

## Balance & Dizziness

Many people seek chiropractic care for low back, mid-back, neck pain, and pain in the extremities, but what about balance and/or dizziness, as they often go together? Can chiropractic management help people suffering from frequent falls due to balance and/or dizziness problems? Let's take a look!

When considering treatment for balance, we must talk about the "proprioceptive system." The way the body "communicates" between all the various body parts is by proprioceptors—which are located in skeletal muscles and joint capsules—that relay information to the brain. This information from the various body parts is then integrated with incoming information from the vestibular system (inner ear). The brain also relies heavily on the cerebellum located in the back of the head, which is largely responsible for coordinating the unconscious (automatic) aspects of proprioception. The ability to maintain balance, such as when standing on one leg (eyes open and closed), is dependent on the ability for the ALL THREE of these systems to work properly, and like any other skill, "...practice makes perfect!" Please try standing on one leg and then shut your eyes. Can you feel your ankle, foot, leg, and the rest of your body struggle to keep you balanced? For those of us under age 60, it's "normal" to be able to balance on one foot with eyes closed for 25 seconds (or 10 and 4 seconds if you are between 60-69 or, 70-79 years old, respectively)! Scary, isn't it? But don't feel bad, as most of us can't do this at first. With practice and the right exercises, you will be able to do it. Your "kinesthetic sense" CAN BE improved, and your doctor of chiropractic can guide you in the process. So, how does dizziness fit into this picture? Let's talk about the ear!

Our ears have two jobs: hearing and balance. The outer ear catches sound and funnels it to the eardrum which vibrates and moves three little bones that transmit the information to the cochlea and finally to the brain allowing us to hear sound. Deep inside the ear is the "vestibular apparatus," which is the organ of equilibrium that assists in balance. Here, three semi-circular canals are filled with fluid and two sac-like structures located at the base called the utricle and saccule. The fluid in the canals flows past little hair-like structures that are connected to nerves that relay information to the brain, telling it where we are in space (horizontal—laying down, vertical—standing) and if we're moving forwards/accelerating or moving up/down (like in an elevator).

There are little tiny "stones" in these two sacs that move the little hair-like structures but they can dislodge into the canal and alter the flow of fluid (like a rock sticking out of a flowing river creating eddy currents), which alters the direction the little hairs bend, resulting in vertigo or dizziness as the brain is receiving conflicting information from the hairs bending in multiple/different directions. This is called "BPPV" (benign paroxysmal positional vertigo), which is brief episodes of vertigo immediately following a change in head position such as rolling over in bed, getting up from sitting or laying, etc. This is the most common cause of vertigo. If you Google "BPPV," you will find different exercises that can move these little stones back into position (Brandt-Daroff and Epley's maneuver), both of which work well often within a day or two. This is a good place to

start, and if the balance/dizziness (vertigo) doesn't improve, then you should consider other possibilities such as inner ear inflammation or acute vestibular neuritis, Meniere's disease, vestibular migraine, acoustic neuroma, blood pressure issues, medication side effects, and more. Your chiropractor can teach you the BPPV exercises and perform cervical adjustments, which can also help significantly.