

Collected Scientific Research Relating to the Use of Osteopathy with Tennis elbow (lateral epicondylitis)

Important:

1) Osteopathy involves helping people's own self-healing abilities to work better, rather than focussing primarily on particular conditions.

2) Each person is different, and osteopathy treats them differently.

Therefore people respond to osteopathic treatment in different ways. Treatments that work for one person cannot be guaranteed to work for another person in the same way. The fact that there is scientific research supporting a treatment in a group of people does not mean that it will always work in the same way (which is probably true of all research).

A number of things make research into osteopathy challenging. These include the two aspects of osteopathy mentioned above, and also the lack of major commercial interests to provide funding in expectation of financial returns. At the same time, there is an emerging body of research demonstrating the usefulness of osteopathic treatment.

Please note: there is room for debate about the classifications used for these studies. Please let John Smartt know if you believe that any of these classifications are incorrect.

These studies are from peer-reviewed journals

Number of studies:
7

Clinically and statistically significant results

Number of studies:
6

Systematic reviews

Number of studies: 2

Galindez-Ibarbengoetxea X, Setuain I, Andersen LL, Ramírez-Velez R, González-Izal M, Jauregi A, Izquierdo M 2017 **Effects of Cervical High-Velocity Low-Amplitude Techniques on Range of Motion, Strength Performance, and Cardiovascular Outcomes: A Review.** *J Altern Complement Med Sep;23(9):667-675* <https://www.ncbi.nlm.nih.gov/pubmed/28731832>

"BACKGROUND:

Cervical high-velocity low-amplitude (HVLA) manipulation technique is among the oldest and most frequently used chiropractic manual therapy, but the physiologic and biomechanics effects were not completely clear.

OBJECTIVE:

This review aims to describe the effects of cervical HVLA manipulation techniques on range of motion, strength, and cardiovascular performance.

METHODS/DESIGN:

A systematic search was conducted of the electronic databases from January 2000 to August 2016: PubMed (n = 131), ScienceDirect (n = 101), Scopus (n = 991), PEDro (n = 33), CINAHL (n = 884), and SciELO (n = 5). Two independent reviewers conducted the screening process to determine article eligibility. The intervention that included randomized controlled trials was thrust, or HVLA, manipulative therapy directed to the cervical spine. Methodological quality was assessed using the Cochrane risk-of-bias tool. The initial search rendered 2145 articles. After screening titles and abstracts, 11 articles remained for full-text review.

RESULTS:

The review shows that cervical HVLA manipulation treatment results in a large effect size ($d > 0.80$) on increasing cervical range of motion and mouth opening. In patients with lateral epicondylalgia, cervical HVLA manipulation resulted in increased pain-free handgrip strength, with large effect sizes (1.44 and 0.78, respectively). Finally, in subjects with hypertension the blood pressure seemed to decrease after cervical HVLA manipulation. Higher quality studies are needed to develop a stronger evidence-based foundation for HVLA manipulation techniques as a treatment for cervical conditions."

Barr S, Cerisola FL, Blanchard V 2009 **Effectiveness of corticosteroid injections compared with physiotherapeutic interventions for lateral epicondylitis: a systematic review.** *Physiotherapy* <https://www.ncbi.nlm.nih.gov/pubmed/19892089>

OBJECTIVES:

To compare the effectiveness of corticosteroid injections with physiotherapeutic interventions for the treatment of lateral epicondylitis (tennis elbow).

DATA SOURCES:

The electronic databases AMED, Cinahl, Medline and Embase were searched up to Week 12 2009. In addition, the Cochrane Central Register of Controlled Clinical Trials, the Metaregister of

Controlled Clinical Trials and the Physiotherapy Evidence Database (PEDro) were searched up to March 2009.

REVIEW METHODS:

All English-language randomised controlled trials (RCTs) that included participants with a clinical diagnosis of lateral epicondylitis, comparing corticosteroid injections with physiotherapeutic interventions, and used at least one clinically relevant outcome measure were included. The review authors extracted and analysed the data independently, using the PEDro scale to assess the methodological quality of each eligible study.

RESULTS:

Five RCTs were identified and included in the review. Four of the studies included the measurement of pain-free grip strength. Standardised mean differences (effect sizes) were calculated for this outcome measure and assessor's rating of severity at 3, 6, 12, 26 and 52 weeks for two of the RCTs. Large effect sizes were demonstrated in favour of corticosteroid injections at short-term follow-up. At intermediate- and long-term follow-up, medium-to-large effect sizes were demonstrated in favour of physiotherapeutic interventions compared with corticosteroid injections. However, at long-term follow-up, the research suggests that there is a small benefit of physiotherapeutic interventions compared with a 'wait and see' policy.

CONCLUSION:

Overall, the findings indicated that corticosteroid injections are effective at short-term follow-up, and physiotherapeutic interventions are effective at intermediate- and long-term follow-up. However, due to the limited number of high-quality RCTs and differences in the interventions and outcomes utilised within each of the included studies, any conclusions drawn must be interpreted with caution.

Randomised controlled trials

Number of studies: 4

Trivedi P, Sathiyavani D, Nambi G, Khuman R, Shah K, Bhatt P 2014 **Comparison of active release technique and myofascial release technique on pain, grip strength & functional performance in patients with chronic lateral epicondylitis** Int J Physiother Res 2(3) http://www.ijmhr.org/ijpr_articles_vol2_3/IJPR-2014-616.pdf

"The study included thirty-six patients with Chronic Lateral Epicondylitis of age group range between 30 to 45 years. Patients were randomly divided into three groups: Control Group (A), Active Release Technique Group (B) and Myofascial Release Technique Group (C). The patients were treated for 4 weeks and three outcome measures: 0-10 NPRS, Hand Dynamometer and PRTEE were taken for assessment and analysis at baseline and after 4th weeks was done.

Result: In this study the result showed that Active Release Technique and Myofascial Release Technique were effective in all three outcome measures when compared to Control Group. Myofascial Release Technique was more effective in improving grip strength & reducing pain & disability when compared to Active Release Technique.($p < 0.05$)"

Küçükşen S, Yılmaz H, Sallı A, Uğurlu H 2013 **Muscle energy technique versus corticosteroid injection for management of chronic lateral epicondylitis: randomized controlled trial with 1-year follow-up.** Arch Phys Med Rehabil Nov;94(11):2068-74 <http://www.ncbi.nlm.nih.gov/pubmed/23796685>

"OBJECTIVE:

To determine the short- and long-term effectiveness of the muscle energy technique (MET) compared with corticosteroid injections (CSIs) for chronic lateral epicondylitis (LE).

DESIGN:

Randomized controlled trial with 1 year of follow-up.

SETTING:

Outpatient clinic of a university's department of physical medicine and rehabilitation.

PARTICIPANTS:

Patients with chronic LE (N=82; 45 women, 37 men).

INTERVENTIONS:

Eight sessions of MET, or a single CSI was applied.

MAIN OUTCOME MEASURES:

Grip strength, pain intensity, and functional status were assessed using the pain-free grip strength (PFGS), a visual analog scale (VAS), and the Disabilities of the Arm, Shoulder and Hand (DASH) questionnaire, respectively. Measurements were performed before beginning treatment and at 6, 26, and 52 weeks afterward.

RESULTS:

When the baseline PFGS, VAS, and DASH scores were compared with the scores at the 52-week follow-up, statistically significant improvements were observed in both groups over time. The patients who received a CSI showed significantly better effects at 6 weeks according to the PFGS and VAS scores, but declined thereafter. At the 26- and 52-week follow-ups, the patients who received the MET were statistically significantly better in terms of grip strength and pain scores. At 52 weeks, the mean PFGS score in the MET group was significantly higher (75.08 ± 26.19 vs 62.24 ± 21.83 ; $P=.007$) and the mean VAS score was significantly lower (3.28 ± 2.86 vs 4.95 ± 2.36 ; $P=.001$) than those of the CSI group. Although improvements in the DASH scores were more pronounced in the MET group, the differences in DASH scores between the groups were not statistically significant.

CONCLUSIONS:

This study showed that while both MET and CSI improved measures of strength, pain, and function compared with baseline, subjects receiving MET had better scores at 52 weeks for PFGS and the VAS for pain. We conclude that MET appears to be an effective intervention in the treatment of LE."

Ajimsha MS, Chithra S, Thulasyammal RP 2012 **Effectiveness of myofascial release in the management of lateral epicondylitis in computer professionals.** Arch Phys Med Rehabil Apr;93(4):604-9 <https://www.ncbi.nlm.nih.gov/pubmed/22236639>

"OBJECTIVE:

To investigate whether myofascial release (MFR) reduces the pain and functional disability of lateral epicondylitis (LE) in comparison with a control group receiving sham ultrasound therapy in computer professionals.

DESIGN:

Randomized, controlled, single blinded trial.

SETTING:

Nonprofit research foundation clinic in Kerala, India.

PARTICIPANTS:

Computer professionals (N=68) with LE.

INTERVENTIONS:

MFR group or control group. The techniques were administered by certified MFR practitioners and consisted of 12 sessions per client over 4 weeks.

MAIN OUTCOME MEASURE:

The Patient-Rated Tennis Elbow Evaluation (PRTEE) scale was used to assess pain severity and functional disability. The primary outcome measure was the difference in PRTEE scale scores between week 1 (pretest score), week 4 (posttest score), and follow-up at week 12 after randomization.

RESULTS:

The simple main effects analysis showed that the MFR group performed better than the control group in weeks 4 and 12 ($P<.005$). Patients in the MFR and control groups reported a 78.7% and 6.8% reduction, respectively, in their pain and functional disability in week 4 compared with that in week 1, which persisted as 63.1% in the follow-up at week 12 in the MFR group.

CONCLUSIONS:

This study provides evidence that MFR is more effective than a control intervention for LE in computer professionals."

Nourbakhsh MR, Fearon FJ 2008 **The effect of oscillating-energy manual therapy on lateral epicondylitis: a randomized, placebo-control, double-blinded study.** J Hand Ther Jan-Mar;21(1):4-13; quiz 14 <https://www.ncbi.nlm.nih.gov/pubmed/18215746>

"Symptoms of lateral epicondylitis (LE) are attributed to degenerative changes and inflammatory

reactions in the common extensor tendon induced by microscopic tears in the tissue after repetitive or overload functions of the wrist and hand extensor muscles. Conventional treatments, provided on the premise of inflammatory basis of LE, have shown 39-80% failure rate. An alternative approach suggests that symptoms of LE could be due to active tender points developed in the origin of hand and wrist extensor muscles after overuse or repetitive movements. Oscillating-energy Manual Therapy (OEMT), also known as V-spread, is a craniosacral manual technique that has been clinically used for treating tender points over the suture lines in the skull. Considering symptoms of LE may result from active tender points, the purpose of this study was to investigate the effect of OEMT on pain, grip strength, and functional abilities of subjects with chronic LE. Twenty-three subjects with chronic LE (>3mo) between ages of 24 and 72 years participated in this study. Before their participation, all subjects were screened to rule out cervical and other pathologies that could possibly contribute to their lateral elbow pain. Subjects who met the inclusion criteria were randomized into treatment and placebo treatment groups by a second (treating) therapist. Subjects were blinded to their group assignment. Subjects in the treatment group received OEMT for six sessions. During each treatment session, first a tender point was located through palpation. After proper hand placement, the therapist focused the direction of the oscillating energy on the localized tender point. Subjects in the placebo group underwent the same procedure, but the direction of the oscillating energy was directed to an area above or below the tender points, not covering the affected area. Jamar Dynamometer, Patient Specific Functional Scale (PSFS), and Numeric Rating Scale (NRS) were used to measure grip strength, functional status, and pain intensity and limited activity due to pain, respectively. The screening therapist who was blinded to the subjects' group assignment performed pretest, posttest, and six-month follow-up measurements. Subjects in the treatment group showed both clinically and statistically significant improvement in grip strength ($p=0.03$), pain intensity ($p=0.006$), function ($p=0.003$), and limited activity due to pain ($p=0.025$) compared with those in the placebo group. Follow-up data, collected after six months, showed no significant difference between posttest and follow-up measurements in functional activity ($p=0.35$), pain intensity ($p=0.72$), and activity limitation due to pain ($p=0.34$). Of all the subjects contacted for follow-up assessment, 91% maintained improved function and 73% remained pain free for at least six months. OEMT seems to be a viable, effective, and efficient alternative treatment for LE."

Mixed results (significant for some outcomes, not others)

Number
of studies:
1

Herd CR, Meserve BB 2008 **A systematic review of the effectiveness of manipulative therapy in treating lateral epicondylalgia.** *J Man Manip Ther* <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2716156/>

"Lateral epicondylalgia is a commonly encountered musculoskeletal complaint. Currently, there is no agreement regarding the exact underlying pathoanatomical cause or the most effective management strategy. Various forms of joint manipulation have been recommended as treatment. The purpose of this study was to systematically review available literature regarding the effectiveness of manipulation in treating lateral epicondylalgia. A comprehensive search of Medline, CINAHL, Health Source, SPORTDiscus, and the Physiotherapy Evidence Database ending in November 2007 was conducted. Thirteen studies, both randomized and non-randomized clinical trials, met inclusion criteria. Articles were assessed for quality by one reviewer using the 10-point PEDro scale. Quality scores ranged from 1–8 with a mean score of 5.15 ± 1.85 . This score represented fair quality overall; however, trends indicated the presence of consistent methodological flaws. Specifically, no study achieved successful blinding of the patient or treating therapist, and less than 50% used a blinded outcome assessor. Additionally, studies varied significantly in terms of outcome measures, follow-up, and comparison treatments, thus making comparing results across studies difficult. Results of this review support the use of Mulligan's mobilization with movement in providing immediate, short-, and long-term benefits. In addition, positive results were demonstrated with manipulative therapy directed at the cervical spine, although data regarding long-term effects were limited. Currently, limited evidence exists to support a synthesis of any particular technique whether directed at the elbow or cervical spine. Overall, this review identified the need for further high-quality studies using larger sample sizes, valid functional outcome measures, and longer follow-up periods."