

Collected Scientific Research Relating to the Use of Osteopathy with Dizziness, vertigo and balance Problems

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: 8

Clinically and statistically significant results

Number of studies: 8

Randomised controlled trials

Number of studies: 2

Papa L, Amodio A, Biffi F, Mandara A. 2017 **Impact of osteopathic therapy on proprioceptive balance and quality of life in patients with dizziness.** J Bodyw Mov Ther Oct;21(4):866-872 <https://www.ncbi.nlm.nih.gov/pubmed/29037641>

"The aim of the study was to evaluate the efficacy of osteopathic manipulative treatment (OMT) in patients with Benign-Paroxysmal-Positional Vertigo (BPPV). Thirty-one patients with BPPV were randomly assigned into two groups: 19 patients received osteopathic treatments (TG) and 12 patients received sham therapy (SG), both in four weekly sessions. Before the first and the last treatment, those patients were evaluated using Dizziness Handicap Inventory (DHI) and stabilometric platform to assess lifestyle modification and balance functions. After the treatment session, TG compared to SG showed an improvement in DHI global ($p = 0.02$), functional ($p = 0.03$) and physical ($p = 0.03$) components, as well as a reduction of swinging area ($p = 0.02$). An association between swinging area and lifestyle measures (global [$r = 0.53$; $p = 0.02$]; functional [$r = 0.50$; $p = 0.03$]; physical [$r = 0.60$; $p = 0.01$]) changes were found in TG. These findings suggest that OMT could be a useful approach to reduce imbalance symptoms and to improve the quality of life in patients suffering from dizziness."

Lopez D, King HH, Knebl JA, Kosmopoulos V, Collins D, Patterson RM. 2011 **Effects of comprehensive osteopathic manipulative treatment on balance in elderly patients: a pilot study.** J Am Osteopath Assoc Jun;111(6):382-8. <http://www.ncbi.nlm.nih.gov/pubmed/21771924>

"The OMT [osteopathic manipulative technique] protocol consisted of the following elements: Soft-tissue and myofascial release at T1 to L5 and sacral "rock" (patient prone) (3-4 minutes); myofascial release in the shoulders and scapulae bilaterally²⁶ (patient lateral recumbent) (4-5 minutes) Cervical spine myofascial, counterstrain, muscle energy, or soft-tissue techniques for release and correction (patient supine) (3-4 minutes); Occipitoatlantal and condylar decompression (1-2 minutes) Venous sinus technique (5-6 minutes) V-spread, frontal and parietal lifts, or both (2-3 minutes); CV4 technique²⁶ (3-4 minutes); Recheck for other key tender points (2-3 minutes) and treat according to findings"

"The OMT group had significantly reduced sway for the eyes-open test after 4 visits ($P = .001$)"
"The OMT protocol used in the present study improved the postural stability of healthy elderly patients, as measured by changes in sway values."

Other controlled clinical trials

Number of studies: 1

Fraix M 2010 **Osteopathic Manipulative Treatment and Vertigo: A Pilot Study** PM&R Volume 2, Issue 7, July , Pages 612–618 <http://www.sciencedirect.com/science/article/pii/S1934148210003060>

"Treatment effectiveness was measured with the use of the Dizziness Handicap Inventory (DHI), a validated symptom inventory. Intensity and duration of adverse effects after OMT [osteopathic manipulative therapy] were used to measure study safety."

"Significant improvement ($P < .001$) in total and subcomponent DHI scores was observed after completion of treatment. Of the 8 patients with moderate pretest scores, 7 (87.5%) had mild post-test scores after undergoing OMT, and of the 8 patients with severe pretest scores, 4 (50%) had mild post-test scores. Of the 18 enrolled patients, 3 (16.7%) experienced an exacerbation of their vertigo, and 5 (27.8%) experienced muscle soreness after OMT. These adverse effects were mild and transient, not lasting longer than 24 hours."

Cohort studies

Number of studies: 2

Fraix M, Gordon A, Graham V, Hurwitz E, Seffinger MA. 2013 **Use of the SMART Balance Master to quantify the effects of osteopathic manipulative treatment in patients with dizziness.** J Am Osteopath Assoc May;113(5):394-403 <http://jaoa.org/article.aspx?articleid=2094478&resultClick=1>

"Context: Dizziness is the third most common complaint among outpatients and the most common complaint in patients aged 75 years or older. It can be incapacitating for patients, affecting both productivity and quality of life.

Objective: To evaluate the effect of osteopathic manipulative treatment (OMT) for spinal somatic dysfunction in patients with dizziness lasting longer than 3 months.

Design: A prospective clinical cohort study that took place in 2011.

Setting: Department of Physical Therapy laboratory at the Western University of Health Sciences College of Osteopathic Medicine in Pomona, California.

Patients: Sixteen participants (2 male, 14 female; mean [range] age, 49 [13-75] years) with dizziness lasting at least 3 months (mean duration of symptoms, 84 months) and spinal somatic dysfunction, but no history of known stroke or brain disease, were recruited from the local community and evaluated for postural balance control before, immediately after, and 1 week after OMT.

Intervention: Four osteopathic physicians board certified in neuromusculoskeletal medicine/osteopathic manipulative medicine provided OMT, including muscle energy; high-velocity, low-amplitude; counterstrain; myofascial release; balanced ligamentous release; and cranial OMT techniques.

Main Outcome Measures: Outcomes were assessed with the SMART Balance Master (NeuroCom), a validated instrument that provides graphic and quantitative analyses of sway and balance, and the Dizziness Handicap Inventory (DHI), a self-assessment inventory designed to assess precipitating physical factors associated with dizziness and functional and emotional consequences of vestibular disease.

Results: Paired t tests, performed to assess changes in mean composite scores for all challenge tests, revealed that balance was significantly improved both immediately and 1 week after OMT (both $P < .001$), with no significant difference between immediate and 1-week post-OMT scores ($P = .20$). The DHI scores, both total and subscale, improved significantly after OMT ($P < .001$), and changes in composite and DHI scores were correlated with each other ($P = .047$).

Conclusion: Osteopathic manipulative treatment for spinal somatic dysfunction improved balance in patients with dizziness lasting at least 3 months."

Heikkilä H, Johansson M, Wenngren BI. 2000 **Effects of acupuncture, cervical manipulation and NSAID therapy on dizziness and impaired head repositioning of suspected cervical**

"In a single-subject experiment undertaken on 14 consecutive patients, the effects of acupuncture, cervical manipulation, no therapy, and NSAID-percutan application on kinesthetic sensibility, dizziness/vertigo and pain were studied in patients with dizziness/vertigo of suspected cervical origin. The ability to perceive position of the head with respect to the trunk was studied. The effects of different forms of therapy-and none-on dizziness and neck pain were compared, using a 100 mm visual analogue scale (VAS). Active head relocation by subjects with dizziness was significantly less precise than in the control group. Manipulation was the only treatment to diminish the duration of dizziness/vertigo complaints during the past 7 days and increased the cervical range of motion. Both acupuncture and manipulation reduced dizziness/vertigo on the VAS scale and had positive effects on active head repositioning. Ketoprofen percutan application and acupuncture both alleviated pain. The results of this study would suggest that spinal manipulation may impact most efficiently on the complex process of proprioception and dizziness of cervical origin."

Case series

Number of studies: 1

Berkowitz MR 2009 **Application of Osteopathy in the Cranial Field to Successfully Treat Vertigo:A Case Series** The AAO Journal 19(3) 27-32 http://works.bepress.com/murray_berkowitz/30/

"These cases also demonstrate that the longer-standing and more chronic the presenting problem, the more treatments that may be necessary. This fits the generally accepted paradigm. They also show that even extremely chronic cases may be successfully treated with application of osteopathy in the cranial field in a relatively finite number of treatments; an osteopathic approach renders definitive care of vertigo and co- morbid tinnitus possible."

Case reports

Number of studies: 2

Fraix M 2009 **Osteopathic manual medicine for vertigo: review of literature, case report, and future research** The AAO Journal Vol 19, Issue 2, Summer <http://www.ostmed-dr.com:8080/vital/access/services/Download/vcom:42071/SOURCE01>

"Treatment options for BPPV, Meniere's disease, Vesti- bular Neuritis, and Labyrinthitis are based upon the pro- posed mechanism of disease for each respective disorder."

"A 52 year-old right hand dominant Caucasian female presented to the Osteopathic Manual Medicine clinic with complaints of intermittent dizziness for the past 5 months. She stated that the spinning sensation primarily occurred when she turned her head quickly, bent over or changed positions (i.e. lying to sitting or sitting to standing). It was interfering with her job and personal activities, including her physical duties as a nurse and driving an automobile."

"The patient's cranial, cervical, thoracic, costal, and sacral somatic dysfunctions were treated with muscle energy, high-velocity, low amplitude, strain counter-strain, and cranial osteopathy. The patient tolerated treatment with OMM well and underwent a total of five treatment sessions. After the first two sessions, she reported a signifi- cant reduction in her vertigo. By the fifth session, her symptoms had essentially resolved and she was no longer modifying her work or daily activities. At the conclusion of treatment, the patient repeated the Dizziness Handicap Inventory (DHI), which was administered prior to starting treatment with OMM. Initially, she had scored 19 (maximum score: 50) on the DHI and at the conclusion of treatment, her score had decreased to 4, suggesting an overall improvement in her symptoms."

Channell MK 2008 **Modified Muncie technique: osteopathic manipulation for eustachian tube dysfunction and illustrative report of case.** J Am Osteopath Assoc May;108(5):260-3 <http://www.ncbi.nlm.nih.gov/pubmed/18519836>

"In eustachian tube dysfunction, the eustachian tube fails to open sufficiently, resulting in a difference between the air pressure inside and outside the middle ear. This condition can cause pain and hearing loss and may lead to barotitis media, otitis media, tinnitus, and vertigo. Although several treatment options are available, from antibiotics to surgery, little documentation of osteopathic manipulative techniques exists. The current report discusses various treatment options, including the modified Muncie technique-a type of myofascial release administered inside the patient's mouth-for patients with eustachian tube dysfunction and its symptoms. An illustrative case of a 37-year-old woman who complained of intermittent vertigo and who was treated with this technique is included."