



**Mark Johnson**

# Healthy Lifestyles

by

## Vanquishing Vindictive Vertigo

Many people suffer from dizziness and balance problems, and it is the number one reason for physician visits by people over the age of 65. Conversely, many people will not go to their physician because they find it embarrassing, and decide not to talk about it. Some people are afraid of the social implications of dizziness ("What do people think of me when they see me walking?"), because a person walking with a balance problem may appear to be intoxicated. If ignored, dizziness can contribute to an increased risk of falling, which can lead to other more serious injuries.

The vestibular system in the inner ear, as well as vision, and specific nerves in muscles and tendons provide information about body positioning and orientation. That information is transmitted back to the brain via nerves, and is processed by the brain to give a clear picture of the body's orientation. There are several possible causes of dizziness. Problems with the cardiovascular system can impede or reduce blood flow to the inner ear and include blood pressure problems, small strokes called TIA's, bony problems in the neck, hardening of the arteries, and defective heart valves. Problems with the neurologic system can affect information processing or information being transmitted to or from the brain and can be caused by stroke, traumatic brain injury, or multiple sclerosis. Poor vision or poor eyesight can provide poor information about body position to the brain. Problems with the vestibular system can provide inaccurate information to the brain regarding movements of the head. Symptoms should be discussed with your physician, to determine the exact origin of the dizziness.

Vestibular disorders have several possible causes. Head trauma from a fall or motor vehicle accident is a frequent cause of vestibular disorders in people under 50. In elderly populations, vestibular system degeneration is more common cause. Less common causes include toxic drug effects, ear infections, inner ear damage from sound/pressure and vascular problems. Problems with the vestibular system can cause problems with sitting, standing, or walking, inability to lie flat or turnover in bed, difficulty with visually focusing, reading, or driving, and can cause nausea.

Several systems in our inner ear contribute to the maintenance of balance. The left and right semicircular canals each consist of three fluid

filled tubes connected to a common chamber, embedded in bone just inside of the ear drum. Each tube detects rotation covering each axis of rotation. There are also hair cells in each of the tubes which have crystals attached to the end of them. The crystals are moved when the head is accelerated in a straight-line, and cause the hair cells to bend. The information generated by the inner ear is carried back to the brain by nerves.

The most common cause of dizziness or vertigo from the vestibular system is Benign Paroxysmal Positional Vertigo (BPPV). It usually presents as dizziness when changing position or moving, such as bending forward, looking up, lying down or rolling over in bed. It can occur with no apparent cause, but frequently may follow a fall or blow to the head. Debris can be sucked into the fluid filled tubes in the inner ear, or get stuck to the outside of other sensitive structures, causing erroneous information about motion or movement. It usually causes a sensation of spinning (i.e. bed spins), which usually goes away in a short period of time. This can be accompanied by nausea and balance problems, which may last for a significant period of time after the spinning has stopped. This condition can be successfully treated by a properly trained physiotherapist over one to two sessions, using a succession of specific positions designed to move the debris out of the area where it is creating a problem. Full recovery is expected, however a relapse is not uncommon. More complicated problems causing dizziness can occur because of reduced function of the inner ear, fluid density problems, and fluid pressure problems. Hearing loss may or may not be affected based on the cause, but these tend to be more permanent problems. If there is a permanent loss of function, exercises may be given to try to restore normal evaluation of body position and movement. The exercises are usually quite effective but may take a significant period of time to produce positive results. Ignoring balance and dizziness problems can significantly increase the risk of falls, which in turn can lead to more serious problems. If you experience the onset of balance problems or dizziness, you should attempt to find out the cause by talking to your physician. Commonly, physiotherapy treatments can reduce the effects of impaired balance, and often completely restore function.

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