

Cohen, H., Burkhardt, A., Cronin, G., & McGuire, M. (2006). Specialized knowledge and skills in adult vestibular rehabilitation for occupational therapy practice. *The American Journal of Occupational Therapy*, 60(6), 669-678.

This article is comprised of expert opinion from four occupational therapists (OTs) regarding the provision of adult vestibular rehabilitation. Presented to The Commission on Practice of the American Occupational Therapy Association (AOTA), it was adopted by the Representative Assembly 2006C405 as a standard, replacing the earlier 2000 document.

The article provides a succinct, yet comprehensive, overview of vestibular system impairments and how rehabilitation for these disorders is truly in line with the principles of occupational therapy (OT). Vestibular impairments restrict an individual's ability to participate in everyday and social occupations, and an individual's symptoms significantly affect family and other social relationships. The overview, 10 appendices, and glossary describe the essential knowledge and skills needed by practitioners. The appendices outline the basic scientific and applied knowledge needed to understand and treat vestibular rehabilitation. There are specific examples of the impact of vestibular disabilities on activities of daily living (ADLs), performance skills, performance patterns, and contextual areas. There are also lists for what therapy evaluation skills and intervention skills an OT should have.

One of the main arguments underlying the overview is that while entry-level OT education provides a foundation in some areas related to vestibular function, most individuals with vestibular impairment require OTs to have skills beyond entry-level competence. Specifically, an OT's evaluation skills for vestibular rehabilitation should include tests for path integration skills, by which a person shows his or her skill in orienting; oculomotor tests, including saccades, pursuit, and vergence; and both standardized and non-standardized tests of balance while standing and walking, including such items as the Clinical Test of Sensory Organization on Balance and the Dynamic Gait Index.

While developing specialized knowledge of the condition is definitely a message of this article, it seems that there are several important topics not covered. The article does not state that treating vestibular dysfunction really requires additional courses or certification. It does not suggest either specific training courses or where one would look to obtain this education. It leaves the reader wondering whether there was a split in opinion among the experts who wrote this article, or perhaps it was concluded inadvisable to send an overly strong message to AOTA members that they may not be considered competent to assess and work with vestibular rehabilitation without further training. Perhaps research should be conducted on whether additional training is truly needed for OTs to conduct vestibular rehabilitation and, if so, a process should be set up for development and certification in the field.

On the other hand, this article does provide an exceptionally clear overview of vestibular dysfunction and rehabilitation. The appendices provide a checklist by which an OT can ensure that all areas of inquiry and treatment are addressed, and they provide a way to verify areas of knowledge related to the condition. The article also provides information about what further training OTs may want to pursue on an individual level.

Bottom line: Vestibular dysfunction greatly affects an individual's ability to engage in daily activities both at home and in society and, as such, treatment and intervention in this area is in strong accord with an OTs' skill in increasing independence and helping clients succeed in areas that are meaningful to them. This paper provides a very good overview of the topic.

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Jáuregui-Renauda, K., Villanueva Padróna, L., & Cruz Gómez, N. (2007). The effect of vestibular rehabilitation supplemented by training of the breathing rhythm or proprioception exercises, in patients with chronic peripheral vestibular disease. *Journal of Vestibular Research: Equilibrium & Orientation*, 17(1), 63-72.

This article described a level 2 cohort study established to assess the effects of performing Cawthorne and Cooksey (C&C) exercises for patients with peripheral vestibular disease and abnormal caloric tests. The population of 51 patients—from ages 26 to 60 (mean 43 +/- 9 SD.), with 47 percent male and 53 percent female—were divided into three sample groups with one doing C&C exercises 20 minutes a day, one doing C&C training plus another hour of breathing rhythm training each day, and a third group doing C&C exercises along with an extra 30 minutes of proprioception exercises each day, all for eight weeks. There were no significant differences in age, body mass index, or gender among the three groups. Patients included in the study had vestibular disease symptoms present within six months of the study and reported difficulties performing daily living activities due to these symptoms, of which the most frequent were dizziness, vertigo, and instability when moving the head rapidly or changing posture. A Dizziness Handicap Inventory, 25 questions representing functional, emotional, and physical aspects of dizziness, and static posturography were conducted prior to and post treatment.

The article stated that the vestibular system affects autonomic responses and thus breathing. While healthy subjects show a consistent decrease in respiratory frequency when reorienting the head and trunk to an upright position, those with vestibular dysfunction show an increase in respiration after the same reorientation.

The breathing training aimed to have patients achieve a breathing pace of 12 breaths per minute, using a recorded metronome as a guide, while doing their daily activities, during a half hour period twice a day. The proprioception activity instructed patients to walk slowly in bare feet in a corridor at least 4 m long, focusing on the movement and sensation of each foot, for 5 minutes in daylight and, when able, in dim light; to shift the body weight on each leg, while standing beside a wall, focusing on the effort and position of joints, for 5 seconds on each leg for at least 10 cycles; to do a single leg balance by lifting one leg into a semi-flexed position, at least 10 times per leg; and while seated in a chair, with bare feet, alternate putting each foot into a container of supplied 5-mm-diameter polypropylene balls up to the ankle 50 times.

The main outcome, at the eighth week, was that no patient reported having vertigo during the previous two weeks. Composite scores from all three groups showed improvement on the self-reported Dizziness Handicap Inventory, with the breathing group showing the greatest improvement. Patients performing proprioception exercises showed an additional benefit in posturography.

The authors suggested that further studies were needed to evaluate whether the different daily lengths of the three exercise programs may have had an effect on outcome. They also suggested studying whether breathing exercises alone might lower anxiety among patients who have vestibular dysfunction, as anxiety is also a major complaint of these patients. The proprioception group spontaneously reported a relaxing effect of practicing the exercises.

This article is a good reference because it provides evidential support for three interventions that can be used for patients with vestibular dysfunction.

Bottom line: Training patients to regularly practice exercises of vestibular rehabilitation can help decrease or eliminate symptoms of vertigo.