak evaluated the efficacy of self-reported questionnaires to study MUA in a convenience sample of 87 subjects from 2 ambulatory surgery centers and 2 chiropractic clinics. Thirty-eight patients with low back pain received MUA and 49 received traditional chiropractic treatment. A numeric rating scale for pain and the Roland-Morris Disability Questionnaire were administered at baseline, after the procedure, and 4 weeks later. Average pain scale scores in the MUA group decreased by 50% and by 26% in the traditional treatment group; Roland-Morris Disability Questionnaire scores decreased by 51% and 38%, respectively. Although the authors concluded that the study supported the need for large-scale studies on MUA and that the assessments were easily administered and dependable, no large-scale studies comparing MUA with traditional chiropractic treatment have been identified.

**Observational Studies**

Peterson et al (2014) reported on a prospective study of 30 patients with chronic pain (17 low back, 13 neck) who underwent a single MUA session with follow-up at 2 and 4 weeks. The primary outcome measure was the Patient’s Global Impression of Change. At 2 weeks, 52% of the patients reported clinically relevant improvement (better or much better), with 45.5% improved at 4 weeks. There was a statistically significant reduction in numeric rating scale scores for pain at 4 weeks (p=0.01), from a mean baseline score of 4.0 to 3.5 at 2 weeks post-MUA. Bournemouth Questionnaire scores improved from 24.17 to 20.38 at 2 weeks (p=0.008) and 19.45 at 4 weeks (p=0.001). This study lacked a sham group to control for a potential placebo effect. Also, the clinical significance of improved numeric rating scale and Bournemouth Questionnaire scores is unclear.

West et al (1999) reported 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 to 6 weeks of spinal manipulation and therapeutic modalities; all had 6 months of follow-up. On average, visual analog scale scores improved by 62% in patients with cervical pain and by 60% in patients with lumbar pain. Dougherty et al (2004) retrospectively reviewed outcomes of 20 cervical and 60 lumbar radiculopathy patients who underwent spinal manipulation after epidural injection. After epidural injection of lidocaine (guided fluoroscopically or with computed tomography), methylprednisolone acetate flexion distraction mobilization and then high-velocity, low-amplitude spinal manipulation were delivered to the affected spinal regions. Outcome criteria were empirically defined as a 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. Among patients receiving a cervical epidural injection, 10 (50%) had significant improvement, 6 (30%) had temporary relief, and 4 (20%) had no change.

The only study on manipulation under joint anesthesia or analgesia found evaluated 4 subjects; it was reported by Dreyfuss et al (1995). Later, Michaelsen (2000) noted that joint-related MUA should be viewed with “guarded optimism because its success is based solely on anecdotal experience.”

**Summary of Evidence**

For individuals who have chronic spinal, sacroiliac, or pelvic pain who receive MUA, the evidence includes case series and nonrandomized comparative studies. Relevant outcomes are symptoms, functional outcomes, quality of life, and treatment-related morbidity. Scientific
evidence on spinal MUA, spinal manipulation with joint anesthesia, and spinal manipulation after epidural anesthesia and corticosteroid injection is very limited. No randomized controlled trials have been identified. Evidence on the efficacy of MUA over several sessions or for multiple joints is also lacking. The evidence is insufficient to determine the effects of the technology on health outcomes.

Supplemental Information
Clinical Input from Physician Specialty Societies and Academic Medical Centers
While the various physician specialty societies and academic medical centers may collaborate with and make recommendations during this process, through the provision of appropriate reviewers, input received does not represent an endorsement or position statement by the physician specialty societies or academic medical centers, unless otherwise noted.

In response to requests from Blue Cross Blue Shield Association, input was received from 2 physician specialty societies and 4 academic medical centers in 2009. Input from the 7 reviewers agreed that manipulation under anesthesia for chronic spinal and pelvic pain is investigational.

Practice Guidelines and Position Statements
American Association of Manipulation under Anesthesia Providers
The American Association of Manipulation Under Anesthesia Providers (2014) published consensus-based guidelines for the practice and performance of manipulation under anesthesia (MUA). The guidelines included patient selection criteria, establishing medical necessity, frequency and follow-up procedures, parameters for determining MUA progress, general post-MUA therapy, and safety. The guidelines recommended 3 consecutive days of treatment, based on the premise that serial procedures allow a gentler yet effective treatment plan with better control of biomechanical force. The guidelines also recommended follow-up therapy without anesthesia over 8 weeks after MUA that includes all fibrosis release and manipulative procedures performed during the MUA procedure to help prevent re-adhesion.

American Academy of Osteopathy
The American Academy of Osteopathy published a consensus statement (2005) on osteopathic manipulation of somatic dysfunction under anesthesia and conscious sedation. The Academy stated that MUA “may be appropriate in cases of restrictions and abnormalities of function. These include recurrent muscle spasm, range of motion restrictions, persistent pain secondary to injury and/or repetitive motion trauma…. In general, MUA is limited to patients who have somatic dysfunction which:

1. has failed to respond to conservative treatment in the office or hospital that has included the use of OMT (osteopathic manipulative therapy), physical therapy and medication, and/or
2. is so severe that muscle relaxant medication, anti-inflammatory medication or analgesic medications are of little benefit, and/or
3. results in biomechanical impairment which may be alleviated with use of the procedure.”

U.S. Preventive Services Task Force Recommendations
Not applicable.

Medicare National Coverage
There is no national coverage determination. In the absence of a national coverage determination, coverage decisions are left to the discretion of local Medicare carriers.

Ongoing and Unpublished Clinical Trials
A search of ClinicalTrials.gov in March 2018 did not identify any ongoing or unpublished trials that would likely influence this review.
References


Documentation for Clinical Review

- No records required

Coding

This Policy relates only to the services or supplies described herein. Benefits may vary according to product design; therefore, contract language should be reviewed before applying the terms of the Policy. Inclusion or exclusion of codes does not constitute or imply member coverage or provider reimbursement.

IE

The following services may be considered investigational.
### Type

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>22505</td>
<td>Manipulation of spine requiring anesthesia, any region</td>
</tr>
<tr>
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</tr>
<tr>
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</tr>
<tr>
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<tr>
<td>27860</td>
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</tr>
</tbody>
</table>

### HCPCS

None

### ICD-10 Procedure

- ORN0XZZ  Release Occipital-cervical Joint, External Approach
- ORN1XZZ  Release Cervical Vertebral Joint, External Approach
- ORN3XZZ  Release Cervical Vertebral Disc, External Approach
- ORN4XZZ  Release Cervicothoracic Vertebral Joint, External Approach
- ORN5XZZ  Release Cervicothoracic Vertebral Disc, External Approach
- ORN6XZZ  Release Thoracic Vertebral Joint, External Approach
- ORN9XZZ  Release Thoracic Vertebral Disc, External Approach
- ORNAXZZ  Release Thoracolumbar Vertebral Joint, External Approach
- ORNBXZZ  Release Thoracolumbar Vertebral Disc, External Approach
- OSN0XZZ  Release Lumbar Vertebral Joint, External Approach
- OSN2XZZ  Release Lumbar Vertebral Disc, External Approach
- OSN3XZZ  Release Lumbosacral Joint, External Approach
- OSN4XZZ  Release Lumbosacral Disc, External Approach
- OSN5XZZ  Release Sacroccygeal Joint, External Approach
- OSN6XZZ  Release Coccygeal Joint, External Approach

### Policy History

This section provides a chronological history of the activities, updates and changes that have occurred with this Medical Policy.

<table>
<thead>
<tr>
<th>Effective Date</th>
<th>Action</th>
<th>Reason</th>
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<tbody>
<tr>
<td>02/26/1997</td>
<td>New Policy Adoption</td>
<td>Medical Policy Committee</td>
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<tr>
<td>04/01/2001</td>
<td>Policy Review Policy unchanged</td>
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</tr>
<tr>
<td>06/26/2009</td>
<td>Policy Revision and Title change. Policy title changed from Chiropractic Manipulation Under Anesthesia to Spinal Manipulation Under Anesthesia</td>
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<td>06/20/2012</td>
<td>Policy Review</td>
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<tr>
<td>07/06/2012</td>
<td>Policy revision without position change</td>
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<tr>
<td>06/30/2015</td>
<td>Coding update</td>
<td>Administrative Review</td>
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<tr>
<td>01/01/2016</td>
<td>Policy title change from Spinal Manipulation Under Anesthesia Policy revision without position change</td>
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<td>10/01/2016</td>
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<tr>
<td>06/01/2018</td>
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<tr>
<td>09/01/2018</td>
<td>Policy statement clarification</td>
<td>Administrative Review</td>
</tr>
</tbody>
</table>
Definitions of Decision Determinations

**Medically Necessary:** A treatment, procedure, or drug is medically necessary only when it has been established as safe and effective for the particular symptoms or diagnosis, is not investigational or experimental, is not being provided primarily for the convenience of the patient or the provider, and is provided at the most appropriate level to treat the condition.

**Investigational/Experimental:** A treatment, procedure, or drug is investigational when it has not been recognized as safe and effective for use in treating the particular condition in accordance with generally accepted professional medical standards. This includes services where approval by the federal or state governmental is required prior to use, but has not yet been granted.

**Split Evaluation:** Blue Shield of California/Blue Shield of California Life & Health Insurance Company (Blue Shield) policy review can result in a split evaluation, where a treatment, procedure, or drug will be considered to be investigational for certain indications or conditions, but will be deemed safe and effective for other indications or conditions, and therefore potentially medically necessary in those instances.

Prior Authorization Requirements (as applicable to your plan)

Within five days before the actual date of service, the provider must confirm with Blue Shield that the member's health plan coverage is still in effect. Blue Shield reserves the right to revoke an authorization prior to services being rendered based on cancellation of the member's eligibility. Final determination of benefits will be made after review of the claim for limitations or exclusions.

Questions regarding the applicability of this policy should be directed to the Prior Authorization Department. Please call (800) 541-6652 or visit the provider portal at www.blueshieldca.com/provider.

Disclaimer: This medical policy is a guide in evaluating the medical necessity of a particular service or treatment. Blue Shield of California may consider published peer-reviewed scientific literature, national guidelines, and local standards of practice in developing its medical policy. Federal and state law, as well as contract language, including definitions and specific contract provisions/exclusions, take precedence over medical policy and must be considered first in determining covered services. Member contracts may differ in their benefits. Blue Shield reserves the right to review and update policies as appropriate.