HEALTH PLANS
UNIVERSITY OF UTAH

Medical Policy

Chiropractic Care

Related Policies:
MP-053 Vertebral Axial Decompression
REIMB-030 Durable Medical Equipment (DME)

Policy MP-023

Origination Date: 12/13/2023

Reviewed/Revised Date: 12/18/2024

Next Review Date: 12/18/2025

Current Effective Date: 12/18/2024

Disclaimer:

1. Policies are subject to change in accordance with State and Federal notice requirements.
2. Policies outline coverage determinations for U of U Health Plans Commercial, CHIP and Healthy U (Medicaid) plans. Refer to the "Policy" section for more information.
3. Services requiring prior-authorization may not be covered, if prior-authorization is not obtained.
4. This Medical Policy does not guarantee coverage or payment of the service. The service must be a benefit in the member's plan and the member must be eligible for coverage at the time of service. Additional payment guidelines may be applied that are not included in this policy.

Description:

A chiropractor is a health care professional that focuses on disorders of the musculoskeletal system and the nervous system, and the effects of these disorders on general health. Chiropractic care is used most often to treat neuromusculoskeletal complaints, including but not limited to back pain, neck pain, joint pain in the arms or legs, and headaches".

Spinal manipulation or chiropractic adjustment is the most common therapeutic procedure performed by doctors of chiropractic. Manipulation is used to restore joint mobility, as a result of tissue injury, by manually applying a controlled force into joints that have become hypo-mobile (restricted in their movement). Tissue injury can be caused by a single traumatic event, such as improper lifting of a heavy object, sitting in an awkward position with poor spinal posture for an extended period of time, or through repetitive stresses. Injured tissues undergo physical and chemical changes that can cause inflammation, pain, and diminished function. Manipulation or adjustment may help restore mobility to the affected joints and tissues, thereby alleviating pain and muscle tightness, and allowing tissues to heal.

Policy Statement and Criteria

1. Commercial Plans/CHIP

U of U Health Plans considers chiropractic services medically necessary if ALL of the following criteria are met:

A. The member is eligible for coverage under the plan benefit;

B. The requested chiropractic service meets ALL of the following conditions:

i. The services requested are for treatment of a neuromuscular condition related to a covered injury, illness or disease;

ii. There is strong published evidence in the peer-reviewed literature supporting the services as effective and appropriate treatment for the condition;

iii. Treatments are expected to result in significant, measurable, progressive improvement in a reasonable period of time.

U of U Health Plans considers the <u>continuation</u> of chiropractic care medically necessary when ALL of the following criteria have been met:

A. The member benefit has not been exhausted

B. Member has demonstrated clinically meaningful improvement in resolving issue prompting chiropractic care or allowing for ADL's in first 2 weeks of therapy

C. Clinical documentation demonstrates potential continued realistic clinical benefit

D. Documentation supports that the member has continued to respond between treatment in a clinically meaningful manner;

E. The treatment plan includes transition to a home exercise program and stretching program once maximum therapeutic benefit has been achieved.

U of U Heath Plans covers chiropractic care for children ages 7 – 12 under limited circumstances, if ALL the following criteria are met:

A. The child has specific, chronic neuromusculoskeletal diagnosis causing significant and persistent disability;

B. Other conservative therapies have been tried and have failed to relieve the patient's symptoms;

C. Improvement is documented with the initial 2 weeks of chiropractic care.

U of U Health Plans does NOT cover chiropractic care for children < 7 years old as it is considered investigational. Current evidence is insufficient to determine efficacy and safety of chiropractic care when provided to this age group.

U of U Health Plans does not cover maintenance, preventative, or supportive in nature chiropractic therapy programs as current published evidence is insufficient to demonstrate safety and efficacy over a home designed program.

U of U Health Plans does NOT cover computerized spinal analysis in the determination of spinal alignment or other spinal assessment as it is considered investigational/ unproven. There is a lack of evidence demonstrating improvement in health outcomes with the use of this technology.

U of U Health Plans does NOT cover testing ordered by a chiropractor other than plain film x-ray, including but not limited to CT scans, MRI's and laboratory tests.

U of U Health Plans does NOT cover the following chiropractic interventions as they are considered *experimental/investigational* due to insufficient evidence to establish the safety and efficacy of these tests/treatments or their effect on health care outcomes (Not a complete list):

- Accelerated Recovery Performance (ARP) Wave Neuro Therapy
- Application of hot or cold packs
- Applied Spinal Biomechanical Engineering
- BioEnergetic Synchronization Technique
- Chiropractic Biophysics Technique
- Clear Institute Technique for Scoliosis Treatment, including the scoliosis chair
- Coccygeal Meningeal Stress Fixation Technique
- Computerized Dynamic Posturography
- Cranial Manipulation
- Craniosacral Therapy (The Upledger Institute Technique)
- Cryotherapy, cryo-spa, whole body cryotherapy
- Digital analysis of posture
- Digital radiographic mensuration analysis of spinal alignment
- Directional Non-Force Technique
- Dry Hydrotherapy/Aquamassage/ Hydromassage *(see REIMB-030 DME coverage policy)*
- Educational materials such as books and videos
- Exercise consultation, instruction, or equipment *(see REIMB-030 DME coverage policy)*
- FAKTR (Functional and Kinetic Treatment with Rehab) Approach
- Graston technique
- Iontophoresis/Phonophoresis
- Kinesio Taping
- Low Level Laser Therapy (LLLT)

- Manipulation for infant colic
- Manipulation for Internal (non-neuromuscular) Disorders/ Applied Kinesiology
- Manipulation Under Anesthesia
- Moire Contourographic Analysis
- Network Technique
- Neural Organizational Technique
- Neurocalometer/Nervoscope
- Neurometabolic therapy
- Nutritional supplements
- Orthotics ordered or provided by a chiropractor *(see REIMB-030 DME coverage policy)*
- Paraspinal Electromyography (EMG)/Surface Scanning EMG *(see REIMB-030 DME coverage policy)*
- Prescriptions or administration of drugs by chiropractor
- Prolotherapy
- Quantum-Touch
- Sacro-Occiptal Technique
- SCENAR (Self-Controlled Energo Adaptive Regulation) Therapy
- Skin Surface thermography
- Spinal manipulation under anesthesia
- Spinal tuning
- Spinoscopy
- Therapeutic Magnetic Resonance (TMR)
- Thermography
- Thermomechanical massage (eg, Spinalator, Hill Anatomotor, Chattanooga Ergo Wave)
- Treatment with crystals
- Vasopneumatic devices
- Vertebral axial decompression therapy and device *(see MP-053 Vertebral axial decompression)*
- Webster technique (to turn babies in the breech position)
- Wobble chair

2. **Medicaid Plans**

   Coverage is determined by the State of Utah Medicaid program; if Utah State Medicaid has no published coverage position and InterQual criteria are not available, the U of U Health Plans Commercial criteria will apply. For the most up-to-date Medicaid policies and coverage, please visit their website at: https://medicaid.utah.gov/utah-medicaid-official-publications/ or the Utah Medicaid code Look-Up tool

   CPT/HCPCS codes covered by Utah State Medicaid may still require further evaluation to determine medical necessity for coverage.

Clinical Rationale

The American Chiropractic Association (ACA) published guidelines encouraging the use of chiropractic specific guidelines in conjunction with the Noninvasive Treatments for Acute, Subacute, and Chronic Low Back Pain: A Clinical Practice Guideline from the American College of Physicians and therefore also adopts, but is not limited to, the clinical practice guideline from the Council on Chiropractic Guidelines and Practice Parameters (CCGPP), to provide specific guidance in the management or co-management of a patient within a chiropractic office. The clinical practice guidelines from the CCGPP were developed by chiropractors and updated in 2016 (Globe et al.). They state that the goal of chiropractic care is to improve patients' functional capacity and educate them to accept independently the responsibility for their own health. The guidelines state the following: "(1) a brief description of standard key elements

that should be included during an informed consent discussion; (2) the recommendation that routine radiographs, other imaging, and other diagnostic tests are not recommended for patients with nonspecific LBP (along with recommendations for when these studies should be considered); (3) the recommendation that the hierarchy of clinical methods used in patient care should generally correspond to the supporting level of existing evidence; (4) additional clarification about the limited use of therapeutic modalities and lumbar supports that reflects patient preferences with the intention to best facilitate the shift from passive to active care and not dependency on passive modalities with limited evidence of efficacy; (5) recognition that although range of motion testing may be clinically useful as a part of the physical examination to assess for regional mobility, the evidence does not support its reliability in determining functional status; and (6) a brief summary of the evidence informing manipulation risk versus benefit assessment."

In 2021, Côté et al. conducted a systematic review during a Global Summit in September 2019, evaluating the use of spinal manipulative therapy (SMT) to manage non-musculoskeletal disorders. The long-term safety and effectiveness for the use of chiropractic management and manual therapies in the treatment of non-neuromusculoskeletal conditions, including but not limited to hypertension, asthma, colic and otitis media have not been proven in the medical literature through quality research, such as long-term, randomized, controlled clinical trials. Based on 6 randomized controlled trials included in the systematic review, SMT was not found to be superior in comparison to sham interventions for the treatment of non-musculoskeletal disorders. The authors concluded that there is no evidence of an effect of SMT for the management of non-musculoskeletal disorders including infantile colic, childhood asthma, hypertension, and primary dysmenorrhea.

Chiropractic care in children

In addition to the study by Côté et al., a 2014 integrative review (Alcantara et al.), stated that constipation compromises the health-related quality of life of children. Chiropractic is a popular alternative therapy for children with constipation. The review noted 14 case reports, 1 case series, and 1 review of the literature. A number of chiropractic techniques were described with treatment varying according to the diagnosis, chief complaint and age of the patient. In the study's conclusion, it was felt there was inadequate evidence to determine efficacy for the use of chiropractic therapy in the care of children with constipation. More robust studies along with theoretical development were recommended.

Prior to this study a 2010 study (Borusiak et al.), examined the effectiveness of cervical spine manipulation in children and adolescents with suspected cervicogenic headaches. A total of 52 children and adolescents (21 boys and 31 girls) aged 7 to 15 years were assigned either to placebo or true manipulation with another 2-month follow-up. These investigators did not find a significant difference between the placebo group and the true manipulation group. The main outcome measures were percentage of days with headache, intensity of headache, total duration of headache, days with school absence due to headache, and consumption of analgesics. The authors concluded that they were unable to show an efficacy of cervical spine manipulation in 52 children and adolescents with suspected cervicogenic headaches.

Though a great deal of literature has been published regarding chiropractic treatment in common non-neuromusculoskeletal pediatric conditions, the evidence is still insufficient, as the majority is of low scientific value (case reports or series). A 2010 review (Ferrance and Miller) also summarized the published chiropractic literature from the point of view of clinicians, rather than researchers. Databases searched were PubMed, Mantis, Index to Chiropractic Literature, and CINAHL. Keywords were chiropractic paired with colic, crying infant, nocturnal enuresis, asthma, otitis media and ADHD. The more scientifically rigorous studies found conflicting results for colic and the crying infant, and it was

noted there was little data to suggest improvement of otitis media, asthma, nocturnal enuresis or attention deficit hyperactivity disorder (ADHD). The authors concluded that the efficacy of chiropractic care for the treatment of non-musculoskeletal disorders in children has yet to be established. They further recommended more robust high quality randomized controlled studies.

Chiropractic Biophysics Technique (CBT) - Computerized Spinal (Posture) Analysis

Chiropractic Biophysics Technique (CBT) is a variation of straight (subluxation-based) chiropractic therapies whose overall goal is to restore posture. Practitioners of CBT therapy use information from spinal measurements to make questionable diagnoses of shortened ligaments and proprioceptive problems that require prolonged and expensive treatment. Supporters of CBT are reported to ascribe to the controversial position that decreased neck curvature is pathological and requires correction whether or not the patient has symptoms and may also expose patients to unnecessary and excessive radiation from repeated x-ray studies.

The CBT method is based on the idea that postural analysis is valid for diagnosing ligament contractures, muscle weakness, and proprioceptive deficits. The assumed deficits allegedly reduce blood flow, which decreases oxygen delivery and causes various diseases. To qualify for treatment, patients undergo a postural examination and are screened for contraindications to manipulation and cervical extension traction. Therapy begins with relief care consisting of 1 to 12 sessions of spinal adjustments, cold or hot packs, trigger point therapy for muscle spasms, and/or massage with a motorized table. When relief care ends, CBT practitioners switch patients to rehabilitative care, which consists of weekly mirror image adjustments, neck and low back extension traction, as well as mirror image exercises intended to modify spinal curvature over a longer period of time. Initial rehabilitative plans often last 6 to 12 months, after which patients are switched to monthly visits for life.

There is insufficient published peer reviewed literature evaluating the effectiveness of CBT in improving clinical outcomes (e.g., reductions in pain and disability, improvements in function). Colloca and Polkinghorn (2003) outlined the use of CBT protocols in conjunction with other chiropractic techniques in 2 persons with Ehlers-Danlos syndrome. In a 10-year follow-up study of neck x-ray findings in asymptomatic patients, Gore (2001) established no relationship between the loss of neck curvature and the development of pain or degenerative changes. Haas and colleagues (1999) stated that changes in spinal structure do not necessarily cause symptoms. The authors concluded that CBT promoters have failed to establish the biological plausibility of what they consider an ideal spine, show that the ir diagnostic tests enable better patient management, demonstrate meaningful outcomes such as decreased pain or disability, and validate the routine use of spinal x-rays to measure spinal displacement.

There is insufficient scientific evidence to support the use of CBT as published peer reviewed literature focuses primarily on explaining the theoretical basis for the CBT instead of demonstrating its efficacy. Harrison et al. (1996) examined the theory underlying CBT by explaining how certain linear algebra concepts provide the theoretical basis for making postural corrections. The authors explained how CBT uses these concepts in examination procedures, manual spinal manipulation, instrument assisted spinal manipulation, postural exercises, extension traction and clinical outcome measures. Jackson et al. (1993) reported on the intra- and inter-rater reliability of the geometric line drawings used in CBT on lateral cervical radiographs. The authors concluded that the reliabilities for intra- and inter-examiner were accurate enough to provide measurements for future clinical studies.

Digital Radiographic Mensuration (CRMA):

Digital radiographic mensuration, also referred to as radiographic digitization, or computer-aided radiographic mensuration analysis (CRMA), refers to a computerized analysis of osseous geometric relationships, often employed as part of postural analysis. Mensuration is a term that refers to

chiropractic line measurements, with or without computer digitalization and may be used to evaluate subluxation and alignment. Historically, chiropractic line measurements were drawn manually on radiographs with the use of rulers, pencils and protractors. However, manual marking techniques may lead to error and more recently, computer aided or digitalized mensuration has been utilized, theoretically providing results more rapidly and with less variance. A 2000 study (Troyanovich et al.) published data comparing digital radiograph mensuration to manual methods. Few results for reliability testing have been published and some lend support to concurrent validity when compared to manual methods. Well-designed clinical trials supporting efficacy are lacking and when compared to standard chiropractic techniques, there is insufficient evidence to support that the use of this technology adds any benefit or improvement of health outcomes. Furthermore, such analysis is included in the professional component of the radiology CPT code.

Gastrointestinal Disorders

A 2011 systematic review (Ernst et al.), noted many chiropractors believe that chiropractic treatments are effective for gastrointestinal disorders (GI). The review was performed to evaluate the evidence from controlled clinical trials supporting or not supporting this concept. Two prospective, controlled clinical trials were found and one of these was a pilot study, but the other had reached a positive conclusion. The study concluded that, due to serious methodological flaws, there is no supportive evidence that chiropractic treatment is an effective treatment for GI disorders.

Management of Headaches

A 2017 analysis (Moore et al.) assessed the prevalence and characteristics of chiropractors who frequently manage patients with migraine. A national cross-sectional survey of chiropractors collected information on practitioner characteristics, clinical management characteristics and practice settings. A secondary analysis was conducted on 1,869 respondents who reported on their migraine caseload to determine the predictors associated with the frequent management of patients with migraine. A large proportion of chiropractors report having a high migraine caseload (HMC) (n = 990; 53.0 %). The strongest factors predicting a chiropractor having a HMC include the frequent treatment of patients with axial neck pain (odds ratio [OR] = 2.89; 95 % CI: 1.18 to 7.07), thoracic pain (referred/radicular) (OR = 2.52; 95 % CI: 1.58 to 3.21) and non-musculoskeletal disorders (OR = 3.06; 95 % CI: 2.13 to 4.39). The study findings concluded that several practice-setting and clinical management characteristics are associated with chiropractors managing a HMC. These findings raised key questions about the therapeutic approach to chiropractic migraine management that deserves further examination. Furthermore, there is a need for more primary research to evaluate the approach to headache and migraine management provided by chiropractors, along with understanding the prevalence, burden and co-morbidities found within these chiropractic patient populations.

A 2017 critical review (Moore et al.) also assessed evaluated research studies on the prevalence, profiles, motivations, communication and self-reported effectiveness of patient use of manual therapy (MT) for the treatment of headache disorders. While available data was limited and studies had considerable methodological limitations, reporting on the use of MT appeared to be prevalent within chiropractic patient population and the most common non-medical treatment utilized for the management of common recurrent headaches. The most common reason for choosing this type of treatment was seeking pain relief. While a high percentage of these patients likely continue with concurrent medical care, around 50% may not be disclosing the use of this treatment to their medical doctor. In conclusion, the authors found that there is a need for more high quality public health and health services studies to assess the role, safety, utilization and financial costs associated with manual therapy treatment for headache.

Also, in a 2017 prospective, 3-armed, single-blinded, placebo, randomized control trial (Chaibi et al.) examined the effectiveness of chiropractic spinal manipulative therapy (CSMT) for migraineurs. The seventeen month trial duration included 104 migraineurs with at least one migraine per month and was conducted at Akershus University Hospital, Oslo, Norway. Active treatment consisted of CSMT, whereas placebo was a sham push maneuver of the lateral edge of the scapula and/or the gluteal region. The control group continued their usual pharmacological management. The primary end-point was the number of migraine days per month, whereas secondary end-points were migraine duration, migraine intensity, headache index (HI) (frequency × duration × intensity), and medicine consumption. Migraine days were significantly reduced within all 3 groups from baseline to post-treatment ($p < 0.001$). The effect continued in the CSMT and placebo group at all follow-up time points, whereas the control group returned to baseline. The reduction in migraine days was not significantly different between the groups ($p > 0.025$ for interaction). Migraine duration and HI were reduced significantly more in the CSMT than the control group towards the end of follow-up ($p = 0.02$ and $p = 0.04$ for interaction, respectively); AEs were few, mild and transient. Blinding was strongly sustained throughout the RCT. In conclusion, the trial found that it was possible to conduct a manual-therapy RCT with concealed placebo, and the effect of CSMT observed in this study was probably due to a placebo response.

Idiopathic Scoliosis (IS)

Chiropractic care or manipulative spinal therapy has been utilized for the treatment of idiopathic scoliosis, however scientific evidence is limited, and the efficacy of manual therapy for correcting the scoliotic curve or progression of the curve has not been established in the peer-reviewed published scientific literature. However, chiropractic manipulation may be used to improve joint mobility and relieve pain associated with scoliosis.

A 2017 systematic review (Théroux et al.) evaluated spinal manipulative therapy (e.g., chiropractic, osteopathic, physical therapy) for adolescent idiopathic scoliosis (IS) including 4 studies which met the inclusion criteria of prospective trials. The findings of the included studies indicated that spinal manipulative therapy might be effective for preventing curve progression or reducing Cobb angle. However, the lack of controls and small sample sizes precluded robust estimation of the interventions' effect sizes. The authors found that currently there is insufficient evidence to establish whether spinal manipulative therapy may be beneficial for adolescent idiopathic scoliosis. The results suggest that spinal manipulative therapy (SMT) may be a promising treatment, however, these studies were all at substantial risk of bias. Thus, they recommended more robust high-quality studies are warranted to conclusively determine if SMT may be an effective management of adolescent IS.

Another 2017 systematic review (Morningstar et al.) evaluated the current body of literature on chiropractic treatment of IS, by identifying 15 case reports, 10 case series, 1 prospective cohort, and 1 RCT. Of those 27 chiropractic scoliosis treatment studies, only 2 described their outcomes as consistent with reporting recommended by the 2014 consensus paper from the Society on Scoliosis Orthopedic and Rehabilitation Treatment (SOSORT) and the Scoliosis Research Society SRS Non-Operative Management Committee consensus paper. The consensus paper details the format and types of outcomes they collectively believe are the most important and relevant to the patient. The authors found that the collective body of chiropractic research related to scoliosis treatment is of low quality by study design. Therefore, higher-quality research designs, combined with using the criteria as recommended by SOSORT/SRS will allow for better interprofessional collaboration and methodologic comparison in the future development of chiropractic treatment guidelines for the management of scoliosis.

Czaprowski (2016) organized a systematic review to evaluate the efficacy of non-specific manual therapy (manual therapy, chiropractic, osteopathy) used in the treatment of children and adolescents with IS. Results of these studies are contradictory, ranging from Cobb angle reduction to no treatment effects

whatsoever. The papers analyzed are characterized by poor methodological quality, small group sizes, incomplete descriptions of the study groups, and no follow-up or control groups. The author concluded that the efficacy of NMT cannot be reliably assessed as there are very few papers that demonstrate the effectiveness of manual therapy for the treatment of IS and the majority of the studies are experimental including methodology or observational case studies. Further, more robust prospective, randomized, control studies regarding the usefulness of NMT in the treatment of IS are needed.

A 2007 systematic review of non-surgical treatment in adult scoliosis (Everett and Patel) assessed evidence for the effectiveness of conservative therapy as treatment options. Scoliotic deviations may be a result of functional adaptations to lumbo-pelvic lower extremity dysfunction for which chiropractic care is appropriate. Manipulative procedures, in conjunction with electrical muscle stimulation and exercise, can significantly reduce the associated muscle spasm and resultant pain of scoliosis during the acute exacerbations and/or injury, and improve spinal mobility prior to an active exercise regimen. Chiropractic/manipulative management of scoliosis, however, has not been shown to substantially alter the idiopathic scoliotic curve or progression of the curve in late adolescence or adulthood. The author found that there is only very weak evidence for the use of chiropractic manipulation in adult deformity. Therefore, high quality studies are needed to demonstrate the efficacy of non-surgical treatment in adult scoliosis.

Low Back Pain (LBP)

In 2021, a randomized, sham-controlled group clinical trial compared the efficacy of standard osteopathic manipulative treatment (OMT) versus sham OMT for reducing low back pain (LBP) in patients with nonspecific subacute and chronic LBP (Nguyen et al.). Two groups totaling 394 patients were randomly allocated to standard OMT and sham OMT with a primary end point of reducing LBP which was measured by the Quebec Back Pain Disability Index (QBPDI). The sham control group received a priori inert procedure which consisted of light touch which stimulated OMT without stimulating physiotherapy or massage and the other group received standard OMT. Both groups received therapy for six sessions, two weeks apart. The mean QBPDI score for the standard OMT group was 31.5 at baseline and 25.3 at 3 months; and in the sham OMT group the mean score was 27.2 at baseline and 26.1 at 3 months. At twelve months, both groups experienced a decrease in pain, however, the standard OMT group reported a slight increase in pain relief. The authors concluded OMT had a slightly better clinical effect than the sham for patients with LBP. Limitations of the study included a focus on standard OMT only and large loss to follow-up.

In a 2019 meta-analysis review, de Zoete et al. assessed RCTs to determine the effects of spinal manipulative therapy (SMT), a non-pharmacological choice for adults with chronic LBP, in contrast to any comparators including non-drug treatment such as exercise, drug treatment such as NSAIDs, non-recommended interventions such as diathermy, "placebo" SMT, and manipulation SMT versus mobilization SMT. It was determined that low back pain (LBP) is the leading cause of pain and disability worldwide. In total, 43 RCTs met inclusion criteria which represented 4223 participants. Primary outcome measures included self-reported pain and back specific functional status. In conclusion, the authors found sufficient evidence to demonstrate that SMT provides similar outcomes to recommended therapies for pain relief and improvement of functional status and is therefore a good option for the treatment of chronic LBP.

In 2017, Shekelle, et al. conducted a systematic review to evaluate the effects and harms of spinal manipulative therapy for persons with acute neck and LBP. Due to the heterogeneity between studies, evidence quality was judged to be moderate. The authors concluded that treatment with manipulative therapy improved pain and function in patients with acute low back pain However, there was

insufficient evidence to arrive at conclusions regarding manipulative therapy and outcomes for patients with low back pain and sciatica.

A Cochrane Review (Saragiotto et al,, 2016) screened the research results of 29 RCTs (n=2431) with study sample sizes ranging from 20 to 323 participants engaged in motor control exercise (MCE) for chronic non-specific LBP. Trials included comparison of MCE with no treatment, another treatment or adding MCE as a supplement to other interventions. Primary outcomes were pain intensity and disability. Secondary outcomes considered were function, quality of life, return to work or recurrence of pain. Five trials compared MCE with manual therapy. There is probably little or no difference between MCE and manual therapy or other forms of exercise for all outcomes and follow-up periods. The review concluded that MCE probably provides better improvements in pain, function and global impression of recovery than minimal intervention. MCE may provide slightly better improvements than exercise and electrophysical agents for pain, disability, global impression of recovery and the physical component of quality of life in the short and intermediate term.

A preceding Cochrane Database Systematic Review 2012 (updated in 2013), assessed the effects of SMT for acute LBP, defined as pain lasting less than six weeks. RCTs were included up to March 2011. RCTs that examined spinal manipulation or mobilization in adults with acute low back pain not caused by an underlying condition (e.g. fracture, tumor, infection) were included. Primary outcomes were pain, functional status and perceived recovery. Twenty RCTs (total participants n=2674) were included. The reviews concluded that one-third of the trials were considered of high methodological quality and provided a high level of confidence in the outcome of SMT. Generally the authors found low to very low quality evidence suggesting that SMT is no more effective in the treatment of patients with acute LBP than inert interventions, sham (or fake) SMT, or when added to another treatment such as standard medical care. SMT also appears to be no more effective than other recommended therapies. SMT appears to be safe when compared to other treatment options but other considerations include costs of care.

Standardizing parameters of chiropractic care for low back pain (LBP) has been a challenge for the profession. This led to the development of a 2008 consensus report for chiropractic management of low back disorders with collaboration of chiropractic research and clinical experts' experience and distributed to a Delphi panel (Globe et al.). The panel consisted of 40 clinically experienced doctors of chiropractic, representing 15 chiropractic colleges and 16 states, including the American Chiropractic Association and the International Chiropractic Association. Specific recommendations regarding treatment frequency and duration, as well as outcome assessment and contraindications for the manipulation of LBP were agreed on by the panel and detailed in the article.

Menopause-Associated Vasomotor Symptoms

The 2015 position statement of the North American Menopause Society (NAMS) updated and expanded their evidence-based position on non-hormonal management of menopause-associated vasomotor symptoms (VMS). NAMS enlisted clinical and research experts in the field and created a document for final approval by the NAMS Board of Trustees. When hormone therapy is not an option, either because of medical contraindications or a woman's personal choice, nonhormonal management of VMS is an important consideration. Non-hormonal therapies include lifestyle changes, mind-body techniques, dietary management and supplements, prescription therapies, and others. NAMS recommends cognitive-behavioral therapy and, to a lesser extent, clinical hypnosis, which have been shown to be effective in reducing VMS. Paroxetine salt is the only non-hormonal medication approved by the Food and Drug Administration (FDA) for the management of VMS, although other selective serotonin reuptake/norepinephrine reuptake inhibitors, gabapentinoids, and clonidine showed evidence of

efficacy. NAMS does not recommend acupuncture or chiropractic interventions at this time, as there is insufficient or inconclusive data regarding the effectiveness of these approaches for managing VMS.

Massage Therapy

There have only been a few clinical trials and scant literature regarding the efficacy of massage therapy when used as the sole modality in the treatment of specific medical conditions. One study (Chou et al., 2016) found that the greatest effects of massage therapy in mechanical LBP is short term pain relief, as the effects tend to diminish in the longer term. However, the effects on functionality for mechanical LBP were less clear. Another study in 2018 found massage therapy as an effective treatment for chronic LBP in the intermediate term (Skelly et al.). Using myofascial release massage for fibromyalgia demonstrated slight functional improvements in the intermediate term (Skelly et al., 2018; Kundakci et al., 2022). And finally, a 2020 study found that massage therapy is an effective treatment for acute post-operative pain (Chou et al., 2020).

Neck Pain

In 2021 narrative review, Gevers-Montoro et al. assessed studies of spinal manipulative therapy for the management of neck pain (NP) and LBP from 2009 to present. They looked at the effectiveness compared to other interventions in more pragmatic settings and efficacy compared to inactive controls under highly controlled conditions. The authors concluded that the evidence favors the use of spinal manipulative therapy (SMT) in the management of acute, subacute, and chronic NP and LBP and that SMT could be as effective as other conservative approaches used to treat non-specific and chronic primary spine pain. However, the quality of evidence on the efficacy and effectiveness of SMT remains insufficient as recommendations were inconsistent in the management of these conditions, and SMT in combination with exercise, often comes after advice/education.

In 2017 two similar systematic reviews (Hidalgo et al. and Shekelle et al.) assessed different forms of SMT, manual therapy and exercise for patients with various stages of neck pain compared to usual care or other forms of acute pain management. Only RCTs were included. The authors found that combining different forms of manual therapy with exercise resulted in more favorable outcomes than manual therapy or exercise alone, and that mobilization need not be applied at the symptomatic level(s) for improvements of neck pain patients. However, there were too few studies to draw firm conclusions, therefore, further more robust studies are needed. Limitations of these studies included primarily the diversity in results amongst the different trials, lack of ideal classification of manual therapy techniques, and adjuvant therapy in both intervention and comparison groups which led to difficulty in evaluating objectively.

A 2015 randomized controlled trial reviewed forty-eight patients with chronic mechanical neck pain (Puntumetakul et al.). The patients were randomly allocated to single-level thoracic manipulation (STM) at T6-T7 or multiple-level thoracic manipulation (MTM), or to a control group (prone lying). Cervical range of motion (CROM), visual analog scale (VAS), and the Thai version of the Neck Disability Index (NDI-TH) scores were measured at baseline, and at 24-hour and at 1-week follow-up. At 24-hour and 1-week follow-up, neck disability and pain levels were significantly ($p < 0.05$) improved in the STM and MTM groups compared with the control group. CROM in flexion and left lateral flexion were increased significantly in the STM group when compared with the control group at 1-week follow-up. The CROM in right rotation was increased significantly after MTM compared to the control group at 24-hour follow-up. There were no statistically significant differences in neck disability, pain level at rest, and CROM between the STM and MTM groups. The authors concluded that the results suggest that both single level and multiple-level thoracic manipulation improve neck disability, pain levels, and CROM at 24-hour and 1-week follow-up in patients with chronic mechanical neck pain. The only limitations of the study included post-intervention at 24-hour and 1-week follow-up, thus future studies should examine the

long-term effects of STM/MTM in patients with chronic mechanical neck pain and the effects of this clinical intervention in a larger sample size

Radiology and Laboratory Testing

In 2018, Jenkins et al. conducted a narrative review for spinal x-ray use in the chiropractic profession and found insufficient evidence to support routine spinal x-rays and strong evidence to support potential harms associated with routine spinal x-rays. Similarly, in 2020, a literature review by Corso et al. did not identify any relevant studies that investigated the diagnostic or therapeutic utility of cervical, thoracic or lumbar radiographs (in the absence of red flags) for the functional or structural evaluation of the spine. Both reviews concluded that plain film radiographs should not be used as a screening procedure without clinical indications. The decision for radiographic re-examination should be based on patient symptoms, physical findings, and the potential impact of the results of the examination on the treatment plan and on the net health outcome for the patient. As without indicators of serious pathology, the increase in information available from x-ray adds little additional benefit to patient health, and may unnecessarily increase patient concern, increase the risk of developing chronic pain, contribute to fear-avoidance behaviors, and contribute to low-value care.

Thermography

Thermography uses specific diagnostic infrared equipment that requires special climate control conditions in a climate controlled room. Diagnostic thermography, uses hand held contact or thermocouple devices (e.g. liquid crystal, neurocalometer, or nervoscope) for certain conditions including complex regional pain syndromes, carpal tunnel syndrome, disc herniation, and radiculopathy. A 2014 systematic review and meta-analysis (Sanchis-Sánchez et al.), found lack of support for the usefulness of infrared thermal imaging in the diagnosis of musculoskeletal injuries. In 2015, a review of literature by Dibai-Filho and Guirro et al. found too few studies to provide efficacy in evaluation and reliability on the use infrared thermography for assessment and diagnosis of myofascial trigger points.

Applicable Coding

CPT Codes

97124	Therapeutic procedure, 1 or more areas, each 15 minutes; massage, including effleurage, petrissage and/or tapotement (stroking, compression, percussion)
97140	Manual therapy techniques (e.g., mobilization/ manipulation, manual lymphatic drainage, manual traction), 1 or more regions, each 15 minutes
98925	Osteopathic manipulative treatment (OMT); 1-2 body regions involved
98926	Osteopathic manipulative treatment (OMT); 3-4 body regions involved
98927	Osteopathic manipulative treatment (OMT); 5-6 body regions involved
98928	Osteopathic manipulative treatment (OMT); 7-8 body regions involved
98929	Osteopathic manipulative treatment (OMT); 9-10 body regions involved
98940	Chiropractic manipulative treatment (CMT); spinal, 1-2 regions
98941	Chiropractic manipulative treatment (CMT); spinal, 3-4 regions
98942	Chiropractic manipulative treatment (CMT); spinal, 5 regions
98943	Chiropractic manipulative treatment (CMT); extra spinal, 1 or more regions

HCPCS Codes

No applicable codes

References:

1. Agency for Healthcare Research and Quality (AHRQ) (previously Agency for Healthcare Policy and Research [AHCPR]). Complementary and Alternative Medicine in Back Pain Utilization Report. Publication No. 09-E006. 2014 Oct. Available at URL address: http://www.ahrq.gov/research/findings/evidence-based-reports/backcamevidence-report.pdf
2. Alcantara J, Alcantara JD, Alcantara J. An integrative review of the literature on the chiropractic care of infants with constipation. Complement Ther Clin Pract. 2014;20(1):32-36.
3. American Chiropractic Association (ACA). Accessed: April 7, 2023. Available at: www.acatoday.org
4. Anne CC Lee; Dawn H. Li; Kathi J. Kemper Chiropractic Care for Children Arch Pediatr Adolesc Med. 2000;154(4):401-407.
5. Borusiak P, Biedermann H, Bosserhoff S, Opp J. Lack of efficacy of manual therapy in children and adolescents with suspected cervicogenic headache: Results of a prospective, randomized, placebo-controlled, and blinded trial. Headache. 2010;50(2):224-230.
6. 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.
7. Chou R, Deyo R, Friedly J, Skelly A, Hashimoto R, Weimer M, Fu R, Dana T, Kraegel P, Griffin J, Grusing S, Brodt E. Noninvasive Treatments for Low Back Pain. Comparative Effectiveness Review No. 169. (Prepared by the Pacific Northwest Evidence-based Practice Center under Contract No. 290-2012-00014-I.) AHRQ Publication No. 16-EHC004-EF. Rockville, MD: Agency for Healthcare Research and Quality; February 2016.
8. Chou R, Wagner J, Ahmed AY, et al. Treatments for Acute Pain: A Systematic Review. Rockville (MD): Agency for Healthcare Research and Quality (US); December 2020.
9. Colloca CJ, Polkinghorn BS. Chiropractic management of Ehlers-Danlos syndrome: A report of two cases. J Manipulative Physiol Ther. 2003;26(7):448-459.
10. Corso M, et al. The clinical utility of routine spinal radiographs by chiropractors: a rapid review of the literature. Chiropr Man Therap 2020 Jul 9;28(1):33.
11. Côté P, et al. 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. Chiropr Man Therap 2021 Feb 17;29(1):8.
12. Czaprowski D. Manual therapy in the treatment of idiopathic scoliosis. analysis of current knowledge. Ortop Traumatol Rehabil. 2016 Oct 28;18(5):409-424.
13. de Zoete A, Rubinstein SM, de Boer MR, Ostelo R, Underwood M, Hayden JA, Buffart LM, van Tulder MW; International IPD-SMT group:. The effect of spinal manipulative therapy on pain relief and function in patients with chronic low back pain: an individual participant data metaanalysis. Physiotherapy. 2021 Sep;112:121-134. doi: 10.1016/j.physio.2021.03.006. Epub 2021 Mar 17. PMID: 34049207.
14. Dibai-Filho AV, Guirro RR. Evaluation of myofascial trigger points using infrared 28 thermography: a critical review of the literature. J Manipulative Physiol Ther. 29 2015;38(1):86-92.
15. Ernst E. Chiropractic treatment for gastrointestinal problems: a systematic review of clinical trials. Can J Gastroenterol. 2011 Jan; 25(1):39-40. PMID 21258667
16. Everett CR, Patel RK. A systematic literature review of nonsurgical treatment in adult scoliosis. Spine. 2007;32(19 Suppl):S130-S134.
17. Ferrance RJ, Miller J. Chiropractic diagnosis and management of non-musculoskeletal conditions in children and adolescents. Chiropr Osteopat. 2010;18:14.
18. Gevers-Montoro C, Provencher B, Descarreaux M, Ortega de Mues A, Piché M. Clinical Effectiveness and Efficacy of Chiropractic Spinal Manipulation for Spine Pain. Front Pain Res (Lausanne). 2021 Oct 25;2:765921. doi: 10.3389/fpain.2021.765921. PMID: 35295422; PMCID: PMC8915715.
19. Globe GA, Morris CE et al. Chiropractic management of low back disorders: report from a consensus process. J Manipulative Physiol Ther. 2008 Nov-Dec; 31(9):651-658. PMID 19028249
20. Globe, G., Farabaugh, R., Hawk, C., Morris, C., Baker, G., Whalen, W. …and Augat, T. (2016). Clinical Practice Guideline: Chiropractic Care for Low Back Pain. Journal of Manipulative and Physiological Therapeutics, 39(1):1-22.
21. Gore DR. Roentgenographic findings in the cervical spine in asymptomatic persons: A ten-year follow-up. Spine. 2001;26(22):2463-2466.
22. Haas M, Taylor JA, Gillette RG. The routine use of radiographic spinal displacement analysis: A dissent. J Manipulative Physiol Ther. 1999;22(4):254-259.
23. Haas, M., Vavrek, D., Peterson, D., Polissar, N., and Neradilek, M. (2014). Dose-Response and Efficacy of Spinal Manipulation for Care of Chronic Low Back Pain: A Randomized Controlled Trial. The Spine Journal, 14(7):1106-1116.
24. Harrison DD, Janik TJ, Harrison GR, et al. Chiropractic biophysics technique: A linear algebra approach to posture in chiropractic. J Manipulative Physiol Ther. 1996;19(8):525-535.

25. Harrison DD, Siskin LA, Betz JW, editor(s). Best practices & practice guidelines. Arlington (VA): International Chiropractors Association (ICA); 2013 Nov 22. 856 p
26. Hidalgo B, Hall T, Bossert J, et al. The efficacy of manual therapy and exercise for treating non-specific neck pain: a systematic review. J Back Musculoskelet Rehabil. 2017 Nov 6;30(6):1149-1169.
27. Jackson BL, Harrison DD, Robertson GA, Barker WF. Chiropractic biophysics lateral cervical film analysis reliability. J Manipulative Physiol Ther. 1993;16(6):384-391.
28. Jenkins HJ, et al. Current evidence for spinal X-ray use in the chiropractic profession: a narrative review. Chiropr Man Therap 2018 Nov 21;26:48.
29. Manual medicine guidelines for musculoskeletal injuries. 2004 Dec 1 (revised 2013 Dec NGC: 010305). Academy for Chiropractic Education.
30. Moore C, Adams J, Leaver A, et al. The treatment of migraine patients within chiropractic: Analysis of a nationally representative survey of 1869 chiropractors. BMC Complement Altern Med. 2017b;17(1):519.
31. 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.
32. Morningstar MW, Stitzel CJ, Siddiqui A, et al. Chiropractic treatments for idiopathic scoliosis: a narrative review based on SOSORT outcome criteria. J Chiropr Med. 2017 Mar;16(1):64-71.
33. Nguyen C, Boutron I, Zegarra-Parodi R, et al. Effect of osteopathic manipulative treatment vs sham treatment on activity limitations in patients with nonspecific subacute and chronic low back pain: A randomized clinical trial. JAMA Intern Med. 2021 Mar 15:e210005
34. Puntumetakul R, Suvarnnato T, Werasirriat P, et al. Acute effects of single and multiple level thoracic manipulations on chronic mechanical neck pain: a randomized controlled trial. Neuropsychiatr Dis Treat. 2015 Jan 12;11:137-44.
35. Sanchis-Sánchez E, Vergara-Hernández C, Cibrián RM, Salvador R, Sanchis E, Codoñer- Franch P. Infrared thermal imaging in the diagnosis of musculoskeletal injuries: a systematic review and meta analysis. AJR Am J Roentgenol. 2014;203(4):875-82.
36. Saragiotto BT, Maher CG, Yamato TP, Costa LOP, Menezes Costa LC, Ostelo RWJG, Macedo LG. Motor control exercise (MCE) for chronic non-specific low-back pain. Cochrane Database of Systematic Reviews 2016, Issue 1. Art. No. CD012004. Published Online: 7 Jan 2016.
37. Shekelle PG, Paige NM, Miake-Lye IM, et al. The effectiveness and harms of spinal manipulative therapy for the treatment of acute neck and lower back pain: a systematic review. Washington (DC): Department of Veterans Affairs (US); 2017 Apr
38. The North American Menopause Society (NAMS). Non-hormonal management of menopause-associated vasomotor symptoms: 2015 position statement of Menopause. 2015;22(11):1155-1172; quiz 1173-1174. Accessed: April 12, 2023. Available at: https://www.menopause.org/docs/default-source/professional/pap-pdf-meno-d-15-00241-minus-trim-cme.pdf
39. Théroux J, Stomski N, Losco CD, et al. Spinal manipulative therapy for adolescent idiopathic scoliosis: a systematic review. J Manipulative Physiol Ther. 2017 Jul - Aug;40(6):452-458.
40. Troyanovich SJ, Harrison D, Harrison DD, Harrison SO, Janik T, Holland B. Chiropractic biophysics digitized radiographic mensuration analysis of the anteroposterior cervicothoracic view: a reliability study. J Manipulative Physiol Ther. 2000 Sep;23(7):476-82.