**Cervical Spinal Stenosis/Cervical Spondylotic Myelopathy**

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Spinal stenosis is a narrowing of the spinal canal, which places pressure on the spinal cord. When found in the neck it is called cervical spinal stenosis. Myelopathy is the term used to describe the constellation of neurological symptoms that develop as the result of chronic and progressive spinal cord compression. Myelopathy is most often caused by a combination of disc bulging, osteophyte ("bone spur") formation and overgrowth of the joints of the spine. We call this a disc-osteophyte complex that in conjunction with overgrowth of the spinal ligaments (ligamentum flavum) can cause narrowing of the diameter of the spinal canal (stenosis). This mechanical compression can be static or dynamic (worse with motion like neck extension). It can also develop as a result of progressive degenerative changes of the spine which cause a decrease in disc space height and can be associated with a loss of the normal curvature of the spine (lordosis) and osteocartilaginous overgrowth.

In many patients compression of the spinal cord can be asymptomatic, even in the presence of advanced changes seen on an MRI. Since stenosis develops slowly, the body is typically able to accommodate and tolerate these changes. It is the mechanical compression of the spinal cord that results in myelopathy. Once central stenosis has occurred, even minor injuries have the potential to cause an insult to the spinal cord, which can result in an acute and significant neurologic deficit.

Myelopathy may manifest itself as a loss of dexterity in the fingers, loss of balance, or unsteadiness with walking. Specific examples include having difficulty with buttons, using small tools or putting on jewelry, a change in handwriting, dropping objects, or heaviness or weakness in the arms or legs. When stenosis is severe, the symptoms can progress to include a loss of bowel or bladder function. The physical exam for myelopathy includes testing for hyperactive or abnormal reflexes and muscle weakness.

Cervical myelopathy is a serious problem. The pressure on the spinal cord typically won't go away without surgery and the symptoms will most likely continue to get worse. If you do not improve rapidly with non-operative care, surgery will be recommended to relieve the pressure on the spinal cord. Sometimes surgery is performed simply to prevent the progression of symptoms. There are several surgical procedures used to treat cervical spinal stenosis that is causing cervical myelopathy. The type of surgery recommended depends on the location and extent of the cervical pathology. The goal of the operation is to relieve the pressure on the spinal cord by making the spinal canal larger. Myelopathy can be treated by an anterior (from the front) or posterior (from the back) approach. The choice of the approach depends on factors including the site and degree of cord compression and the number of spinal levels involved. An anterior decompression may be accomplished by removing the vertebral body (corpectomy) and replacing it with a solid piece of bone graft. Posterior decompression takes the form of a laminectomy in which we remove bone from the back of the spinal column in order to make more room for the spinal cord. With either procedure, a spinal fusion may be necessary to maintain or restore stability in that portion the spine.