



Cervical Stenosis

What is cervical stenosis?

Cervical stenosis is a condition in which the spinal canal in the neck is too small for the spinal cord and exiting spinal nerves. The narrow canal results in pinching of these important structures, which can eventually lead to a variety of symptoms. Spinal stenosis can develop after a single event, such as a fall or other injury. But, more often it develops over a period of months or years due to progressive degenerative and arthritic changes in the spine. Though the patient may not be aware of its development, spinal stenosis may become rapidly apparent once the dimensions of the spinal canal become critically small.

What causes cervical stenosis?

Again, cervical stenosis may be the result of an acute injury such as a fracture or a disc herniation. However, in most cases cervical stenosis develops as a result of a combination of disc degeneration, bone spurs, thickened ligaments, and lax joints in the spine. All of these can cause a narrowing of the bony canal that holds the spinal cord. Aside from the physical pinching of the spinal cord, this narrowing also causes sluggish blood flow to the spinal cord.

Some patients are genetically programmed to develop a small spinal canal diameter. These patients are predisposed to develop symptoms of cervical stenosis at an earlier age than patients who start off with a normal size spinal canal. Other predisposing factors include conditions such as rheumatoid arthritis and osteoarthritis. Nicotine has been suggested to have a negative effect on the health of the intervertebral discs, which may play a role in early collapse and degeneration.

What are the symptoms of cervical stenosis?

Cervical stenosis can cause a variety of symptoms, some of which may be very similar to other unrelated conditions. Patients with cervical stenosis often report a history of episodic neck pain and or headaches. However, patients do not necessarily have to have neck pain to be experiencing symptoms of cervical stenosis. **Some patients with cervical stenosis will have only symptoms in the shoulder, arm or hand, but may have never had neck pain.** Symptoms caused by pinched spinal nerves in the neck may cause pain, numbness, or weakness anywhere in the upper extremity. Therefore, cervical stenosis should be considered as a possibility in patients who appear to have conditions such as carpal tunnel syndrome or rotator cuff tears, though these conditions may exist together.

If the stenosis has reached a point where it begins to press not only on the nerves but also on the spinal cord itself, additional symptoms may be experienced. This is called myelopathy. The symptoms of myelopathy may include changes in handwriting or loss of fine motor skills in the hands. An example of this would be difficulty buttoning shirts or using zippers. Cervical stenosis may also cause difficulties with balance and walking without significant leg pain. This is typically perceived as a worsening clumsiness by the patient and their family.

What is the natural history?

Unfortunately, the symptoms of cervical stenosis typically parallel the severity of the degeneration in the spine, which is slowly progressive. In some cases of severe stenosis, symptoms may progress to an unrecoverable level after an incidental injury or fall.



What are the treatment options?

Patients with symptoms of early cervical stenosis may be successfully treated without an operation. Treatments may include physical therapy including cervical traction, anti-inflammatory medications, steroid injections, chiropractic care, massage, or short-term use of a soft collar.

Patients with persistent disabling symptoms or persistent upper extremity weakness, despite a trial of conservative treatments may benefit from a cervical operation. Surgical options include a discectomy or corpectomy (removal of the front of the vertebra) and fusion from the front of the neck, or a laminectomy (removing the bony covering over the spinal cord) and fusion from the back of the neck. The surgical option chosen depends on the overall alignment of the spine and the number of vertebral levels causing the stenosis.

Patients experiencing symptoms of myelopathy may benefit from early surgical intervention. Unfortunately, the symptoms of myelopathy may be irreversible despite surgical decompression of the spinal cord. Surgery for myelopathy is therefore considered successful if it only preserves the patient's current functional status, and prevents further progression of their symptoms.