Extraspinal Manual Therapy Interventions

Optum Health Solutions Musculoskeletal (MSK) Utilization Management Policy
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Policy Statement

Extraspinal therapy is proven medically necessary when all the following conditions are met:

- Health plan benefit coverage criteria are satisfied.
- The patient has a diagnosed health condition/disorder for which extraspinal manual therapy techniques are clinically appropriate and not contraindicated.
- Skilled care services are warranted.
- The patient healthcare record documents manual therapy (manipulation or mobilization) of an extremity joint or joints directly related to the diagnosis.

Optum considers extraspinal manual therapy services unproven and not medically necessary for the treatment of:

- Spinal disorders, e.g., neck pain, low back pain
- Temporomandibular joint dysfunction/pain

Purpose

This policy serves as the criterion for peer-reviewed decisions concerning extraspinal manual therapy for the treatment of musculoskeletal disorders.

This policy also serves as a resource for peer-to-peer interactions in describing the position of Optum on the application of extraspinal manual therapy for musculoskeletal disorders.

Scope

In-scope:
All in- and out-of-network programs (exclusive of Medicare and Medicaid products for chiropractic) involving all provider types, where utilization review determinations are rendered for extraspinal manual therapy services in the treatment of musculoskeletal disorders.

Out-of-scope:

- Extraspinal manual therapy for the treatment of non-musculoskeletal disorders
- Visceral manual therapy
- Manipulation under anesthesia

Definitions

The following definitions apply to this policy:

Musculoskeletal Disorders (MSDs): Injuries or conditions originating from joints, muscles, ligaments, discs, or other soft tissues in the spine or limbs, which produce clinically relevant symptoms (e.g., pain, numbness, etc.) and functional limitations (e.g., inability to perform daily activities). The diagnosis of MSDs is reported using valid ICD-10 diagnostic codes (Alexandria, 2004).

Manual Therapy: A clinical approach utilizing skilled, specific hands-on techniques, including but not limited to manipulation/mobilization, used by the clinician to diagnose, and treat soft tissues and joint structures for the purpose of modulating pain; increasing range of motion (ROM); reducing or eliminating soft tissue inflammation; inducing relaxation; improving contractile and non-contractile tissue repair, extensibility, and/or stability; facilitating movement; and improving function (Alexandria, 2004).

Extraspinal Manual Therapy: The application of manipulation or mobilization to joints or surrounding soft-tissues other than those of the spine, i.e., shoulder, elbow, wrist/hand/finger, hip, knee, ankle/foot/toe (Clar et al., 2014).

Mobilization/Manipulation: Skilled passive movements to the joints and/or related soft tissues that are applied at varying speeds and amplitudes, including a small-velocity and high-amplitude therapeutic movement (Alexandria, 2004).

Thrust joint manipulation (TJM): High-velocity/low-amplitude therapeutic movements within or at the end of range of motion (Noteboom et al., 2015).

Clinical Evidence

Manual therapy is a clinical approach performed by a skilled clinician to manipulate the patient's body (spine and extremities) to assess, diagnose, and treat (Clar et al., 2014). Manual therapy techniques include but are not limited to soft tissue mobilization, joint mobilization and manipulation, manual lymphatic drainage, manual traction, craniosacral therapy, myofascial release, and neural gliding techniques.

Manual therapy techniques are commonly used to manage musculoskeletal injury (Piper et al., 2016). Broadly, the evidence appears to support clinically significant benefits for manual therapy directed at extremity joints, when compared to passive (sham, placebo, no treatment) or other active interventions (usual care, exercise, physiologic modalities, injections, acupuncture) (Clar et al., 2014; Stathopoulos et al, 2019). However, confidence in the estimates of effects for various conditions is regarded as low due to a scarcity of studies, conflicting results, and clinical heterogeneity (Basson et al., 2017). Future research publications are likely to impact the estimates of effect, as well as facilitate more confident judgments about evidence-based policy decisions.

Upper Extremity Disorders

Shoulder Disorders

Manual therapy including manipulation directed at the shoulder complex was found to be efficacious in the immediate and short-term for pain and to a lesser degree for function. Shoulder disorders evaluated included rotator cuff disease, subacromial impingement syndrome, and adhesive capsulitis (Hawk et al., 2017; Steuri et al., 2017; Noten et al., 2016; Karanasios et al., 2023). In contrast, Page et al. (2017) did not find significant benefit in longer-term outcomes (up to 22-weeks) with manual therapy for rotator cuff disease.

Elbow, Wrist and Hand Disorders

Systemic reviews by Piper et al. (2016), Menta et al. (2015), Lucado et al. (2018), and Sutton et al. (2016) assessed the efficacy of manipulation or mobilization of elbow lateral epicondyle pain disorders. Collectively, mobilization and manipulation techniques directed at the elbow were more beneficial than comparison groups at clinically improving pain in the short term (<3 months) and intermediate term (up to 6-months). Mobilization appeared to be more beneficial than control groups at improving grip strength in the short term. Comparators included corticosteroid injection, exercise, physical modalities, sham, placebo, and no treatment. The body of evidence was limited to relatively few studies that were largely of low quality.

Zaheer & Ahmed (2023) conducted a systematic review and meta-analysis on neurodynamic techniques in the treatment of carpal tunnel syndrome. Twelve RCTs (n=549) met the authors' inclusion criteria. The limitations of the review included small sample size and high heterogeneity in the included RCTs. A meta-analysis could not be performed on all the included RCTs as homogeneous numerical data was unavailable. More RCTs are needed with robust methodology and homogeneous data collection with larger cohorts to study the effectiveness of neurodynamic techniques for carpal tunnel syndrome.

Jiménez-Del-Barrio et al. (2021) performed a systematic review and meta-analysis on the effectiveness of manual therapy for pain, physical function, and nerve conduction studies in patients with carpal tunnel. Six studies (n= 401) met the authors' inclusion criteria. Four studies were included in the meta-analysis. The limitations included high heterogeneity, lack of RCTs, technique variability, total duration of treatment, and the number of sessions varied among the studies. Further research is needed to prove effectiveness of manual therapy for carpal tunnel syndrome.

Lower Extremity Disorders

The following studies encompassed a range of common lower extremity musculoskeletal disorders including hip osteoarthritis (OA), knee (OA), patellofemoral pain syndrome, ankle sprains, and plantar heel pain. The efficacy of various manual therapies including manipulation and mobilization techniques was evaluated in comparison to both passive controls and active interventions. Overall, there is modest evidence supporting the efficacy of manipulative therapy alone or as part of a combined approach for the treatment of lower extremity musculoskeletal disorders.

Hip Osteoarthritis

A systematic review and meta-analysis performed by Runge et al. (2022) evaluated the benefits of adding manual therapy to exercise therapy to improve pain and function in patients with knee or hip osteoarthritis. Nineteen trials met the authors' inclusion criteria. Outcome measures were self-reported pain and function. Many trials utilized the Western Ontario McMaster Universities Osteoarthritis Index (WOMAC), to measure pain, physical function, and stiffness. The authors concluded with a high degree of certainty there appears to be no benefit of adding manual therapy over exercise therapy in patients with hip or knee osteoarthritis in the long-term. Low to moderate quality of evidence supported the addition of manual therapy to exercise therapy for pain, but not for knee or hip function.

For hip joint OA it appears that higher magnitudes of manipulative force are associated with better outcomes, e.g., increased range of motion (Estébanez et al., 2018). Another systematic review and meta-analysis assessed various manual therapy techniques alone or in combination with other interventions in comparison with inert and active controls (Sampath et al., 2016). There was low quality evidence that manual therapy, including manipulative therapy was beneficial for pain and physical function immediately post-treatment and at follow-up assessments. An earlier systematic review and meta-analysis conducted by Wang et al. (2015) did not find any evidence that manual therapy benefits the patients at short-, intermediate- or long-term follow-up. However, confidence in the estimates of effects was limited by the sparse availability of primary research.

Knee Disorders

A systemic review and meta-analysis by Anwer et al. (2018) found that osteopathic manipulative treatment (OMT) along with exercise compared with exercise therapy alone provided short-term benefits in reducing pain, improving function, and physical performance. Another systematic review with meta-analysis, which included both RCTs and nonrandomized studies of interventions, concluded manual therapy was beneficial for pain and physical function immediately post-treatment and at up to 2-years later (Salamh et al., 2017). Xu et al. (2017) conducted a systematic review and meta-analysis of different manual therapies, when used a singular intervention for knee OA. The findings suggested that manual therapy was an effective complementary and alternative treatment for knee OA pain, stiffness, and physical function. A RCT investigated the efficacy of knee mobilization in patients with knee osteoarthritis. Participants receiving mobilization therapy showed significant improvements in pain levels, function, range of motion, and strength compared to those receiving electrotherapy after 4-weeks. These effects were also observed at the one-year follow-up.

Espí-López et al. (2017) conducted a systematic review to evaluate the efficacy of manual therapy, including manipulation, combined with other conventional physical therapy modalities for the treatment of adults diagnosed with patellofemoral pain syndrome. For outcomes measured from 3-weeks through 4-months, manual therapy showed benefit as a treatment option to alleviate pain and improve function of the knee.

Ankle and Foot Disorders

The efficacy of ankle or talocrural manipulation for the treatment of individuals diagnosed with an inversion ankle sprain was the subject of a systematic review (Krueger et al., 2015). Thrust joint manipulation appeared to be effective in improving dorsiflexion range of motion, self-reported function, and pain after inversion ankle sprain.

In a systematic review, Pollack et al. (2018) reported on the efficacy of manual therapy (soft-tissue and joint mobilization) for persons diagnosed with plantar heel pain. Soft tissue mobilization was found to be an effective modality in the treatment of plantar heel pain when compared to exercise, steroid injection, physiologic modalities (ultrasound), and sham therapy. The effectiveness of joint mobilizations was unclear.

Spinal Disorders
A systematic review and meta-analysis by Bernet et al. (2019) determined there was no statistical or clinically relevant benefit (i.e., reductions in either pain or disability) with the addition of hip-targeted manual therapy interventions for patients with low back pain.

Temporomandibular Joint (TMJ) Disorders
A systematic review by Asquini et al. (2022) evaluated the effectiveness of manual therapy applied to craniomandibular structures in temporomandibular disorders. The authors evaluated the effectiveness of craniomandibular manual therapy on pain and range of motion in people with temporomandibular disorders. Six studies met inclusion criteria. The quality of evidence was low for all outcomes due to high heterogeneity and small sample sizes. A very low quality of evidence supports craniomandibular manual therapy for patients with temporomandibular disorders for reducing pain and maximal mouth opening (MMO) in the mid-term. Whether craniomandibular manual therapy is superior to other interventions remains unclear. There is a future need for high methodology research evaluating manual therapy techniques applied to different regions and populations to determine maximal mouth opening in patients with temporomandibular joint disorders.

A systematic review authored by Braun de Castro et al. (2018) contained several critical methodologic flaws relating to the development of the review, the approach used to identify and extract study data, and the failure to incorporate the role of study bias into the analysis. A systematic review with meta-analysis (Martins et al., 2016) was deemed to be of critically low quality. There were critical flaws pertaining to the literature search strategy and the statistical methods used to interpret the meta-analytic results, which likely over-estimated the effects of manipulative therapy for pain intensity and MMO.

A systematic review and meta-analysis conducted by Armijo-Olivo et al. (2016) was rated as moderate overall quality. A detailed assessment of the review showed that for pain intensity manual therapy interventions including manipulative therapy, when used as a monotherapy, did not achieve clinically relevant outcomes. Further, it was not possible to distinguish the effects on pain intensity with manual therapy when combined with exercise interventions. Over the short-term, manual therapy demonstrated potentially clinically meaningful benefit concerning MMO. Manual therapy alone (6 RCTs) showed mixed results for individuals diagnosed as having mixed (arthrogenous and myogenous) TMD.

In summary, the current body of evidence regarding the efficacy of manual therapy for TMD consists of generally promising results across patient-important outcomes. However, confidence in the estimates of effect is limited by the low quality of evidence, uncertainty about clinical relevance, and durability of outcomes.

Coding Information

Note: The Current Procedural Terminology (CPT) codes listed in this policy may not be all inclusive and are for reference purposes only. The listing of a service code in this policy does not imply that the service described by the code is a covered or non-covered health service. Coverage is determined by the member's benefit document.

Code	Description
98943	Chiropractic manipulative treatment (CMT); extraspinal, 1 or more regions
97140	Manual therapy techniques (e.g., mobilization/manipulation, manual lymphatic drainage, manual traction), 1 or more regions, each 15 minutes

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Review and Approval History

Date	Action
5/26/2004	Original effective date
1/2005	Annual review completed
3/2006	Annual review completed
4/2007	Annual review completed
4/10/2008	Annual review completed
11/11/2008	Policy header rebranded, “OptumHealth Care Solutions-Physical Health”
1/15/2009	Policy placed in new format
4/30/2009	Annual review completed
1/14/2010	Policy revised. Augmented literature extraction: GRADE appraisal scheme applied; Policy statement revised to describe specific disorders; Plain Language Summary appended
4/8/2010	Annual review complete
10/26/2010	Policy rebranded to “OptumHealth Care Solutions, Inc. (OptumHealth)”
1/27/2011	The *Wrist and Hand Disorders* portion of the Background section was updated to reflect additional evidence. Tables 1 and 4 were revised. The Policy Statement was updated to show that manipulation/mobilization for carpal tunnel syndrome has been determined to be clinically appropriate.
4/7/2011	Annual review completed
4/19/2012	Annual review completed
4/18/2013	Annual review completed
4/17/2014	Annual review completed Policy rebranded “Optum* by OptumHealth Care Solutions, Inc.”
4/16/2015	Annual review completed
4/21/2016	Annual review completed
4/20/2017	Annual review completed; Legal entity name changed from “OptumHealth Care Solutions, Inc.” to “OptumHealth Care Solutions, LLC.”
4/26/2018	Annual review completed; no significant change to document
4/25/2019	Annual review completed; Title changed to “Extraspinal Manual Therapy Interventions”; The Policy Statement was revised to include all upper and lower extremity musculoskeletal disorders; Definitions, Background, Evidence Review, and Plain Language Summary sections all revised; References updated.
4/23/2020	Annual review completed; No new evidence was identified that would change the policy statement
4/21/2021	Annual review completed; No new evidence was identified that would change the policy statement
5/3/2022	Annual review completed

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.
4/27/2023	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. Document content transitioned to new policy template. No significant changes made to the document. Approved by Optum Clinical Guideline Advisory Committee.
04/25/2024	Annual review and approval by Optum Quality Improvement Committee.
01/08/2025	Annual review No substantive changes. Approved by Optum Clinical Guideline Advisory Committee.
04/24/2025	Annual review and approval by Quality Improvement Committee.

Plain Language Summary

Extraspinal Manual Therapy
Utilization Management Policy #81

Plan language summaries are provided by Optum to supplement the associated clinical policy or guideline. These summaries are not a substitute for advice from your own healthcare provider.

What is extraspinal manual therapy for musculoskeletal disorder and what is it known for?

Manual therapy is a treatment that uses hands-on pressure to gently move your joints and tissues to correct any restrictions in your range of motion. Manual therapy has been shown to be effective treatment options for common spinal pain of musculoskeletal origin.

There is evidence that manual therapy of the extremity (extraspinal) joints appears to be helpful for treating certain conditions involving the upper and lower extremities.

How was extraspinal manipulative/mobilization therapy for musculoskeletal disorders evaluated?

A work group of clinicians was assigned to review the available research. The internet was searched for articles about manual therapy of the extremities and/or jaw for the treatment of a wide range of musculoskeletal disorders. The work group independently examined the selected research studies. A broadly accepted rating scale was used. Possible ratings were high, moderate, low, or critically low quality.

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?

Manual therapy may be helpful in the treatment musculoskeletal conditions involving the upper extremity (shoulder, elbow, wrist, and hand) and lower extremity (hip, knee, ankle, and foot). In particular, manual therapy may help with pain and your ability to do daily activities. At present, there is not enough evidence of benefit to recommend manual therapy for temporomandibular joint (TMJ) dysfunction or jaw pain. Research evidence does not support the use of extraspinal manual therapy for the treatment of spine-related disorders (neck and low back pain).

Further research can be expected to help better understand the role of manual therapy for the treatment of individuals with extremity and jaw disorders.

What were the limitations of the information?

The research supporting manual therapy of the extremities is based upon limited study. For the most part, manual therapy of the extremities has not been compared to commonly used medications. Additional research will help in more accurately defining the benefit from these services.

What are the conclusions?

Extraspinal manual therapy is considered to be proven and medically necessary when:

- The services are covered by your health plan; and
- Your health care provider has a diagnosed health condition/disorder for which extraspinal manual therapy techniques are clinically appropriate and not contraindicated; and
- Skilled care services are warranted

Extraspinal manual therapy is considered to be unproven and not medically necessary for the treatment of pain and dysfunction of the jaw (temporomandibular joint) and for spinal disorders (neck and low back pain).