Spinal Stenosis

Spinal stenosis is a narrowing of the spinal canal in your spine, which causes pressure on the spinal cord and the nerves traveling throughout the spine. It often occurs in the lower part of the back and the neck. Even though some people might not have any symptoms or signs, the condition can cause pain, muscle weakness, numbness and problems with the bowel or bladder.

Spinal stenosis is often caused by normal wear-and-tear changes that happen in the spine from growing older. In severe cases, surgery might be needed to help create additional space for the nerves or spinal cord.

Spinal stenosis tends to be most common in men over the age of 50. However, it may occur in women and younger people who are born with a narrowing of the spinal canal or who suffer an injury to the spine (e.g. a previous slipped disc).

Possible Causes of Spinal Stenosis?

1. **Inherited** - Some people inherit a small spinal canal or have a curvature of the spine (scoliosis) that produces pressure on nerves.
2. **Osteoarthritis** wears away the surface cartilage layer of joints, and is often accompanied by overgrowth of bone (which may narrow the spinal canal).
3. **Rheumatoid arthritis** - inflammation and enlargement of the soft tissues of the joints.
4. **Tumors of the spine** are abnormal growths of soft tissue that may affect the spinal canal.
5. **Trauma** (accidents) such as a previous slipped disc.
6. **Paget's disease of bone** is a chronic (long-term) disorder that typically results in enlarged and deformed bones.
7. **Fluorosis** is an excessive level of fluoride in the body. It may result from chronic inhalation of industrial dusts or gases contaminated with fluorides, prolonged ingestion of water containing large amounts of fluorides, or accidental ingestion of fluoride-containing insecticides.

What are the Symptoms of Spinal Stenosis?

- Heavy, weak, tired legs.
- Walking is difficult and may be limited to 500 meters or less.
- Pain in buttocks, thighs, calves and/or ankles.

The symptoms can usually be quickly relieved by sitting down, stopping walking, and sometimes by bending forwards. If you experience restless legs at night, try bending your knees towards your chest to see if that helps, and if not get some nutritional advice in case you are deficient in calcium, magnesium or vitamin D.

If spinal stenosis progresses, the spinal canal can become narrowed enough that the bottom of the spinal cord is compressed. This is known as cauda equina syndrome and required urgent surgical decompression. If you start to notice symptoms of numbness around the anus or loss of feeling in the legs you should speak to a doctor.

Spinal Stenosis Anatomy

The spine is composed of a number of small bones, referred to as vertebrae, which are all stacked one on top of the other. Ligaments, nerves, muscles and intervertebral discs are all additional components of the spine.

Vertebrae connects to create a canal that shields and protects the spinal cord. It is composed of three distinct sections creating natural curves in your back: chest area (thoracic), curves of the neck area (cervical) and lower back (lumbar). The lower part of the spine is composed of vertebrae fused together. Five lumbar vertebrae join the pelvis and the spine together.

Spinal nerves travel along the spinal canal to carry messages between the muscles and the brain. The nerves will branch out from the spinal cord out of the vertebrae openings.

An MRI scan showing spinal stenosis and cauda equina compression at L4/5

How to Treat Spinal Stenosis:

1. **Therapy**
   Physical therapists can help provide you with exercises that will help to improve your balance, build your endurance and strength and maintain the stability and flexibility within the spine.

2. **Medication**
   Anti-inflammatory medication can help to relieve pain and reduce any inflammation in the affected area. Muscle relaxers can help to calm down the muscle spasms that will sometimes occur with the condition. If you have chronic pain in the area, a low dosage antidepressant can

help to ease the pain. One of the more popular medications is amitriptyline. Anti-seizure medication and anti-epileptics like gabapentin or pregabolin can help to reduce the pain resulting from damaged nerves.

3. **Steroid Injections**
   The nerve roots can become swollen and irritated where they are being pinched. If you have a corticosteroid injected into the space surrounding the constriction, it will help to reduce inflammation and alleviate some of the pressure in the site.

4. **Surgery**
   Surgery is often considered when the aforementioned treatment methods haven't proven useful, when you are disabled by all of your symptoms and you are in overall good health otherwise.

When Should Surgery be Considered and What Is Involved?

In some cases, the conditions causing spinal stenosis cannot be permanently altered by nonsurgical treatment. To determine the extent to which nonsurgical treatment will help, a doctor seldom recommends surgery during the first 3 months of treatment. However, surgery might be considered within the 3-month period if a patient's symptoms are disabling, or they experience impaired bowel or bladder function.

The purpose of surgery is to relieve pressure on the spinal cord or nerves and restore and maintain alignment and strength of the spine. This can be done by removing, trimming, or adjusting diseased parts that are causing the pressure or loss of alignment. The most common surgery is called decompressive laminectomy: removal of the lamina (roof) of one or more vertebrae to create more space for the nerves.

What are the Long-Term Outcomes of Surgical Treatment for Spinal Stenosis?

Removal of the obstruction that has caused the symptoms usually gives patients some relief; most patients have less leg pain and are able to walk better following surgery. However, if nerves were badly damaged prior to surgery, there may be some remaining pain or numbness or no improvement. Also, the degenerative process will likely continue, and pain or limitation of activity may reappear 5 or more years after surgery.

How Can Manual Therapy Help Spinal Stenosis?

Osteopathic, physiotherapy and chiropractic treatment will not cure spinal stenosis, but may provide relief by…

- Restoring spinal mobility.
- Encouraging normal curvature in the lower back
- Improve posture and weight bearing through the lower back.
- Relieve nerve compression.

Tips:

- Apply an ice pack to the affected area for 5-10 minutes at a time three to five times per day.
- To help provide you with stability and relieve pain, try using a walker or a walking stick.
- Pain relievers can work wonders to relieve inflammation and pain in your back.
- Beyond using an ice pack, you can try alternating with a heat pack to provide your back with the level of pain relief you desire.