

## Neck Function and Balance

In the nervous system, there are three primary areas that regulate our balance: the cerebellum (located in the back of the brain), the dorsal columns (located in the back of the spinal cord), and the inner ear (the “vestibular” part of our cranial nerve VIII). There are also small, microscopic “proprioceptors” or mechanical receptors located in our joint capsules, muscles, and tendons that relay information to the brain and work hard to keep us upright when we walk, run, and play!

Conditions that can result in balance problems include, but are not limited to, BPPV (Benign Paroxysmal Positional Vertigo), spinal stenosis (narrowing of the spinal canal where our spinal cord is located), dorsal column disease, cerebellar lesions, and/or circulation loss into the back of the brain. Other conditions associated with light headedness include low or high blood pressure, hydration, medications, postural or orthostatic hypotension, diabetes, endocrine disorders, hyperventilation, heart conditions, and vasovagal syncope. However, issues with BPPV/inner ear are the most common reported cause of dizziness.

Emergency actions should be exercised when dizziness is associated with chest pain, shortness of breath, or palpitations. If eating helps resolve the dizziness, blood testing for hypoglycemia is appropriate. If confusion, memory lapses, changes in speech, facial droop, weakness on one side of the body, or acute headache occur, these could be signs of a stroke or a brain bleed or tumor and should be quickly evaluated.

If ANY of these signs or symptoms is present, we will refer you to the appropriate specialty for further evaluation.

The upper cervical spine has also been found to affect balance, and it's a primary area of treatment that we as chiropractors focus on when patients complain about balance dysfunction. Unique to this upper cervical region is the fact that the nucleus of cranial nerve V (the trigeminal nerve) extends down the spinal canal to the C2 level and adjustments in this region can have significant benefits for several other conditions, including trigeminal nerve problems as well as BPPV (inner ear dysfunction such as dizziness) where small crystals dislodge from the ampulla of the semicircular canal and interfere with the flow of fluid inside the canal with resulting dizziness. Adjustments and the BPPV exercises (Epley's and / or Brandt-Daroff) significantly benefit this cause of dizziness.

You can depend on our evaluation to determine if chiropractic is the right choice in managing your balance disturbance.