



**SANDHILLS
CENTER**



Manipulation under anesthesia (hip and elbow)

Clinical Policy ID: CCP.1245

Recent review date: 7/2021

Next review date: 11/2022

Policy contains: Elbow joint for arthrofibrosis, hip pain management, manipulation under anesthesia.

This policy is a Sandhills Center Clinical Coverage Policy adopted from AmeriHealth Caritas of North Carolina. These clinical policies are used to assist with making coverage determinations. Sandhills Center's clinical policies are based on guidelines from established industry sources, such as the Centers for Medicare & Medicaid Services (CMS), state regulatory agencies, the American Medical Association (AMA), medical specialty professional societies, and peer-reviewed professional literature. These clinical policies along with other sources, such as plan benefits and state and federal laws and regulatory requirements, including any state- or plan-specific definition of "medically necessary," and the specific facts of the particular situation are considered by Sandhills Center when making coverage determinations. In the event of conflict between this clinical policy and plan benefits and/or state or federal laws and/or regulatory requirements, the plan benefits and/or state and federal laws and/or regulatory requirements shall control. Sandhills Center clinical policies are for informational purposes only and not intended as medical advice or to direct treatment. Physicians and other health care providers are solely responsible for the treatment decisions for their patients. Sandhills Center's clinical policies are reflective of evidence-based medicine at the time of review. As medical science evolves, Sandhills Center will update its clinical policies as necessary. Sandhills Center clinical policies are not guarantees of payment.

Coverage policy

Manipulation under anesthesia for elbow and hip conditions is investigational/not clinically proven and, therefore, not medically necessary.

Limitations

No limitations were identified during the writing of this policy.

Alternative covered services

Conservative medical management including:

- Physical therapy.
- Occupational therapy.
- Pain management program.
- Standard chiropractic manipulation.
- Prescription drug therapy.

Background

Manipulation under anesthesia is a non-invasive technique which combines manual manipulation of a joint or the spine with a general anesthetic, typically Diprivan (Propofol) or Versed. The procedure is aimed at reducing pain and improving range of motion and consists of manipulation and stretching procedures performed while an individual receives anesthesia (e.g., conscious sedation, general anesthesia). A chiropractor, osteopathic physician or medical physician may perform this type of manipulation with an anesthesiologist and operating room nurse in attendance. The phases for manipulation under anesthesia include sedation, manipulative procedures, additional stretching and traction, and office follow up without sedation (Gordon, 2014).

Manipulation under anesthesia is most often used for patients refractory to conservative treatment, and cases with the presence of intersegmental and/or global recalcitrant motion restrictions. Treatment involves passive extremity ranges of motion, and then is awakened minutes after the anesthetic is stopped. Recovery is monitored until full recovery is attained, and follow up care begins promptly, often the same day as the procedure. Thereafter, further follow-up care occurs 7 – 10 days after manipulation, allowing pre-rehabilitation and formal rehabilitation for 3 – 6 weeks (Gordon, 2014).

Measurement of progress after manipulation after anesthesia include subjective and objective changes, including pain index, range of motion, muscle mass, muscle contractility, nerve conduction studies, radiography results (Gordon, 2014).

Clinicians may perform manipulation under anesthesia for the elbow in post-surgical patients having difficulties in maintaining range of motion, six weeks after contracture release when motion gains are suboptimal and have plateaued. General anesthesia is used before gentle progressive flexion, but the elbow may be injected with a local anesthetic and steroids after the manipulation, along with ice and other anti-edema modalities (Sanchez-Sotelo, 2018).

Manipulation under anesthesia can also be used for lumbopelvic pain, including after hip surgery, using the same combination of anesthesia/sedation, mobilization/stretching/traction, manipulation, and post-procedural care (Taber, 2014).

Findings

Although guidelines from the American Academy of Manipulation Under Anesthesia Providers were issued 2001, no standards as to when to recommend a patient receive manipulation under anesthesia treatment exist (Di Giorgi, 2018). The American Association of Manipulation Under Anesthesia Providers issued a guideline for providers, including a statement that endorses conditions that fall within “recognized categories of conditions” of manipulation under anesthesia; nine such conditions are included, including those related to the shoulder, knee, and spine, with various citations (American Association of Manipulation Under Anesthesia Providers, 2014; Gordon, 2014).

The National Academy of Manipulation Under Anesthesia Physicians issued a document on standard practices for the treatment. Addressed were clinical justifications, guidelines for medical necessity and frequency, progress measures, anesthesia standards, nursing standards, and educational standards (National Academy of Manipulation Under Anesthesia Physicians, 2015).

A 2014 guideline on manipulation under anesthesia for spinal conditions acknowledges lack of unequivocal support for effectiveness from randomized controlled trials and meta-analyses, but lower-level evidence exists.

The guideline mentions that evidence is mostly in the form of case series; standards are lacking for patient selection; and standardization are lacking for manipulation under anesthesia procedures and follow up care (Gordon, 2014).

According the American College of Occupational and Environmental Medicine practice guidelines regarding physical methods of treatment for low back disorders (Hegmann, 2007; Hegmann, 2008), due to insufficient evidence manipulation under anesthesia and medication-assisted spinal manipulation for acute, subacute or chronic low back pain is not recommended.

Summaries of articles in the professional literature addressing manipulation under anesthesia for elbow and hip conditions are presented here:

Elbow. A review of 45 patients assessed the effects of manipulation under anesthesia for elbow stiffness, given an average of 115 days after surgery or injury. The increase in average flexion arc was 57.9 degrees to 83.7 degrees 10 years after pre-manipulation flexion. Improvement in elbow flexion arc of motion was statistically significant ($P < .001$), with significantly greater average improvements in those who underwent manipulation within three months of surgery/injury, i.e., 38.3 degrees to 3.1 degrees (Spitler, 2018).

A study of 51 persons with stiff elbow given manipulation under anesthesia an average of 40 days after surgery revealed that after 12 months, the average total arc nearly doubled, from 40 degrees to 78 degrees (Araghi, 2010).

A Cochrane review of manipulation under anesthesia for elbow dislocations included two trials. One of these ($n = 50$) showed better, but statistically insignificant results for manipulation three days post reduction compared with cast immobilization. The second study ($n = 30$) had similar results – superior, but statistically insignificant. Both studies were methodologically flawed and potentially biased (Taylor, 2012).

Aside from these, only three articles in the literature address post-trauma manipulation under anesthesia of the elbow, using samples of 11 (Duke, 1991), 12 (Ek, 2016), and 12 (Rotman, 2019). Each of these involve adults; one study of pediatric patients ($n = 13$) showed manipulation under anesthesia to be effective for post-traumatic arthrofibrosis (Rane, 2020). Several others are case studies and are not cited here.

A recent article from the British Elbow and Shoulder Society lists manipulation under anesthesia as one of the acceptable options for post-traumatic elbow stiffness (Zhang, 2020). Another article states that the treatment for a stiff elbow should be used within six months of the injury or surgery (Mellema, 2016).

Hip. Few references addressing manipulation under anesthesia for hip pain, from trauma and other sources, are included in the medical literature. There is, however, a CPT code (27275) for manipulation of the hip joint requiring general anesthesia.

Several early reviews were case studies involving one patient. Another article found that among 37 patients with total hip arthroplasties, none required manipulation under anesthesia, unlike 2 of 78 after total or uni-compartmental knee arthroplasties (Shah, 2018).

A study of 18 patients requiring manipulation under anesthesia included five types of lumbopelvic pain, CCP.1245

including hip pain. Clinically meaningful reduction in low back pain disability was observed in 16 of the 18 patients (Taber, 2014).

References

On April 19, 2021, we searched PubMed and the databases of the Cochrane Library, the U.K. National Health Services Centre for Reviews and Dissemination, the Agency for Healthcare Research and Quality, and the Centers for Medicare & Medicaid Services. Search terms were “manipulation under anesthesia,” “elbow,” “hip,” and “manipulation of a joint under anesthesia.” We included the best available evidence according to established evidence hierarchies (typically systematic reviews, meta-analyses, and full economic analyses, where available) and professional guidelines based on such evidence and clinical expertise.

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Policy updates

7/2016: initial review date and clinical policy effective date: 10/2016

7/2017: Policy references updated.

7/2018: Policy references updated.

7/2019: Policy references updated, policy ID changed to CCP.1245.

7/2020: Policy references updated, due to the shift from a broader range of body parts to just hip and elbow.

7/2021: Policy references updated.