Dynamic Chiropractic

REHAB / RECOVERY / PHYSIOTHERAPY

# Chiropractic Rehabilitation in the Treatment of Dizziness

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Dizziness is a common complaint in the chiropractic office. It is a generic term that must be clearly defined and its cause properly characterized and diagnosed for appropriate treatment to be implemented. It is a complaint that is often treatable via chiropractic manipulative and myofascial/rehabilitative procedures.

The first stage in the workup of a complaint of dizziness is to accurately identify the actual nature of the symptom. There are essentially four symptoms that can be described by a patient as being "dizziness."

1. lightheadedness -- The patient feels "not right in the head."

2. presyncope -- The patient feels "faint."

3. disequilibrium -- The patient feels off balance, often as if they are being "pulled to one side" and feels as if they could easily fall over.

4. vertigo -- The patient feels as if they are spinning or the world is spinning around them. This can often occur in acute attacks, or it can be a constant, low level feeling. This can be rotatory or can occur in a sagittal plane.

Karel Lewit, MD, one of the foremost authorities in the world on locomotor system dysfunction and its effects on equilibrium, states: "It is important to stress that a cervical factor may be present in all forms of vertigo and dizziness ... in no field is manipulation more effective than in the treatment of disturbances of equilibrium."[1]

Because the entire locomotor as well as vestibular and visual system is involved in the regulation of equilibrium, all factors must be considered in the patient who suffers from disorders of this system. Michel Norre, noted authority in the field of vertigo and disequilibrium, states: "The dysfunction causing vertigo concerns the total balance function and not the inner ear function alone."[2] The types of dizziness that are generally most likely to fall into the chiropractic rehabilitative realm are disequilibrium and vertigo.

Disequilibrium is most often cervical in origin, as has been demonstrated by Hulse.[3] It has been shown in several studies that the cervical spine plays a very strong role in the body's regulation of

equilibrium sense.[4-7] In fact, Guyton[7] states that the cervical spine plays the most important role in this regulation. One test that can be useful in determining whether a complaint of disequilibrium is of cervical origin is Hautant's test.[1] Have the patient sitting, preferably in a chair with back support to prevent falling, and holding their arms straight out in front of them, palms down. Have them close their eyes and observe for drifting of their arms to one side. Repeat this with the head turned to the right and to the left and often the deviation will become more marked, particularly when the head is turned to the direction of cervical joint dysfunction. This tests the ability of the cervical spine to appropriately regulate muscle tone in the extremities by properly eliciting the tonic neck reflexes.

Vertigo, as stated earlier, is by definition an abnormal sensation of movement, usually spinning. Attacks of vertigo can be elicited by various maneuvers or can be constant. When the vertigo is caused by Meniere's disease it is accompanied by unilateral tinnitus and hearing loss. Benign positional vertigo is caused by dysfunction of the labyrinthine apparatus in the inner ear and attacks are elicited by changes of head position in space, as can be tested for utilizing the Barany maneuver. Cervicogenic vertigo also occurs in attacks and these attacks are elicited by changes of head position relative to the trunk. This can be tested for by utilizing the rotating stool test,[8] wherein the patient sits on a stool that has the ability to rotate and is told to rotate their entire body from side to side while the doctor holds their head in position, thus restricting movement to the cervical spine and avoiding stimulation of the inner ear mechanism. If this elicits an attack of vertigo, it is most likely of cervical origin.

Vetebrobasilar insufficiency can cause vertigo, though with this disorder the vertigo almost never occurs by itself,[9] rather being generally accompanied by other symptoms of brainstem ischemia, such as numbness in the ipsilateral face and/or contralateral body; nausea; vomiting; loss of consciousness; visual problems; difficulty walking; incoordination of the extremities; tinnitus; speech problems and nystagmus. The symptoms can be provoked by rotation of the cervical spine, although this is not always the case, and there may be a history of TIA. Vertigo caused by other brainstem diseases such as CP angle tumor can cause a constant, low intensity vertiginous sensation that increases in intensity as the tumor grows.

So it can be seen that before a referral or management strategy can be formulated, there must be accurate diagnosis of the cause of the disequilibrium or vertigo. There are various treatment/rehabilitative approaches that can be taken to restore normal function and eliminate the complaint.

When vertigo or disequilibrium is caused by dysfunction in the cervical spine or labyrinythine apparatus, it is most often treatable in the chiropractic setting. Optimum function of the cervical spine is essential to the recovery from these disorders regardless of the cause. Lewit[10] showed that patients with Meneire's syndrome can be effectively treated with manipulation, demonstrating that 79 percent of 21 cases showed an "excellent" outcome. Fitz-Ritson[8] showed that patients with posttramatic vertigo of cervical origin treated with chiropractic manipulative, myofascial and rehabilitative procedures experienced a 90.[2] percent success rate. Treatment must not only be directed towards the correction of joint dysfunction via manipulation, but must also be directed toward muscular dysfunction, such as myofascial trigger points and muscle tightness.[11] In addition, faulty movement patterns that involve the cervical spine, including cervical flexion, sit-to-stand, breathing and swallowing[12] must be detected and corrected. This is especially important because often these patients will have imbalance in activity

between the deep neck flexors and the upper cervical extensors. Examining for this imbalance and correcting it through rehabilitative procedures will help the patient improve locomotor system function as a whole and prevent treatment resistance and recurrence of the problem.

This correction of imbalances may take the form of stretching and/or inhibiting the tight/hyperactive upper cervical extensors and facilitating the deep neck flexors, either with hands-on techniques or with subcortical exercise.

Patients with disorders of equilibrium often require additional training for complete restoration of equilibrial reaction to bring about normalcy. One of the most effective methods of doing this is through propriosensory retraining, a system of exercises that utilizes balance boards, balance beams, rocker boards, wobble boards and balance shoes. It creates a graded challenge to the patients equilibrial system to retrain their entire locomotor system to respond more appropriately (ultimately at optimum) to the gravitational perterbations with which we all are faced on a daily basis. The propriosensory exercises that are given to the patient are designed to reprogram the subcortical postural reactions that often become lost due to the sedentary lifestyle that many of us lead, as well as the locomotor system dysfunction that is often the underlying cause of vertigo and disequelibrium syndromes. As with other disorders of the locomotor system, one must look at the entire system, for the underlying cause of the clinical syndrome. This "holistic" approach will allow full assessment of the patient from a functional standpoint.

As with other locomotor system syndromes, reliable and valid outcome measures are an essential aspect of the appropriate management of the patient with dizziness. Demonstrating disability and treatment effectiveness is perhaps more important with this group of disorders than with many others because of the subjective nature of the clinical symptoms. One very effective means of documenting outcome is with the dizziness handicap inventory.[13,14] This is a brief instrument that allows the treating doctor to demonstrate the degree to which the patient is disabled by their dizziness, and the impact the treatment and rehabilitation is having on this disability.

The various symptoms that fall under the category of dizziness can affect people in a variety of ways, from being a mild nuisance to being severely disabling. Appropriate intervention can often be tantamount to life saving to the patient. This appropriate intervention must be based on a full evaluation of the locomotor system, including examination of movement patterns; it must often include rehabilitative procedures and propriosensory retraining to completely bring about return to full function.

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