



# Determination of safety to deliver thrust joint manipulation to a specific region

Optum Health Solutions Musculoskeletal (MSK)  
Utilization management policy  
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# Policy statement

Proposed manipulative services may not be approved when the clinical presentation (history, physical findings and/or diagnostic studies) is indicative of contraindications to this procedure. When proposed services are contraindicated, support clinicians will contact the health care provider to ensure patient safety.

## Purpose

To ensure that utilization review determinations consider the safety of proposed thrust joint manipulation to a region.

## Scope

All in and out of network programs involving all provider types, where utilization review determinations are rendered for spinal and/or extraspinal manipulation procedures.

## Definitions

The following definitions apply to this policy:

### Adverse events (AE)

Unwanted side effects that can range from medium to long term in duration with mild to severe symptoms. May be serious and unacceptable to the patient and may require further treatment (Puentedura & O'Grady, 2015).

### 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 (Clar et al., 2014).

### Thrust joint manipulation (TJM)

High-velocity/low-amplitude therapeutic movements ( Noteboom et al., 2015).

### Absolute contraindication

Circumstances that are considered inappropriate as it places the patient at risk for an adverse event ( Puentedura et al., 2012).

### Relative contraindication

Any circumstance that can place a patient at risk for an adverse event unless the treatment approach is modified (Puentedura & O'Grady, 2015).

# Background

Manipulative therapy is utilized by chiropractors, physical therapists, and other healthcare practitioners to treat a multitude of disorders including spine-related disorders, headaches, and various conditions affecting the upper or lower extremities (Clar et al., 2014). Thrust joint manipulation (TJM) incorporates high-velocity/low-amplitude (HVLA) methods, which are common among the different manipulative technique systems (Puentedura et al., 2015). The appropriateness of manipulative therapy has been described for conditions involving spinal regions: cervical (Puentedura et al., 2012), thoracic (Puentedura, et al., 2015), lumbo-sacral (Xia et al., 2016) and extraspinal regions (Clar et al., 2014).

The safety of TJM to a specific region can be determined by identifying pre-existing conditions that might be indicative of a patient's risk for an adverse event (AE) (Puentedura et al., 2012). The consideration of contraindications (absolute and relative) and 'red flag' factors or symptoms can be used in conjunction with sound clinical reasoning to guide judgments about the safety of TJM (van der Velde, 2008). TJM should not be performed to the area of pathology when absolute contraindications are present (Table 1) (Puentedura & O'Grady, 2015). The presence of other conditions may require modification of TJM (eg, non-thrust techniques) and can be viewed as relative contraindications (Table 2) (Puentedura & O'Grady, 2015). TJM should be deferred depending on the need for further examination and diagnostic testing when red flags suggestive of underlying contraindications to TJM are identified (Table 3) (Puentedura et al., 2012).

# Table 1. Absolute contraindications to TJM

1	Anomalies such as dens hypoplasia, unstable os odontoideum, etc.
2	Acute fracture
3	Spinal cord tumor
4	Acute infection such as osteomyelitis, septic discitis, and tuberculosis of the spine
5	Meningeal tumor
6	Hematomas, whether spinal cord or intra-canalicular
7	Malignancy involving the treatment site
8	Frank disc herniation with accompanying signs of progressive neurological deficit
9	Basilar invagination of the upper cervical spine
10	Arnold-Chari malformation of the upper cervical spine
11	Dislocation at the treatment site
12	Aggressive types of benign tumors (eg, aneurismal bone cyst, giant cell tumor, osteoblastoma or osteoid osteoma)
13	Internal fixation/stabilization devices
14	Neoplastic disease of muscle or other soft tissue
15	Positive Kernig's or Lhermitte's signs
16	Congenital, generalized hypermobility
17	Signs or patterns of instability at the treatment site
18	Syringomyelia
19	Hydrocephalus of unknown etiology
20	Diastematomyelia
21	Cauda equina syndrome
22	Vertebral artery abnormalities, vertebrobasilar insufficiency
23	Spinal fusions
24	Angina pectoris
25	Untreated cardiac insufficiency, untreated cardiac dysrhythmias
26	Aortic aneurysm

List may not include all possible absolute contraindications.  
Adapted from Puentedura & O'Grady (2015).

## Table 2. Relative contraindications to TJM

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1	Progressive spondylolisthesis
2	Articular hypermobility, and circumstances where the stability of the joint is uncertain
3	Post-surgical joints or segments with no evidence of instability
4	Bone demineralization
5	Severe painful disc pathology eg, discitis or disc herniation
6	Bleeding disorders and anticoagulant therapy
7	Psychological factors (eg, aberrant behavior patterns) where TJM represents inappropriate treatment
8	Adverse reaction to previous TJM
9	Arterial hypertension
10	Serious kyphosis or scoliosis
11	Herpes zoster on the thoracic spine
12	Systemic infections
13	Psychological dependence upon manipulation
14	Pain with psychological overlay
15	No change or worsening of symptoms after multiple manipulations

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List may not include all possible relative contraindications.

Adapted from Puentedura & O'Grady (2015).

## Table 3. Red flags

1	History of cancer
2	History of injection drug use
3	Recent genitourinary or gastrointestinal procedure
4	Fever, chills, night sweats
5	Unexplained recent weight loss
6	Immunocompromised status
7	Pain worse at night
8	Unremitting pain (even when supine)
9	Incontinence
10	Saddle anesthesia
11	Severe or rapidly progressive neurologic deficit
12	Previous diagnosis of vertebrobasilar insufficiency or stroke
13	Facial/intraoral anesthesia or paraneesthesia
14	Visual disturbances, blurred vision, diplopia
15	Dizziness/vertigo
16	Nausea
17	Tinnitus
18	Drop attacks
19	Dysarthria
20	Dysphagia
21	Any symptom listed in #'s 13 to 20 aggravated by position or movement of the neck
22	No change or worsening of symptoms after multiple manipulations

List may not include all possible red flags

Adapted from Puentedura et al. (2012).

# References

Clar C, Tsertsvadze A, Court R, et al. (2014). Clinical effectiveness of manual therapy for the management of musculoskeletal and nonmusculoskeletal conditions: systematic review and update of UK evidence report. *Chiropractic & Manual Therapies* 22:12

Funabashi M, Pohlman KA, Goldsworthy R, Lee A,. (2020). Beliefs, perceptions and practices of chiropractors and patients about mitigation strategies for benign adverse events after spinal manipulation therapy. *Chiropr Man Therap.*28(1):46. doi: 10.1186/s12998-020-00336-3.

Noteboom, T., Little, C., Boissonnault W. (2015). Thrust Joint Manipulation Curricula in First-Professional Physical Therapy Education: 2012 Update. *Journal of Orthopaedic & Sports Physical Therapy.* 45( 6).

Puentedura EJ, March J, Anders J, et al. (2021). Safety of cervical spine manipulation: are adverse events preventable and are manipulations being performed appropriately? A review of 134 case reports. *Journal of Manual & Manipulative Therapy.*20(2):66-74.

Puentedura EJ, O'Grady WH. (2015) Safety of thrust joint manipulation in the thoracic spine: a systematic review. *Journal of Manual & Manipulative Therapy.*23(3):154-61

van der Velde G, Hogg-Johnson S, Bayoumi AM et al. (2008). Identifying the best treatment among common nonsurgical neck pain treatments: a decision analysis. *Spine (Phila Pa 1976)* 33(4 Suppl):S184-91. doi: 10.1097/BRS.0b013e31816454f8.

Xia T, Long CR, Gudavalli MR, et al. (2016). Similar Effects of Thrust and Nonthrust Spinal Manipulation Found in Adults With Subacute and Chronic Low Back Pain: A Controlled Trial With Adaptive Allocation. *Spine (Phila Pa 1976).* 41(12):E702-E709. doi: 10.1097/BRS.0000000000001373.



# Policy history and revisions

Date	Action
1/1997	Original effective date
3/24/1998	Annual review completed
1/28/1999	Annual review completed
2/23/2000	Annual review completed
3/7/2001	Annual review completed
9/20/2002	Annual review completed
11/11/2003	Annual review completed
11/18/2004	Annual review completed
2/14/2006	Annual review completed
12/4/2006	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 into new format
4/30/2009	Annual review completed
4/8/2010	Annual review completed
10/26/2010	Policy rebranded to "OptumHealth Care Solutions, Inc. (OptumHealth)"
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. The title, definitions and background were revised to reflect changes in terminology associated with manipulative therapy. The references were updated to support the revisions. Legal entity name changed from "OptumHealth Care Solutions, Inc" to " OptumHealth Care Solutions, LLC"
4/26/2018	Annual review completed
4/25/2019	Annual review completed
4/23/2020	Annual review completed
4/22/2021	Annual review completed

<b>5/3/2022</b>	Annual review completed
<b>6/29/2022</b>	Updated legal entity name "OptumHealth Care Solutions, LLC" to *Optum™ Physical Health ("Optum") include OptumHealth Care Solutions, LLC; 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
<b>4/27/23</b>	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
<b>1/31/24</b>	Annual review complete; no substantive changes. Approved by Optum Clinical Advisory Committee
<b>4/25/2024</b>	Annual review and approval completed. Document content transitioned to new policy template. No significant changes made to the document.

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