MEDICAL NECESSITY GUIDELINES

CareAllies

Subject: Spinal Manipulation Under Anesthesia (SMUA) for the Treatment of Spine-Related Pain Conditions
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INSTRUCTIONS FOR USE
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Spinal manipulation under anesthesia (SMUA) for the treatment of spine-related pain conditions (e.g., cervical pain, thoracic pain, lumbar pain, pelvic pain), in the absence of vertebral fracture or complete dislocation is considered experimental, investigational or unproven and not medically necessary.

General Background

Spinal manipulation under anesthesia (SMUA) is a treatment modality that consists of spinal manipulation and stretching procedures performed while the patient receives anesthesia (e.g., conscious sedation, general anesthesia).Theoretically, this method of treatment stretches the joint capsules and resets the spinal cord and nerve position, allowing the nervous system to function optimally. Authors have proposed the use of SMUA as a method of treating spine-related pain conditions (e.g., chronic low back pain, thoracic pain, neck pain, pelvic pain). Chronic back pain is a major public health issue, affecting approximately 90% of the population. While numerous treatments are available for back pain, much of the evidence regarding their effectiveness is inconsistent. Furthermore, evidence in the published, peer-reviewed scientific literature has failed to demonstrate safety and efficacy for SMUA when employed for spine-related pain conditions.

A chiropractor, osteopathic physician or medical physician may perform this type of manipulation with an anesthesiologist in attendance. The procedure, which is aimed at reducing spinal pain and improving range of motion, has been recommended when standard chiropractic care and other conservative measures have proved unsuccessful. Because the patient's protective reflex mechanism is absent under anesthesia, proponents contend it is less difficult to separate and move the joint. The chiropractor or physician performs a combination of short manipulations, passive stretches and maneuvers to break up fibrous and scar tissue around the spine and surrounding area. This manipulation often includes a high velocity thrust (i.e., a technique that adjusts the joints rapidly), which may be followed by a popping or snapping sound. Treatment may consist of one to five sessions of SMUA, followed by outpatient chiropractic sessions.

In a less frequently used technique, manipulation under anesthesia (MUA) may be accompanied by fluoroscopically-guided intra-articular injections with corticosteroid agents to reduce inflammation. This procedure is referred to as manipulation under joint anesthesia/analgesia (MUJA). Manipulation under

epidural anesthesia (MUEA) employs an epidural, segmental anesthetic, often with simultaneous epidural steroid injections, followed by spinal manipulation therapy. Other therapies may combine manipulation with cortisone injections into paraspinal tissues and proliferant injections.

SMUA was initially utilized as a nonoperative, closed treatment of thoracolumbar and other types of fractures that involved the use of general anesthesia. However, it is now used less frequently due to the development of more advanced and effective surgical techniques (Lindsey, et al., 2003). In some cases, SMUA may be considered medically necessary and is a successful treatment for vertebral fractures and complete dislocations, typically performed with surgical repair. Nonetheless, for mechanical back pain conditions, textbook sources report that SMUA is a method of treatment that is now obsolete (Kohatsu, 2007; Lindsey, et al., 2003).

According to textbooks, spinal manipulation can be hazardous and is therefore controversial (Lindsey, et al., 2003). Spinal manipulation, with or without anesthesia, is associated with risks and complications. These may include vertebrobasilar accidents, disk herniation, and progression to cauda equina syndrome, paralysis or vertebral pedicle fracture. In addition, anesthesia itself carries a small but clinically significant risk.

Literature Review

Several case series have been identified in the published scientific literature evaluating SMUA. Authors recommend that further well-designed clinical trials are needed to support the safety and effectiveness of the procedure. Cremata et al. (2005) reported on how four patients with chronic spinal, sacroiliac and/or pelvic and low back pain responded to manipulation under anesthesia. This group of patients initially failed to show improvement with a trial of typical chiropractic and conservative treatment but did show improvement of pain and function with SMUA. Although the results are encouraging, these cases do not provide results that are predictive in larger populations. The authors recommend that further studies of SMUA include randomized controlled clinical trials.

Kohlbeck and associates (2005) conducted a prospective cohort study evaluating changes in pain and disability for patients who received supplemental care and medication assisted manipulation (MAM) compared to patients who received spinal manipulation therapy (SMT). The study group consisted of 68 patients with chronic low back pain. All patients received an initial four- to six-week course of spinal manipulation followed by one of two suggested treatment interventions: continued care with usual SMT (n=26) or supplemental intervention with MAM (n=42) at one of two chiropractic practices. The decision for continued treatment options was based on clinical evaluation and patient selection and consisted of continued SMT for 4–12 weeks, one to three treatments of MAM, or discharge of the patient. The medication used was administered intravenously and was short-acting. Follow-up data was collected at six weeks, three months, six months, and one year. The primary outcome variable was change in pain and disability measured with a zero- to 100-point scale. The authors reported that at three months, about 66% of the patients experienced improvement in pain and disability by 10 points or more, and approximately 64% reported improvement of at least 10 points at one year. Low back pain and disability scores were in favor of the MAM group compared to the SMT group at three months and at one year. Despite the promising results of this study, however, it is limited by lack of randomization and small patient population.

Palmieri and Smoyak (2002) reported the results of a prospective controlled study that evaluated patients who received either SMUA or traditional chiropractic treatment for low back pain. The authors studied 87 subjects who were assigned to either the intervention group (n=38) or the nonintervention group (n=49). Participants were chosen from a convenience sample of patients selected from doctors who perform SMUA at two centers involved in the study. Self-reported outcomes, including back pain severity and functional status, were evaluated. The intervention group completed questionnaires prior to the procedure, after receiving final SMUA treatment, and again four weeks later. The nonintervention group completed questionnaires initially and after the completion of 12 treatment sessions during a four-week period. The subjects in both groups reported improvement in pain and disability questionnaire scores, although the group receiving SMUA noted more improvement. The authors concluded that further large-scale studies are warranted. Methodological flaws in this study included lack of randomization, assessment of short-term outcomes, small study size, and selection bias; thus, the findings do not lead to strong scientific conclusions.

West et al. (1999) reported on the results of case series involving 177 patients with cervical or lumbar back pain who had failed prior conservative and surgical therapy. Subjective patient complaints included pain that was cervicocranial, cervical, thoracic, lumbar or pelvic; all five spinal levels were then grouped into either cervical category or lumbar category for data collection. The patients were treated with three sequential manipulations while under intravenous sedation, followed by four to six weeks of spinal manipulation and therapeutic modalities. At six months, progress was documented using visual analog scale (VAS), range of motion, medication needs and return-to-work status. On average, the VAS ratings improved by 62.2% in those patients with cervical pain and by 60.1% in those patients with lumbar pain. Return-to-work improved after SMUA in 68.6% of the subjects, and 64.1% returned to unrestricted activities at six months. There was a reported 58.4% reduction from the pre-SMUA period to six months after SMUA in the percentage of patients requiring prescription pain medication. The authors concluded that a multidisciplinary approach to evaluation and treatment, including SMUA, offered patients improved benefits above and beyond what can be obtained through the individual providers working alone. Nonetheless, this study assessed short-term outcomes only and did not compare outcomes to placebo effect or to the continued effect of traditional chiropractic therapy.

Kohlbeck and Haldeman (2002) published a technical report on medication-assisted spinal manipulation. The literature reviewed by the authors consisted of case reports and case series with two randomized, controlled trials and one cohort study. The reported clinical indications for medication-assisted spinal manipulation included cervical pain, cervicobrachial, cervicocranial, lumbar, pelvic, or lower extremity syndromes with somatic dysfunctions unresponsive to conservative management. The authors identified and reviewed the indications and literature for four categories of medication-assisted manipulation:

1. manipulation under general anesthesia
2. manipulation under epidural anesthesia, with or without epidural steroid injection
3. manipulation under joint anesthesia/analgesia
4. manipulation with injectants such as steroids or proliferant agents

The authors claim that, although this therapy has been practiced for over 70 years, the evidence supporting the effectiveness remains largely anecdotal, and they recommend further controlled trials.

The Guidelines for Chiropractic and Quality Assurance Practice Parameters Major Recommendations, which are based on the original Mercy Center Consensus Conference, first issued in 1993 and reaffirmed in 1999, state, “Although SMUA is considered potentially useful, chiropractic involvement in such programs is a new area of special interest that requires further exploration.”

Professional Societies/Organizations

According to the American College of Occupational and Environmental Medicine (ACOEM) practice guidelines (2004) regarding physical methods of treatment for low back pain, “Manipulation under anesthesia (MUA) cannot be recommended at the present time because high-quality studies do not exist and the procedure has significant associated risks.”

In a policy statement on manipulation under anesthesia, the International Chiropractors Association (ICA, 2000) stated, “The International Chiropractors Association holds that within the armamentarium of chiropractic techniques, efficient methods exist that address the pain profiles of even the most sensitive patient. Furthermore, the chiropractic adjustment relies on the body's own inherent constructive survival mechanisms to innately accomplish adjustic correction. In light of the above considerations, the International Chiropractors Association holds that anesthesia is inappropriate and unnecessary to the deliverance of a chiropractic adjustment.”

Summary

Evidence in the published scientific literature indicates that joint manipulation under anesthesia is safe and effective for a specific subset of patients with certain orthopedic conditions, such as vertebral fractures or complete dislocations. While several authors have reported on spinal manipulation under anesthesia (SMUA) for the treatment of spine-related pain conditions, (Kohlbeck, Haldeman, 2002; Palmieri, Smoyak, 2002; West, et al., 1999; Herzog, 1999), the published, peer-reviewed scientific literature provides insufficient evidence to support its safety and effectiveness. Many of the published

studies contain methodological flaws, including small patient populations, self-reported outcomes, poorly-defined patient selection criteria, varying treatment protocols, lack of long-term outcomes, and lack of randomization. In addition, textbook sources indicate this method can be hazardous and is obsolete. Its utilization in the management of low back pain (e.g., spine related, mechanical back pain) is considered experimental, investigational or unproven.

Coding/Billing Information

Note: This list of codes may not be all-inclusive.

Experimental/Investigational/Unproven/Not medically necessary:

CPT®* Codes	Description
22505†	Manipulation of spine requiring anesthesia, any region

†Note: Experimental, investigational or unproven and not medically necessary when used to report spine related pain conditions in the absence of vertebral fracture or complete dislocation.

HCPCS Codes	Description
	No specific codes

ICD-9-CM Diagnosis Codes	Description
724.0 – 724.9	Other and unspecified disorders of back
839.00 – 839.59	Other, multiple, and ill-defined dislocations
	Multiple/ Varied

***Current Procedural Terminology (CPT®) ©2007 American Medical Association: Chicago, IL.**

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