

Subject: Chiropractic **Revision Date:** 3/25

DESCRIPTION

The OSU Health Plan limits coverage of chiropractic services to the treatment of the conditions and/or diagnoses listed in this policy, where the legally licensed chiropractor is practicing within the scope of his/her license. These diagnoses must include appropriate clinical information to support the medical necessity for such treatments.

APPLICABILITY

This policy applies to all OSU Health Plan (OSUHP) benefit plans.

DEFINITIONS

<u>Chiropractic</u>: from Greek words meaning done by hand. It is grounded in the principle that the body can heal itself when the skeletal system is correctly aligned, and the nervous system is functioning properly. To achieve this, the practitioner uses his or her hands or an adjusting tool to perform specific manipulations of the vertebrae.

POLICY

The OSU Health Plan considers chiropractic services medically necessary when all the following criteria are met:

- The member has a neuromusculoskeletal disorder that is covered in this policy; and
- The medical necessity for treatment is clearly documented; and
- Improvement is documented within the initial 2 weeks of chiropractic care.

If no improvement is documented within the initial 2 weeks, additional chiropractic treatment is considered not medically necessary unless the chiropractic treatment is modified.

If no improvement is documented within 30 days despite modification of chiropractic treatment, continued chiropractic treatment is considered not medically necessary.

Once the maximum therapeutic benefit has been achieved, continuing chiropractic treatment is considered not medically necessary.

Maintenance chiropractic manipulation is not covered.

PROCEDURE

OSU Health Plan may request treatment plans and progress notes for medical review. We reserve the right to review past records and claims submissions.

OSU Health Plan requires fully documented treatment plan and SOAP notes for each visit billed to include:

- Appropriate and legible SOAP chart notes documentation.
- Progress reports and notes which document the following:

Diagnosis or diagnoses must support the level of care provided.
 MMPP 13.0 Chiropractic
 Page 2 of 24

- Medical necessity of the care provided must be demonstrated and may be subject to review (see criteria below).
- Procedures performed must be within the scope of licensure as defined by the appropriate licensing boards within Ohio or the state in which the procedure is performed.

EVALUATION AND MANAGEMENT SERVICES

A new patient evaluation and management (E&M) service is eligible for reimbursement in addition to the Chiropractic Manipulative Therapy (CMT 98940-98943) once per every three years. Providers billing a new E&M service must be from a different practice if billing sooner than three years.

Established patient E&M codes (9921X) may be used every 4 weeks thereafter if the member's condition requires above and beyond the usual pre-service and post-services associated with the procedure. An established patient E&M code may be used more frequently than every 4 weeks for a change in the member's condition (i.e., different diagnosis). The appropriate modifier (-25) must be used to indicate an E&M code is being used along with the additional chiropractic manipulative treatments (CMT) being addressed. Medical records to support the additional E&M service may be requested and the provider shall make these records available upon request. Any other services apart from an E&M service provided on the same day by the same provider in addition to the Chiropractic treatment will be reviewed separately for medical necessity.

Frequent use of higher-level codes (99214, 99215, 99204, 99205, 98942, 98943) may prompt a file review. Use of 98943 alone should be denied as provider liability.

The network average is expected to be 8-10 visits per case. An excessive number of visits may prompt a file review. OSU Health Plan reserves the right to review past records and claims submissions to determine medical necessity.

MODALITIES

Up to two therapeutic modalities (e.g., ultrasound, hot packs, and electrical muscle stimulation 97XXX, G0283) may be billed in additional to CMT. Radicular symptoms (sciatica, brachial neuralgia) may justify traction as a third modality.

PHYSICAL THERAPY SERVICES

Physical therapy not performed at the time of chiropractic treatment and not billed in the chiropractic E&M or CMT fee is not covered unless the site is an approved network provider for physical therapy services according to the OSU Faculty and Staff Health Plans Specific Plan Details Document. Group therapy is not covered (i.e., CPT 97150).

X-RAY SERVICES

Regional X-rays may be appropriate on the first visit with the following conditions and if same X-rays were not already performed recently:

- History of previous trauma to the same body region
- History of fracture, neoplasm, or arthritis in the same region
- History of cancer that could metastasize to the involved region
- Elderly patients
- Suspicion of osteoporosis

Follow up x-rays are rarely appropriate unless there has been a new injury, change in condition or failure to respond to treatment. Requests for follow up x-rays and/or full spine x-rays will prompt a file review.

DURABLE MEDICAL EQUIPMENT

Standard over the door traction (HCPC code E0942) can be dispensed by a Chiropractor if included in the provider's contract. All other DME must be provided by a participating

approved DME Provider.

PRIOR AUTHORIZATION

Prior authorization is not required for chiropractic services. However, OSU Health Plan may request treatment plans and progress notes for medical review. We reserve the right to review past records and claims submissions.

EXCLUSIONS

OSUHP does not cover the follow chiropractic services:

- Maintenance services
- Group therapy
- Massage therapy not performed at the time of chiropractic treatment.
- No more than three modalities per session of chiropractic treatment
- Chiropractic treatment in asymptomatic patients.

The OSU Health Plan considers chiropractic services experimental and investigational for all other indications, including but not limited to any of the following conditions, because there is inadequate scientific research assessing the efficacy of chiropractic services compared with placebo, sham chiropractic, or other modalities of treatment in these conditions:

- Asthma
- Attention deficit hyperactivity disorder
- Autism
- Cervicogenic headache
- Chronic obstructive pulmonary disease
- Colic

- Depression
- Diseases of the digestive system
- Disorders of the foot and ankle
- Dysmenorrhea
- Epilepsy and recurrent seizures
- Hypertension
- Improvement of brain function
- Infertility
- Maternal care for breech presentation
- Menopausal and female climacteric states
- Migraine
- Nocturnal enuresis
- Otitis media
- Pervasive developmental disorder
- Post traumatic seizures
- Premenstrual symptoms
- Prevention of falls
- Gastroesophageal reflux disease
- Scoliosis [and kyphoscoliosis], idiopathic; resolving infantile idiopathic scoliosis; and progressive infantile idiopathic scoliosis
- Temporomandibular joint disorder
- Tension headache
- Treatment of post-concussion syndrome
- Unspecified convulsions [seizure disorder NOS]
- Vertigo

The OSU Health Plan considers the following chiropractic procedures experimental and investigational:

- Active Release Technique
- Active Therapeutic Movement (ATM2)
- Advanced Biostructural Correction (ABC) Chiropractic Technique
- Applied Spinal Biomechanical Engineering
- Atlas Orthogonal Technique
- Bioenergetic Synchronization Technique
- Biogeometric Integration
- Blair Technique
- Bowen Technique
- Chiropractic Biophysics Technique
- Coccygeal Meningeal Stress Fixation Technique
- ConnecTX (an instrument-assisted connective tissue therapy program)
- Cox decompression manipulation/technique
- Cranial Manipulation
- Directional Non-Force Technique
- FAKTR (Functional and Kinetic Treatment with Rehab) Approach
- Gonzalez Rehabilitation Technique
- Inertial traction (inertial extensilizer decompression table)
- IntraDiscNutrosis program
- Koren Specific Technique
- Manipulation for infant colic
- Manipulation for internal (non-neuromusculoskeletal) disorders (Applied Kinesiology)
- Manipulation Under Anesthesia

- Moire Contourographic Analysis
- Network Technique
- Neural Organizational Technique
- Neuro Emotional Technique
- NUCCA (National Upper Cervical Chiropractic Association) procedure
- Origin Insertion Release Technique
- Positional release therapy
- Sacro-Occipital Technique
- Spinal Adjusting Devices (ProAdjuster, PulStarFRAS, Activator)
- Therapeutic (Wobble) Chair
- Upledger Technique and Cranio-Sacral Therapy
- Vertebral Axial Decompression (VAX-D)
- Webster Technique (for breech babies)
- Whitcomb Technique

CODES

Following CPT codes may be covered according to the above guidelines

CPT/HCPC CODES	DESCRIPTION
72020	Radiologic examination, spine, single view, specify
	level
72040	Radiologic examination, spine, cervical; 2 or 3 views
72050	Radiologic examination, spine, cervical; 4 or 5 views
72052	Radiologic examination, spine, cervical; 6 or more views
72070	Radiologic examination, spine; thoracic, 2 views
72072	Radiologic examination, spine; thoracic, 3 view

72074	Radiologic examination, spine; thoracic, minimum of
	4 views
72080	Radiologic examination, spine; thoracolumbar
	junction, minimum of 2 views
72081	Radiologic examination, spine, entire thoracic and
	lumbar, including skull, cervical and sacral spine if
	performed (eg, scoliosis evaluation); one view
72082	Radiologic examination, spine, entire thoracic and
	lumbar, including skull, cervical and sacral spine if
	performed (eg, scoliosis evaluation); 2 or 3 views
72083	Radiologic examination, spine, entire thoracic and
	lumbar, including skull, cervical and sacral spine if
	performed (eg, scoliosis evaluation); 4 or 5 views
72084	Radiologic examination, spine, entire thoracic and
	lumbar, including skull, cervical and sacral spine if
	performed (eg, scoliosis evaluation); minimum of 6
	views
72100	Radiologic examination, spine, lumbosacral; 2 or 3
	views
72110	Radiologic examination, spine, lumbosacral;
	minimum of 4 views
72114	Radiologic examination, spine, lumbosacral;
	complete, including bending views, minimum of 6
	views
72120	Radiologic examination, spine, lumbosacral; bending
	views only, 2 or 3 views
97010	Application of a modality to 1 or more areas; hot or
	cold packs
97012	Application of a modality to 1 or more areas; traction,
	mechanical

97014	Application of a modality to 1 or more areas;
	electrical stimulation (unattended)
97016	Application of a modality to 1 or more areas;
	vasopneumatic devices
97018	Application of a modality to 1 or more areas; paraffin
	bath
97022	Application of a modality to 1 or more areas;
	whirlpool
97024	Application of a modality to 1 or more areas;
	diathermy (eg, microwave)
97026	Application of a modality to 1 or more areas; infrared
97028	Application of a modality to 1 or more areas;
	ultraviolet
97110 -97799	Physical medicine and rehabilitation [excluding group
	therapy codes]
98940	Chiropractic manipulative treatment (CMT); spinal,
	one to two regions
98941	spinal, three to four regions
98942	spinal, five regions
98943	extraspinal, one or more regions
99202	Office or other outpatient visit for the evaluation
	and management of a new patient, which requires a
	medically appropriate history and/or examination
	and straightforward medical decision making.
	When using total time on the date of the encounter
	for code
	selection, 15 minutes must be met or exceeded.

99203	Office or other outpatient visit for the evaluation and
	management of a new patient, which requires a
	medically appropriate history and/or examination
	and low level of medical decision making. When
	using total time on the date of the encounter for
	code
22224	selection, 30 minutes must be met or exceeded.
99204	Office or other outpatient visit for the evaluation and
	management of a new patient, which requires a
	medically appropriate history and/or examination
	and moderate level of medical decision making.
	When using total time on the date of the encounter
	for code
	selection, 45 minutes must be met or exceeded.
99205	Office or other outpatient visit for the evaluation and
	management of a new patient, which requires a
	medically appropriate history and/or examination
	and high level of medical decision making. When
	using total time on the date of the encounter for code
	selection, 60 minutes must be met or exceeded.
99211	Office or other outpatient visit for the evaluation
	and management of an established patient that may
	not require the presence of a physician or other
	qualified
	health care professional
99212	Office or other outpatient visit for the evaluation and
	management of an established patient, which
	requires a medically appropriate history and/or
	examination and straightforward medical decision
	making. When using total time on the date of the
	encounter for code selection, 10 minutes must be
	met or exceeded.

99213	Office or other outpatient visit for the evaluation and
	management of an established patient, which
	requires a medically appropriate history and/or
	examination and low level of medical decision
	making. When using total time on the date of the
	encounter for code selection, 20 minutes must be
	met or exceeded.
99214	Office or other outpatient visit for the evaluation and
	management of an established patient, which
	requires a medically appropriate history and/or
	examination and moderate level of medical decision
	making. When using total time on the date of the
	encounter for code selection, 30 minutes must be
	met or exceeded.
99215	Office or other outpatient visit for the evaluation and
	management of an established patient, which
	requires a medically appropriate history and/or
	examination and high level of medical decision
	making. When using total time on the date of the
	encounter for code selection, 40 minutes must be
	met or exceeded
G0283	Electrical stimulation (unattended), to one or more
	areas for indication(s) other than wound care, as part
	of a therapy plan of care
E0942	Cervical head harness/halter

DIAGNOSES WHICH MAY SUPPORT MEDICAL NECESSITY

ICD-10 Codes covered if selection criteria are met:

Information in the [brackets] below has been added for clarification purposes. Codes requiring a 7th character are represented by "+"

ICD-10 CODE	DESCRIPTION

G24.3	Spasmodic torticollis
G54.0 – G55	Nerve root and plexus disorders
G56.00 – G56.93	Mononeuritis of upper limb
G57.00 – G59	Mononeuritis of lower limb
G71.0 - G72.9	Primary disorders of muscles and other myopathies
G80.0 - G80.9	Cerebral palsy
M05.00 – M08.99	Rheumatoid arthritis and other inflammatory
	polyarthropathies
M12.00 - M13.89	Other and unspecified arthropathies
M15.0 - M19.93	Osteoarthritis and allied disorders
M20.001 – M25.9	Other joint disorders
M35.3	Rheumatism, shoulder lesions and enthesopathies
M75.00 – M79.9	[excludes back]
M40.00 - M40.57, M42.00 -	Deforming dorsopathies, spondylitis and other
M54.9	Dorsopathies [excluding scoliosis]
M85.30 – M85.39	Osteitis condensans
M89.00 - M89.09	Algoneurodystophy
M91.10 - M94.9	Osteochondropathies
M95.3	Acquired deformity of neck
M95.5	Acquired deformity of pelvis
M95.8	Other specified acquired deformities of
	musculoskeletal
	system
M95.9	Acquired deformities of musculoskeletal system,
	unspecified
M99.00 - M99.09	Segmental and somatic dysfunction
M99.10 - M99.19	Subluxation complex (vertebral)
M99.83 – M99.84	Other acquired deformity of back or spine
Q65.00 - Q68.8	Congenital musculoskeletal deformities
Q72.70 - Q72.73, Q74.1 -	Congenital malformations of lower limb, including

Q74.2	pelvic girdle
Q74.0, Q74.9, Q87.89	Congenital malformations of upper limb, including
	shoulder girdle
Q76.0 - Q76.49	Congenital malformations of spine
Q77.0 - Q77.1	Osteochondropdysplasia
Q77.4 - Q77.5	
Q77.7 – Q77.9	
Q78.9	
S13.0XX+-S13.9XX+, S23.0XX+	Dislocation and sprains of joints and ligaments
- S23.9XX+,	
S33.0XX+ - S33.9XX+,	
S43.001+-S43.92X+, S53.001+	
- S53.499, S63.001+ - S63.92X+,	
S73.001+ - S73.199+, S83.001 -	
S83.92X+,	
S93.01X+ - S93.699+	
S14.2XX+ - S14.9XX+,	Injury to nerve roots and spinal plexus
S24.2XX+-S24.9XX+, S34.21X+-	
S34.9XX+	
S16.1XX+	Strain of muscle, fascia, and tendon at neck level
S23.41X+-S23.429+, S33.4XX+,	Sprain of other ribs, sternum, and pelvis
S33.8XX+ - S33.9XX+	
S29.002+, S29.012+,	Injury or strain of muscle, fascia, and tendon of
S29.092+	thorax
S39.002+, S39.012+,	Injury or strain of muscle, fascia, and tendon of lower
S39.092+	back
S44.00X+ - S44.92X+	Injury of nerves at shoulder and upper arm level

S46.011+ - S46.019+,	Injury of muscle, fascia and tendon at shoulder and
S46.111+ - S46.119+,	upper arm level
S46.211+ - S46.219+,	
S46.311+ - S46.319+,	
S46.811+ - S46.819+,	
S46.911+ - S46.919+	
S74.00X+ - S74.92X+	Injury of nerves at hip and thigh level
S76.011+ - S76.019+,	Injury of strain of muscle, fascia and tendon at hip
S76.111+ - S76.119+,	and thigh level
S76.211+ - S76.219+,	
S76.311+ - S76.319+,	
S76.811+ - S76.819+,	
S76.911+ - S76.919+	
S84.00X+ - S84.92X+	Injury of nerves at lower leg level
S86.011+ - S86.019+,	Injury of muscle, fascia, and tendon at lower leg level
S86.111+ - S86.119+,	
S86.211+ - S86.219+,	
S86.311+ - S86.319+,	

S86.811+ - S86.819+,	
S86.911+ - S86.919+	
S94.011+ - S94.019+,	Injury of nerves at ankle and foot level
S94.111+ - S94.119+,	
S94.211+ - S94.219+,	
S94.311+ - S94.319+,	
S94.811+ - S94.819+,	
S94.911+ - S94.919+	
S96.011+ - S96.019+,	Injury of muscle, fascia and tendon at ankle and foot
S96.111+ - S96.119+,	level
S96.211+ - S96.219+,	
S96.311+ - S96.319+,	
S96.811+ - S96.819+,	
S96.911+ - S96.919+	

REFERENCES

Aetna. (2024). *Chiropractic services*. Retrieved from http://www.aetna.com/cpb/medical/data/100_199/0107.html

American Medical Association. (2015). Standard edition current procedural terminology.

Asquini, G., Pitance, L., Michelotti, A., & Falla, D. (2022). Effectiveness of manual therapy applied to craniomandibular structures in temporomandibular disorders:

A systematic review. *Journal of Oral Rehabilitation, 49*(4), 442-455. DOI: 10.1111/joor.13299

Axén, I., Hestbaek, L., & Leboeuf-Yde, C. (2019). Chiropractic maintenance care – what's new? A systematic review of the literature. *Chiropractic & Manual Therapies*, 27, 63. DOI: 10.1186/s12998-019-0283-6

- Bakken, A.G., Eklund, A., Hallman, D.M., & Axén. (2021). The effect of spinal manipulative therapy and home stretching exercises on heart rate variability in patients with persistent or recurrent neck pain: A randomized controlled trial. *Chiropractic & Manual Therapies*, 29, 48. DOI: 10.1186/s12998-021-00406-0
- Bello, B., Danazumi, M.S., & Kaka, B. (2019). Comparative effectiveness of 2 manual therapy techniques in the management of lumbar radiculopathy: A randomized clinical trial. *Journal of Chiropractic Medicine*, 18(4), 253-260. DOI: 10.1016/j.jcm.2019.10.006
- Bin, Y.S., Postnova, S., & Cistulli, P.A. (2019). What works for jetlag? A systematic review of non-pharmacological interventions. *Sleep Medicine Reviews*, 43, 47-59. DOI: 10.1016/j.smrv.2018.09.005
- Chaibi A Benth JS, Tuchin PJ, Russell MB. Chiropractic spinal manipulative therapy for migraine: A three-armed, single-blinded, placebo, randomized controlled trial. Eur J Neurol. 2017;24(1):143-153.
- Chaibi A, Knackstedt H, Tuchin PJ, Russell MB. Chiropractic spinal manipulative therapy for cervicogenic headache: a single-blinded, placebo, randomized controlled trial.

BMC Res Notes. 2017 Jul 24;10(1):310. doi: 10.1186/s13104-017-2651-4. PMID: 28738895; PMCID: PMC5525198.

- Chaibi, A., Stavem, K., & Russell, M.B. (2021). Spinal manipulative therapy for acute neck pain: A systematic review and meta-analysis of randomised controlled trials. *Journal of Clinical Medicine*, 10(5011), 5011. DOI: 10.3390/jcm10215011
- Cheever, K., McDevitt, J., Phillips, J., & Kawata, K. (2021). The role of cervical symptoms in post-concussion management: A systematic review. *Sports Medicine*,

- Chiropractic care. (n.d.) *Gale Encyclopedia of Medicine*. (2008). Retrieved March 12 2025 from https://medical-dictionary.thefreedictionary.com/Chiropractic+care
- Corcoran, K.L., Bastian, L.A., Gunderson, C.G., Steffens, C., Brackett, A., & Lisi, A.J. (2020). Association between chiropractic use and opioid receipt among patients with spinal pain: A systematic review and meta-analysis. *Pain Medicine*, *21*(2), e139-e145. DOI: 10.1093/pm/pnz219
- Corso, M., Cancelliere, C., Mior, S., Taylor-Vaisey, A., & Côté, P. (2020). The safety of spinal manipulative therapy in children under 10 years: A rapid review. *Chiropractic & Manual Therapies*, 28, 12. DOI: 10.1186/s12998-020-0299-y
- Corso, M., Mior, S.A., Batley, S., Tuff, T., da Silva-Oolup, S., Howitt, S., & Srbely, J. (2019). The effects of spinal manipulation on performance-related outcomes in healthy asymptomatic adult population: A systematic review of best evidence. Chiropr Man Therap, 27, 25. DOI: 10.1186/s12998-019-0246-y
- Côté, P., et al. (2021). The global summit on the efficacy and effectiveness of spinal manipulative therapy for the prevention and treatment of non-musculoskeletal disorders: A systematic review of the literature. *Chiropractic & Manual Therapies*, 29(8). DOI: 10.1186/s12998-021-00362-9
- de Zoete, A., Rubinstein, S.M., de Boer, M.R., Ostelo, R., Underwood, M., Hayden, J.A., Buffart, L.M., & van Tulder, M.W. (2021). The effect of spinal manipulative therapy on pain relief and function in patients with chronic low back pain: An individual participant data meta-analysis. *Physiotherapy*, 112, 121-134. DOI: 10.1016/j.physio.2021.03.006

Dobson D, Lucassen PLBJ, Miller JJ, Vlieger AM, Prescott P, Lewith G. Manipulative

MMPP 13.0 Chiropractic Page 18 of 24

- therapies for infantile colic. Cochrane Database of Systematic Reviews 2012, Issue 12. Art. No.: CD004796. DOI: 10.1002/14651858.CD004796.pub2
- Driehuis, F., Hoogeboom, T.J., Nijhuis-van der Sanden, M.W., de Bie, R.A., & Staal, J.B. (2019). Spinal manual therapy in infants, children, and adolescents: A systematic review and meta-analysis on treatment indication, technique, and outcomes. *PLoS ONE*, *14*(6), e0218490. DOI: 10.1371/journal.pone.0218940
- Dyer, N.L., Surdam, J., & Dusek, J.A. (2022). A systematic review of practiced-based research of complementary and integrative health therapies as provided for pain management in clinical settings: Recommendations for the future and a call to action. *Pain Medicine*, 23(1), 189-210. DOI: 10.1093/pm/pnab151
- Ellwood, J., Draper-Rodi, J., & Carnes, D. (2020). The effectiveness and safety of conservative interventions for positional plagiocephaly and congenital muscular torticollis: A synthesis of systematic reviews and guidance. *Chiropr Man Therap*, 28(1), 31. DOI: 10.1186/s12998-020-00321-w
- Erdrich, L.M., Reid, D., & Mason, J. (2020). Does a manual therapy approach improve the symptoms of functional constipation? A systematic review of the literature.

 International Journal of Osteopathic Medicine, 36, 26-35. DOI: 10.1016/j.ijosm.2020.05.003
- Fernandez, M., Moore, C., Tan, J., Lian, D., Nguyen, J., Bacon, A., Christie, B., Shen, I., Waldie, T., Simonet, D., & Bussières, A. (2020). Spinal manipulation for the management of cervicogenic headache: A systematic review and meta-analysis. *European Journal of Pain*, 24(9), 1687-1702. DOI: 10.1002/ejp.1632
- Franke, H., Franke, J.-D., & Fryer, G. (2022). Effectiveness of osteopathic manipulative treatment for pediatric conditions: A systematic review. *Journal of Bodywork and Movement Therapies*, 31, 113-133. DOI: 10.1016/j.jbmt.2022.03.013

- Gliedt, J.A., Dawson, A.Z., Daniels, C.J., Spector, A.L., Cupler, Z.A., King, J., & Egede, L.E. (2022). Manual therapy interventions in the management of adults with prior cervical spine surgery for degenerative conditions: A scoping review. *Chiropr Man Therap*, 30(1), 13. DOI: 10.1186/s12998-022-00422-8
- Goertz, C.M., Hurwitz, E.L., Murphy, B.A., & Coulter, I.D. (2021). Extrapolating beyond the data in a systematic review of spinal manipulation for nonmusculoskeletal disorders: A fall from the summit. *Journal of Manipulative and Physiological Therapeutics*, 44(4), 271-279. DOI: 10.1016/j.jmpt.2021.02.003
- Grabowska, W., Burton, W., Kowalski, M.H., Vining, R., Long, C.R., Lisi, A., Hausdorff, J.M., Manor, B., Muñoz-Vergara, D., & Wayne, P.M. (2022). A systematic review of chiropractic care for fall prevention: Rationale, state of the evidence, and recommendations for future research. *BMC Musculoskeletal Disorders*, 23, 844. DOI: 10.1186/s12891-022-05783-y
- Gross A, Langevin P, Burnie SJ, Bédard-Brochu M, Empey B, Dugas E, Faber-Dobrescu M, Andres C, Graham N, Goldsmith CH, Brønfort G, Hoving JL, LeBlanc F.

 Manipulation and mobilisation for neck pain contrasted against an inactive control or another active treatment. Cochrane Database of Systematic Reviews 2015, Issue 9.

 Art. No.: CD004249. DOI: 10.1002/14651858.CD004249.pub4
- Hondras MA, Linde K, Jones AP. Manual therapy for asthma. Cochrane Database of Systematic Reviews 2005, Issue 2. Art. No.: CD001002. DOI: 10.1002/14651858.CD001002.pub2
- Huang T, Shu X, Huang YS, Cheuk DKL. Complementary and miscellaneous interventions for nocturnal enuresis in children. Cochrane Database of Systematic Reviews 2011, Issue 12. Art. No.: CD005230. DOI: 10.1002/14651858.CD005230.pub2
- Jung, G.H., Lee, H., Kong, H.J., Ryu, H.Y., Ku, Y.H., & Kang, J.H. (2019). A systematic

 MMPP 13.0 Chiropractic Page **20** of **24**

- review of chuna manual therapy for adolescent idiopathic scoliosis. *Journal of Acupuncture Research*, 36(3), 119-130. DOI: 10.13045/jar.2019.00157
- Kendall, J.C., Vindigni, D., Polus, B.I., Azari, M.F., & Harman, S.C. (2020). Effects of manual therapies on stability in people with musculoskeletal pain: A systematic review. *Chiropr Man Therap*, 28(1), 13. DOI: 10.1186/s12998-020-0300-9
- Lynge, S., Dissing, K.B., Vach, W., Christensen, H.W., & Hestbaek, L. (2021).

 Effectiveness of chiropractic manipulation versus sham manipulation for recurrent headaches in children aged 7-14 years a randomised clinical trial. *Chiropractic & Manual Therapies, 29*, 1. DOI: 10.1186/s12998-020-00360-3
- Lynge S, Vach W, Dissing KB, Hestbaek L. Potential effect modifiers for treatment with chiropractic manipulation versus sham manipulation for recurrent headaches in children aged 7-14 years: development of and results from a secondary analysis of a randomised clinical trial. Chiropr Man Therap. 2023 Jul 11;31(1):20. doi: 10.1186/s12998-023-00492-2. PMID: 37434189; PMCID: PMC10337090.
- MCG Health, LLC. (2018). Spinal Manipulation Therapy (SMT), Chiropractic and Other.

 Ambulatory Care Guideline A-0331 22nd Edition.
- MCG Health, LLC. (2025). Spinal Manipulation Therapy (SMT), Chiropractic and Other.

 Ambulatory Care Guideline A-0331 29th Edition.
- Moore CS, Sibbritt DW, Adams J. A critical review of manual therapy use for headache disorders: Prevalence, profiles, motivations, communication, and self-reported effectiveness. BMC Neurol. 2017a;17(1):61.
- Moore C, Adams J, Leaver A, et al. The treatment of migraine patients within chiropractic: Analysis of a nationally representative survey of 1869 chiropractors.

 MMPP 13.0 Chiropractic Page 21 of 24

- Nim, C.G., Kawchuk, G.N., Schiøttz-Christensen, B., & O'Neill, S. (2021). Changes in pain sensitivity and spinal stiffness in relation to responder status following spinal manipulative therapy in chronic low back pain: A secondary explorative analysis of a randomized trial. *BMC Musculoskeletal Disorders*, 22, 23. DOI: 10.1186/s12891-020-03873-3
- Nim, C.G., Weber, K.A., Kawchuk, G.N., & O'Neill, S. (2021). Spinal manipulation and modulation of pain sensitivity in persistent low back pain: A secondary cluster analysis of a randomized trial. *Chiropr Man Therap*, 29(1), 10. DOI: 10.1186/s12998-021-00367-4
- Papaconstantinou, E., Cancelliere, C., Verville, L., Wong, J.J., Connell, G., Yu, H., Shearer, H., Timperley, C., Chung, C., Porter, B.J., Myrtos, D., Barrigar, M., & Taylor-Vaisey, A. (2021). Effectiveness of non-pharmacologic interventions on sleep characteristics among adults with musculoskeletal pain and a comorbid sleep problem: A systematic review. *Chiropractic & Manual Therapies, 29*, 23. DOI: 10.1186/s12998-021-00381-6
- Picchiottino, M., Leboeuf-Yde, C., Gagey, O., & Hallman, D.M. (2019). The acute effects of joint manipulative techniques on markers of autonomic nervous system activity: a systematic review and meta-analysis of randomized sham-controlled trials. *Chiropractic & Manual Therapies*, 27(17), eCollection 2019. DOI: 10.1186/s12998-019-0235-1
- Posadzki P, Klimek AT, Ernst E. Spinal manipulations for migraine: an updated systematic review and meta-analysis of randomized clinical trials. Syst Rev. 2024 Nov 29;13(1):296. doi: 10.1186/s13643-024-02719-6. PMID: 39614402; PMCID: PMC11606176.

- Prevost, C.P., Gleberzon, B., Carleo, B., Anderson, K., Cark, M., & Pohlman, K.A. (2019). Manual therapy for the pediatric population: A systematic review. BMC Complement Altern Med, 19(1), 60. DOI: 10.1186/s12906-019-2447-2
- Proctor M, Hing W, Johnson TC, Murphy PA, Brown J. Spinal manipulation for dysmenorrhoea. Cochrane Database of Systematic Reviews 2006, Issue 3. Art. No.: CD002119. DOI: 10.1002/14651858.CD002119.pub3
- Rist, P.M., Hernandez, A., Bernstein, C., Kowalski, M., Osypiuk, K., Vining, R., Long, C.R., Goertz, C., Song, R., & Wayne, P.M. (2019). The impact of spinal manipulation on migraine pain and disability: A systematic review and meta-analysis. *Headache*, 59(4), 532-542. DOI: 10.1111/head.13501
- Rubinstein SM, Terwee CB, Assendelft WJJ, de Boer MR, van Tulder MW. Spinal manipulative therapy for acute low-back pain. Cochrane Database of Systematic Reviews 2012, Issue 9. Art. No.: CD008880. DOI: 10.1002/14651858.CD008880.pub2
- Rubinstein SM, van Middelkoop M, Assendelft WJJ, de Boer MR, van Tulder MW. Spinal manipulative therapy for chronic low-back pain. Cochrane Database of Systematic Reviews 2011, Issue 2. Art. No.: CD008112. DOI: 10.1002/14651858.CD008112.pub2
- Silberstein, S. D. (2000). Practice parameter: Evidence-based guidelines for migraine headache (an evidence-based review): Report of the Quality Standards

 Subcommittee of the American Academy of Neurology. *Neurology*, *55*, 754-762.
- Shekelle, P.& Vernon, H. (2018). Spinal manipulation in the treatment of musculoskeletal pain. *UpToDate*. Retrieved from <a href="http://www.uptodate.com/contents/spinal-manipulation-in-the-treatment-of-musculoskeletal-musculoskeletal-pain?source=search_result&search=chiropractic&selectedTitle=1~37

- Vernon H, Jansz G, Goldsmith CH, McDermaid C. A randomized, placebo-controlled clinical trial of chiropractic and medical prophylactic treatment of adults with tension- type headache: results from a stopped trial. J Manipulative Physiol Ther. 2009 Jun;32(5):344-51. doi: 10.1016/j.jmpt.2009.04.004. Erratum in: J Manipulative Physiol Ther. 2009 Nov-Dec;32(9):804. PMID: 19539116.
- Weis, C.A., Pohlman, K., Draper, C., da Silva-Oolup, S., Stuber, K., & Hawk, C. (2020).

 Chiropractic care of adults with postpartum-related low back pain, pelvic girdle, or combination pain: A systematic review. *Journal of Manipulative and Physiological Therapeutics*, 43(7), 732-743. DOI: 10.1016/j.jmpt.2020.05.006
- Weis, C.A., Stuber, K., Murnaghan, K., & Wynd, S. (2021). Adverse events from spinal manipulations in the pregnant and postpartum periods: A systematic review and update. *Journal of the Canadian Chiropractic Association*, 65(1), 32-49.