

Collected Scientific Research Relating to the Use of Osteopathy with Whiplash injury

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: 5

Clinically and statistically significant results

Number of studies: 5

Systematic reviews

Number of studies: 1

Miller J, Gross A, D'Sylva J, Burnie SJ, Goldsmith CH, Graham N, Haines T, Brønfort G, Hoving JL 2010 **Manual therapy and exercise for neck pain: A systematic review**. *Manual Therapy* Jun 1 <https://www.ncbi.nlm.nih.gov/pubmed/20593537>

"Manual therapy is often used with exercise to treat neck pain. This cervical overview group systematic review update assesses if manual therapy, including manipulation or mobilisation, combined with exercise improves pain, function/disability, quality of life, global perceived effect, and patient satisfaction for adults with neck pain with or without cervicogenic headache or radiculopathy. Computerized searches were performed to July 2009. Two or more authors independently selected studies, abstracted data, and assessed methodological quality. Pooled relative risk (pRR) and standardized mean differences (pSMD) were calculated. Of 17 randomized controlled trials included, 29% had a low risk of bias. Low quality evidence suggests clinically important long-term improvements in pain (pSMD-0.87(95% CI:-1.69,-0.06)), function/disability, and global perceived effect when manual therapy and exercise are compared to no treatment. High quality evidence suggests greater short-term pain relief [pSMD-0.50(95% CI:-0.76,-0.24)] than exercise alone, but no long-term differences across multiple outcomes for (sub)acute/chronic neck pain with or without cervicogenic headache. Moderate quality evidence supports this treatment combination for pain reduction and improved quality of life over manual therapy alone for chronic neck pain; and suggests greater short-term pain reduction when compared to traditional care for acute whiplash. Evidence regarding radiculopathy was sparse. Specific research recommendations are made."

Randomised controlled trials

Number of studies: 1

Picelli A, Ledro G, Turrina A, Stecco C, Santilli V, Smania N. 2011 **Effects of myofascial technique in patients with subacute whiplash associated disorders: a pilot study**. *Eur J Phys Rehabil Med* Dec;47(4):561-8 <http://www.ncbi.nlm.nih.gov/pubmed/21796089>

"The Fascial Manipulation© technique may be a promising method to improve cervical range of motion in patients with subacute whiplash associated disorders.
CLINICAL REHABILITATION IMPACT: Myofascial techniques may be useful for improving treatment of subacute whiplash associated disorders also reducing their economic burden."

Other controlled clinical trials

Number of studies: 1

Schwerla F, Kaiser AK, Gietz R, Kastner R. 2013 **Osteopathic treatment of patients with long-term sequelae of whiplash injury: effect on neck pain disability and quality of life.** *The Journal of Alternative and Complementary Medicine* Jun;19(6):543-9 <http://www.ncbi.nlm.nih.gov/pubmed/23273259>

This was a time-series study, where there may not have been adequate control for the effects of natural recovery over time.

"The clinical sequelae and manifestation resulting from whiplash injury are defined as late whiplash syndrome (LWS). The objective of this study was to investigate whether a series of osteopathic treatments of patients with LWS may improve their symptoms."

"The study was designed as a two-phase (pre-post) clinical intervention study. In phase one, the patients received no treatment for 6 weeks; in phase two, they received five test-dependent osteopathic treatments."

"A direct comparison between the untreated period and the treatment period revealed clinically relevant and statistically significant improvements in the osteopathic treatment period for the NPAD. In the intervention phase, the NPAD dropped from 41.5 to 26.0 points, which corresponds to an improvement of 37% (95% confidence interval=11.1-19.8; $p<0.0005$). For the SF-36, both the physical and the mental component summary showed a significant and substantial improvement during treatment phase ($p=0.009$ versus $p=0.02$). Prior to treatment, 17 patients (43.6%) were diagnosed with a positive PTSD; this number fell to only 6 (15.4%) during observation."

"Five (5) osteopathic treatments had a beneficial effect on the physical as well as the mental aspects of LWS and lives up to its claim of being a complementary modality in the treatment regimen of this condition. Based on these preliminary findings, rigorous randomized controlled studies are warranted."

Cohort studies

Number of studies: 1

Chiarotto A, Fortunato S, Falla D 2015 **Predictors of outcome following a short multimodal rehabilitation program for patients with whiplash associated disorders.** *Eur J Phys Rehabil Med* Apr;51(2):133-41 <http://www.ncbi.nlm.nih.gov/pubmed/24896143>

"Patients with whiplash associated disorders (WAD) may present with physical and psychological symptoms which persist long after the initial onset of pain. Several studies have shown that therapeutic exercise for motor and sensorimotor control combined with manual therapy in a multimodal rehabilitation (MMR) program is effective at improving pain and disability in patients with neck disorders. To date, no studies have investigated which self-reported physical or psychological symptoms are predictive of response to this MMR program."

"After treatment, patients exhibited significant improvements in all evaluated outcomes (all $P<0.01$). Regression models accounting for 35% and 36% of the variance in pain intensity outcomes included average pain intensity over the previous week and pain catastrophizing as significant predictors. Disability and pain catastrophizing were predictors of changes in disability following the MMR program explaining 49% of the variance in the model. Furthermore, higher PTSS at baseline was a significant predictor of PTSS after treatment, explaining 55% of the variance in the model.**CONCLUSION:**

Improved outcomes on pain intensity, disability and PTSS following a MMR program could be partially predicted based on the patient's initial presentation."

Genese JS 2013 **Osteopathic manipulative treatment for facial numbness and pain after whiplash injury.** *J Am Osteopath Assoc* Jul;113(7):564-7 <http://www.ncbi.nlm.nih.gov/pubmed/23843380>

"Whiplash injury is often caused by rear-end motor vehicle collisions. Symptoms such as neck pain and stiffness or arm pain or numbness are common with whiplash injury. The author reports a case of right facial numbness and right cheek pain after a whiplash injury. Osteopathic manipulative treatment techniques applied at the level of the cervical spine, suboccipital region, and cranial region alleviated the patient's facial symptoms by treating the right-sided strain of the trigeminal nerve. The strain on the trigeminal nerve likely occurred at the upper cervical spine, at the nerve's cauda, and at the brainstem, the nerve's point of origin. The temporal portion of the cranium played a major role in the strain on the maxillary."