

FACT SHEET

CHIROPRACTIC ADJUSTMENT AND CERVICOGENIC DIZZINESS

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Research Project Summary

Project Complete

Dizziness is a common problem that can lead to disability and impact on quality of life. In some cases of dizziness the cause can be attributed to pathology or dysfunction of upper cervical vertebral segments. This form of cervicogenic dizziness is characterized by symptoms of imbalance or spinning associated with neck pain, stiffness or headache.

One of the factors resulting in cervicogenic dizziness may be the mechanical compression of the vertebral artery. Reduced blood flow in one or both of the vertebral arteries may result from mechanical compression, tension, dissection or stenosis. This mechanical compromise of one or both of the vertebral arteries may be caused by poor head and neck posture and mal-alignment of the upper cervical spine, thus leading to cervicogenic dizziness. As such, adjusting the cervical spine to correct the mal-alignment could potentially improve vertebral artery blood flow and affect dizziness.

The primary aim of this study is to investigate the potential role of reduced vertebral artery blood flow in the pathophysiology of cervicogenic dizziness. This study will also secondarily explore the potential influence of a course of upper cervical spine chiropractic adjustments on vertebral artery blood flow volume.

To date no studies have investigated the possible role of vertebral artery blood flow characteristics in the pathophysiology of cervicogenic dizziness or the potential beneficial effects of chiropractic upper cervical spine adjustment on the vertebral artery blood flow in patients with cervicogenic dizziness.

Presently, there is some evidence to advocate the use of spinal adjustment or other manual therapy techniques for cervicogenic dizziness. However, the effect of upper cervical spine chiropractic adjustment on the vertebral artery blood flow is still largely unknown.

This will be the first study to investigate a possible link between the changes in vertebral artery blood flow volume and severity of cervicogenic dizziness and the potential for upper cervical adjustment to provide a beneficial effect on vertebral artery blood flow volume in people with cervicogenic dizziness. This project will expand the current knowledge of the pathophysiology and mechanisms underlying cervicogenic dizziness and improve our understanding on the effect of upper cervical chiropractic adjustment on the vertebral artery blood flow.

With dizziness being such a common clinical problem, this study has the potential to greatly affect clinical success and clinical outcomes from chiropractic care.

Impact of Research

Publications

- Shum GL, Cinnamond S, Hough AD, Craven R, Whittingham W. Test-retest reliability of measuring the vertebral arterial blood flow velocity in people with cervicogenic dizziness. *Journal of Manipulative and Physiological Therapeutics*. J Manipulative Physiol Ther. 2017 May;40(4):255-262.
- Shum G, Whittingham W, Cinnamond S, Choy S and Hough A. Cervical Radiograph of a Patient with Cervicogenic Dizziness. *Journal of Spine*. 2016, 5:3.

Presentations

- Shum G, Keynote Speaker, Effect of toggle recoil adjustment on the vertebral artery velocity in people with cervicogenic dizziness. AGM of Royal College of Chiropractors. London. 2015
- Shum G, Whittingham W, Cinnamond S, Hough A. Evaluation of a course of cervical adjustments in treating cervicogenic dizziness. European Chiropractors' Union Convention, Sitges, Spain. 2013
- Shum G, Invited Speaker, Application of duplex ultrasonography in musculoskeletal research, University of Roehampton, Department of Life Sciences Lecture series. Roehampton, London 2013.