



Spinal Manual Therapy for Non-Spinal Musculoskeletal Disorders

Optum Health Solutions Musculoskeletal (MSK)
Utilization Management Policy
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Table of Contents

- Policy Statement3
- Purpose3
- Scope3
- Background3
- Clinical Evidence4
 - Head and Face Complaints4
 - Upper Extremity (UE) Conditions4
 - Lower Extremity Conditions5
- References6
- Review and Approval History8
- Plain Language Summary9

Policy Statement

Optum considers spinal manual therapy to be unproven and not medically necessary for the treatment of non-spinal musculoskeletal disorders due to insufficient scientific evidence of effectiveness as either a single intervention or when combined with other treatment.

Purpose

This policy has been developed as the clinical criterion that describes the position of Optum regarding the efficacy, effectiveness, risks, and burdens associated with the use of spinal manual therapy techniques for the treatment of non-spinal musculoskeletal disorders.

Scope

This policy is limited to the application of manual therapy (manipulation, mobilization) of spinal structures, as an intervention approach intended to achieve clinically relevant patient-important outcomes (pain, function/disability) for the treatment of non-spinal musculoskeletal disorders (head/face, upper and lower extremities). This policy does not include the use of spinal manual therapy for the treatment of referred/radicular symptoms due to spine-related disorders (eg, herniated disc, spinal stenosis). The use of extraspinal manual therapy for the treatment of musculoskeletal disorders is addressed in a separate policy.

Background

Spinal manual therapy (manipulation, mobilization) is frequently viewed as an adjunct to local intervention (eg, extraspinal manual therapy and exercise) for the treatment of non-spinal musculoskeletal disorders. The reasoned basis for administering spinal manual therapy (SMT) techniques (manipulation and mobilization) for the treatment of non-spinal musculoskeletal disorders (MSD) is rooted in the theory of regional interdependence. With respect to musculoskeletal problems, regional interdependence refers to the concept that seemingly unrelated impairments in a remote anatomical region may contribute to, or be associated with, the patient's primary complaint (Wainner et al., 2008). The clinical implication of this premise is that interventions directed at one region of the body will often have effects at remote and seeming unrelated areas (McDevitt et al., 2015).

In addition to the biomechanical and anatomic relationships that underpin the concept of regional interdependence, neurophysiologic interactions may further account for the observed changes associated with treating regional dysfunctions. These postulated mechanisms of regional interdependence provide biologic plausibility for the experimental use of manual therapies (MT), which have been shown to produce biomechanical (increased range of motion) and neurophysiological effects (hypoalgesia) (Bialosky et al., 2009).

Regional interdependence, as a musculoskeletal model, was born out of earlier clinical reports and clinical observation. In other words, clinicians treating one region of the body, such as the thoracic spine, noticed that signs and symptoms in areas remote to the area of treatment, such as the shoulder, were altered. Subsequently, regional interdependence has served as the hypothetical basis for studies that explored the treatment of biomechanical dysfunctions, proximal and distal to the primary region of complaint, to observe the possible effects on patient-important outcomes (pain and function) (Strunce et al., 2009). A growing body of literature has incorporated the principles of regional interdependence for the treatment non-spinal MSD with intervention directed at spinal/pelvic structures for primary complaints involving jaw, and upper and lower extremities (Cheatham & Kreiswirth, 2014).

Clinical Evidence

Head and Face Complaints

Two evidence reviews assessed the efficacy of spinal manual therapy (SMT) for the treatment of temporomandibular dysfunction (TMD) (LaTouche et al., 2020; Calixtre et al., 2015). LaTouche, et al. (2020) conducted a systematic review and meta-analysis of 3 RCTs (n=153) that investigated the effectiveness of cervical MT in patients with chronic TMD. Cervical MT was compared to placebo or minimal intervention for the outcomes of pain, maximal mouth opening (MMO) and pressure pain threshold (PPT) over a short-term (<3 months follow-up). The reviewers concluded that cervical MT treatment is more effective in decreasing pain intensity than placebo MT or minimal intervention, with moderate evidence. Critical appraisal of the results confirms the reduction in pain was both statistically and clinically significant. In addition, the meta-analysis showed statistically significant differences in the short-term for PPT with a large clinical effect. The findings from this systematic review and meta-analysis provide promising evidence favoring SMT for TMD; however, confidence in the results is limited due to sparse data (imprecision), significant heterogeneity (i.e., the results include effects ranging from trivial to large) and uncertainty about the durability of effects.

An earlier systematic review of RCTs synthesized the evidence regarding the isolated effect of SMT in improving maximum mouth opening (MMO) and pain in subjects with signs and symptoms of TMD (Calixtre et al., 2015). While the results of this systematic review showed that upper cervical manipulation or mobilization presented the strongest evidence for symptom control and improvement of MMO, the findings are based on a small number of studies (3 RCTs; n=116). One included study (Mansilla-Ferragut; n=37) investigated CMT for women with mechanical neck pain (Mansilla-Ferragut et al., 2009). The GRADE methodology was applied incorrectly, with summary tables reporting for each study. Studies should have been combined by outcome and time to F/U. The results were not pooled, making judgments about overall effects uncertain. The overall quality of the evidence was overstated in the review. There were conflicting results from 2 studies (n=64) regarding the clinical significance of CMT on immediate pain outcomes. Two of 3 studies found no effect for PPT and a single trial (La Touche et al., 2013) found a very large effect favoring CMT. Overall, the results of this review are unclear due to poor methodology and imprecise data from few studies.

Upper Extremity (UE) Conditions

Six evidence syntheses and an additional four RCTs, which were not included in a review article, were identified in this evidence review of SMT for upper extremity MSD. Five systematic reviews investigated the use of cervical, cervicothoracic, or thoracic MT for shoulder disorders (nonspecific shoulder pain/dysfunctions or subacromial impingement syndrome) (Aoyagi et al., 2015; Bizzarri et al., 2018; Southerst et al., 2015; Minkalis et al., 2017; Peek et al., 2015). None of the studies reported short-term beneficial effects on pain, function or PPT, when SMT was compared to sham or usual care. The results from 1 review suggested that SMT is not as effective as local treatment (treatment specific to the shoulder region) in reducing pain (Aoyagi et al. 2015). A single review reported that cervicothoracic spinal manipulation and mobilization in addition to usual care may improve self-perceived recovery compared to usual care alone for adults with nonspecific shoulder pain of variable duration (Southerst et al., 2015). This conclusion was based on a single RCT (N=74).

Four RCTs evaluated the effects of SMT on adults with shoulder conditions (subacromial impingement syndrome, chronic rotator cuff tendinopathy, nonspecific shoulder pain) (da Silva et al., 2019; Elmelhat et al., 2020; Grimes et al., 2019; Mintken et al., 2016). Three studies found no clinically relevant differences in pain and function when SMT was compared to either sham manipulation or exercise-alone (da Silva et al., 2019; Grimes et al., 2019; Mintken et al., 2016). Two trials reported that SMT did not have an immediate effect on physical performance measures (scapular impairments or isometric muscle strength) (Grimes et al., 2019; Elmelhat et al., 2020). A single study provided results achieving minimal thresholds for clinically relevant immediate decreases in pain and disability (Elmelhat et al., 2020). There were, however, some concerns about the analysis of the study data. Approximately 15% of the participants were not included in the analysis, after dropping out during the trial to seek other treatment. Additionally, this small study (N=35) was conducted by a single clinician. The findings were not generalizable.

Two systematic reviews provided an evidence synthesis of the effects of SMT on lateral epicondylalgia (Aoyagi et al., 2015; Giacalone et al., 2020). Aoyagi, et al. (2015) included three small RCTs (N=38) in their review. The authors concluded there was very low-quality evidence of no difference in the effect of SMT on lateral elbow pain compared to other interventions including sham manipulation. Nor did the addition of SMT to local (elbow) treatment improve

outcomes compared local treatment-alone. A systematic review by Giacalone, et al. (2020) provided results based on a single pilot study with only 10 participants. Outcomes were measured immediately following SMT and a sham comparator. PPT was found to be increased at the affected elbow, while there were no significant differences in heat/cold sensitivity and grip strength. In summary, the evidence for the effectiveness of SMT as a treatment for lateral epicondylalgia is limited to a few small (pilot) trials with generally negative outcomes.

Lower Extremity Conditions

A single systematic review and meta-analysis sought to determine the effectiveness of SMT, used alone or as an adjunct intervention, compared to standard treatment or sham for reducing pain and improving self-reported function in individuals with patellofemoral pain syndrome (PFPS) (Eckenrode et al., 2018). The reviewers found the evidence regarding lumbopelvic manipulation was inconclusive for pain improvement in individuals with PFPS, based on 3 studies (N=118).

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Review and Approval History

Date	Description
4/22/2021	Original effective date
5/03/2022	Annual review and approval completed; No new evidence supporting a change in the policy statement was identified
6/29/2022	Updated legal entity name “OptumHealth Care Solutions, LLC.” to *Optum™ Physical Health (“Optum”) includes OptumHealth Care Solutions, LLC; ACN Group IPA of New York, Inc.; ACN Group IPA of California, Inc. d/b/a OptumHealth Physical Health of California; Managed Physical Network, Inc.; and OrthoNet Holdings, Inc. which includes OrthoNet New York IPA, Inc., OrthoNet West, Inc., OrthoNet, LLC, OrthoNet of the South, Inc.
4/27/23	Annual review and approval completed; no significant changes made to the document. Updated contact email from policy.inquiry@optumhealth.com to phpolicy_inquiry@optum.com .
3/6/2024	Annual review; no substantive changes. Approved by Optum Clinical Guideline Advisory Committee.
04/25/2024	Annual review and approval completed. Document content transitioned to new policy template. No significant changes made to the document.

Plain Language Summary

Spinal Manual Therapy for Non-Spinal Musculoskeletal Disorders Utilization Management Policy # 490

Plain Language Summaries are presented to supplement the associated clinical policy or guideline. These summaries are not a substitute for advice from your own healthcare provider.

What is spinal manual therapy and what is known about it so far?

Spinal manual therapy is a hands-on method of manipulating or mobilizing the joints and tissues of the neck, mid and lower back. Manual therapy is often used by chiropractors and physical therapists.

The use of spinal manual therapy has been viewed as a possible treatment of non-spinal musculoskeletal disorders involving the head/face, arms, and legs.

How was spinal manual therapy for non-spinal musculoskeletal disorders evaluated?

A work group of clinicians was assigned to review the available research. The internet was searched for relevant articles. The work group independently examined the selected research studies. A broadly accepted rating scale was used. Possible ratings were proven benefit, potential but unproven benefit, and no proven benefit.

Before it was approved, the policy was presented to a series of committees that included independent health care practitioners.

What did the work group find?

There is only limited research about the effectiveness of spinal manual therapy for non-spinal musculoskeletal disorders. The findings showed some promising results. The overall research quality was rated as low. Better quality studies are needed.

It was not possible to decide that spinal manual therapy for non-spinal musculoskeletal disorders provided more benefit or less risk, when compared to generally accepted and safe treatments including traditional rehabilitation procedures.

What were the limitations of the information?

Most studies did not evaluate if the results of spinal manual therapy lasted for more than immediately after treatment. Most studies looked at only a small number of individuals, making difficult to apply the findings to most people. Few studies described the clinical benefit of treatment.

The use of spinal manual therapy has not been studied for many non-spinal musculoskeletal disorders.

What are the conclusions?

Spinal manual therapy for the treatment of non-spinal musculoskeletal disorders is viewed as unproven and not medically necessary. Further research is needed before its use can be considered an established treatment option.