

Cervical stenosis means narrowing of the spinal canal in the cervical spine (neck region). The symptoms begin slowly over time and are characterized by neck pain and/or stiffness, shoulder and/or arm pain, hand numbness/tingling/weakness/clumsiness, leg stiffness/weakness and overall balance problems with walking. There are three main causes of cervical stenosis and they can occur individually or in combination:

1. *Degenerative discs*: the “wear and tear” of the discs in between the bones of the cervical spine leads to bulging and herniation of the disc and arthritic bone spurs into the spinal canal, thus narrowing the diameter of that canal. As the diameter of the canal decreases, there is less space for the spinal cord and nerves, thus leading their compression.
2. *Facet degeneration*: the “wear and tear” of the facet joints leads to over growth of those joints and the protrusion of the resulting bone spurs into the spinal canal.
3. *Thickening of the ligamentum flavum*: with the wear and tear of the spine, this membrane connecting the individual bones in the back of the neck gets thicker and “buckles” into the spinal canal, thus causing canal narrowing.

### Treatment

The treatment of cervical stenosis depends not only on the symptoms but also whether there is presence of spinal cord compression. Most symptoms of cervical stenosis can be

treated non-operatively with medications, physical therapy and regular neck exercises. However, if the narrowing of the spinal canal is severe enough where there is spinal cord compression, surgery maybe recommended. Spinal cord compression is a significant issue because the spinal cord is the super highway of information transmission to and from the brain to the arms and legs. When there is pressure on and thus squeezing of the spinal cord, the messages to and from the brain cannot get through efficiently past this block and could be lost. As the wear and tear accumulates over the years, this squeezing of the spinal cord can get worse and lead to worsening of the symptoms and profound balance and manual dexterity problems. It is important to understand the difference between spinal cord compression and nerve root compression. A compressed nerve root can be treated non-operatively if the symptoms are tolerable for the patient and there is **NO** muscle weakness. I like to use the following analogy when thinking about the implications of spinal cord and/or nerve root compression:

*The spinal cord is like the Mississippi river with the nerve roots being the tributaries that take off from the river. A patient can have blockage of the Mississippi river itself (spinal cord compression) or one of the tributaries (nerve root compression). As you may imagine, blockage of one of the tributaries is a lot less significant than the blockage of the river itself! This problem is fairly common and its presentation and treatment is discussed later in this publication.*

Spinal cord compression is interesting in that it can be painless and is usually suspected during the physical exam and confirmed with an MRI (or a CT scan if a patient cannot undergo an MRI). Depending on the severity of the compression and your symptoms (balance problems,

hand/arm numbness/tingling/burning, leg/foot numbness/tingling/burning, weakness, spasticity, etc), treatment recommendations are made.