

Collected Scientific Research Relating to the Use of Osteopathy with Tinnitus (specific causes)

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.

Note: tinnitus has a range of causes. These studies relate to very specific causes of tinnitus; unfortunately many of the other causes of tinnitus (and particularly sensory hearing loss, in which the brain seems to create a perception of sound to make up for the input it isn't getting) don't seem to respond particularly to osteopathic treatment.

These studies are from peer-reviewed journals

Number
of studies:
5

Clinically and statistically significant results

Number
of studies:
5

Randomised controlled trials

Number of studies: 1

Michiels S, Van de Heyning P, Truijen S, Halleman A, De Hertogh W 2016 **Does multi-modal cervical physical therapy improve tinnitus in patients with cervicogenic somatic tinnitus?** Man Ther Dec;26:125-131 <https://www.ncbi.nlm.nih.gov/pubmed/27592038>

"Tinnitus can be related to many different aetiologies such as hearing loss or a noise trauma, but it can also be related to the somatosensory system of the cervical spine, called cervicogenic somatic tinnitus (CST). Case studies suggest a positive effect of cervical spine treatment on tinnitus complaints in patients with CST, but no experimental studies are available.

OBJECTIVE:

To investigate the effect of a multimodal cervical physical therapy treatment on tinnitus complaints in patients with CST.

DESIGN:

Randomized controlled trial.

PATIENTS:

Patients with a combination of severe subjective tinnitus (Tinnitus Functional Index (TFI): 25-90 points) and neck complaints (Neck Bournemouth Questionnaire (NBQ) > 14 points).

INTERVENTION:

All patients received cervical physical therapy for 6 weeks (12 sessions). Patients were randomized in an immediate-start therapy group (n = 19) and a 6-week delayed-start therapy group (n = 19).

MEASUREMENTS:

TFI and NBQ-scores were documented at baseline, after the wait-and-see period in the delayed-start group, after treatment and after 6 weeks follow-up. The Global Perceived Effect (GPE) was documented at all measuring moments, except at baseline.

RESULTS:

In all patients (n = 38) TFI and NBQ-scores decreased significantly after treatment (p = 0.04 and p < 0.001). NBQ-scores remained significantly lower after follow-up (p = 0.001). Immediately after treatment, 53% (n = 38) experienced substantial improvement of tinnitus. This effect was maintained in 24% of patients after follow-up at six weeks.

CONCLUSION:

Cervical physical therapy can have a positive effect on subjective tinnitus complaints in patients with a combination of tinnitus and neck complaints. Larger studies, using more responsive outcome measures, are however necessary to prove this effect."

Oostendorp RA, Bakker I, Elvers H, Mikolajewska E, Michiels S, De Hertogh W, Samwel H 2016 **Cervicogenic somatosensory tinnitus: An indication for manual therapy plus education? Part 2: A pilot study.** *Manual Therapy* Jun;23:106-13 <https://www.ncbi.nlm.nih.gov/pubmed/26971019>

"The aim of this study was to evaluate the efficacy of Manual Therapy Utrecht (MTU) plus education in patients with cervicogenic somatosensory tinnitus (CeT).

STUDY DESIGN:

Pretest-posttest design.

METHOD:

Five hundred and six patients were referred or referred themselves. A subgroup of patients was identified with CeT, and within this a subgroup with tinnitus sensitization (TS). Two CeT groups were created based on the presence or absence of TS. Both groups underwent manual therapy combined with tinnitus education. Tinnitus intensity (VAS-tin 0-100 mm) was the primary outcome measure. Number of treatments and adverse effects were the secondary outcome measures.

RESULTS:

A total of 122 patients with CeT (24.1%) were included (average age 53.3 years [± 9.8], female 38.5% and duration of tinnitus 7.3 years [± 8.9]). Patients were divided into two groups: 55 patients (45.1%) with TS (CeT + TS group) and 67 patients (54.9%) without TS (CeT - TS group). Pretest to posttest differences on the VAS-tin were statistically significant within both groups (CeT - TS group: difference VAS-tin 5.9 [$p = 0.01$]; CeT + TS group: difference VAS-tin 18.2 [$p = 0.00$]), and between the groups in favor of the CeT + TS group (difference VAS-tin 12.3 [$p = 0.01$]). Pretest to posttest differences were clinically significant for the CeT + TS group (difference VAS-tin 18.2 [MCIC = ≥ 10 mm VAS-tin]) and between the groups (difference VAS-tin 12.3 in favor of the CeT + TS group). The average number of treatment sessions was 9.6 (± 2.6) for the CeT - TS group and 10.3 (± 2.5) for the CeT + TS group, a non-significant difference. There were no adverse effects in either group.

CONCLUSIONS:

Despite its limitations, this study provides valuable information on both the characteristics of patients with CeT and TS in a Dutch primary care manual therapy practice and on the potential effectiveness of MTU combined with tinnitus education for the subgroup of CeT + TS patients."

Case series

Number of studies: 2

Arab AM, Nourbakhsh MR 2014 **The effect of cranial osteopathic manual therapy on somatic tinnitus in individuals without otic pathology: Two case reports with one year follow up** International Journal of Osteopathic Medicine Vol 17 (2) pages 123-128 <http://www.sciencedirect.com/science/article/pii/S1746068913001685>

"The following case reports present the effect of treating proposed cranial bone dysfunctions on chronic somatic tinnitus, following head trauma, with one year follow up. Both cases were suffering from chronic tinnitus on the right side without any otic pathology or temporomandibular dysfunctions. Temporary and limited effects of medications and other treatments on their persistent tinnitus had a negative effect on their social interactions and quality of life. Both patients were considered to demonstrate marked sphenoid, temporal and occipital bone dysfunctions, based on manual cranial treatment. Active tender points were also identified with intra-oral palpation and examination on the lateral pterygoid muscle on the right side. Manual therapy of the cranial bones for restoration of normal alignment and cranial rhythm and myofascial release technique to deactivate tender points on the lateral pterygoid had a significant effect on reducing the persistent tinnitus in both patients. At one-year follow up, both patients reported significant improvement in their quality of life and social interactions without recurrence of their tinnitus symptoms. The findings of this study suggest that cranial manual therapy and myofascial release technique could be a potential treatment for somatic tinnitus in patients with no otic pathology or temporomandibular disorders."

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: 1

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."