What is Lumbar Spinal Stenosis?

Stenosis means closing in. Spinal stenosis describes a condition in which the nerves in the spinal canal are closed in, or compressed. The spinal canal is the hollow tube formed by the bones of the spinal column. Anything that causes this bony tube to shrink can squeeze the nerves inside. As a result of many years of wear and tear on the parts of the spine, the tissues close to the spinal canal sometimes press against the nerves. This explains why lumbar spinal stenosis (stenosis of the low back) is a common cause of back problems in adults over 55 years old.

What causes lumbar spinal stenosis?

In the lumbar spine (low back), the spinal canal usually has enough room for the spinal nerves. The canal is normally 17 to 18 millimeters around. Spinal stenosis develops when the canal shrinks to 12 millimeters or less. When the size drops below 10 millimeters, severe symptoms of lumbar spinal stenosis occur.

There are many reasons why symptoms of spinal stenosis develop.

Some of the more common reasons include:

- Congenital stenosis (being born with a small spinal canal)
- Spinal degeneration (wear & tear on the spine from aging and from repeated stress)
- Spinal instability (bone of the spine move more than they should)
- Disc herniation (rupture in the intervertebral disc)

What does the spinal stenosis feel like?

Patients with stenosis don't suffer from back pain. In the beginning, they feel pain and weakness in both their legs.
Symptoms mainly affect the sensation in the lower limbs. Nerve pressure from stenosis causes a feeling of pins and needles in the skin where the spinal nerves travel. Reflexes are slowed.

Symptoms change depending on the position of the low back. Flexion (bending forward) widens the spinal canal and usually eases symptoms. That's why people with stenosis tend to get relief when they sit down or curl up to sleep. Activities such as reaching up, standing and walking require the spine to straighten or even extend (bend back slightly). This position makes the spinal canal smaller and often worsens symptoms.

How do doctors diagnose the problem?

Diagnosis begins with a complete history and physical examination. The doctor will ask questions about the symptoms and how the problem is affecting the daily activities. This will include questions about the degree of pain or the feeling of numbness or weakness in your legs. The doctor will also want to know whether the symptoms are worse when standing or walking and if they go away when sitting down.

The doctor performs a physical examination to see which back movements induce pain or other symptoms. Skin sensation, muscle strength, and reflexes are also tested.

X-rays can show if the problems are from changes in the bones of the spine. The images can show if degeneration has caused the space between the vertebrae to collapse.

When more information is needed, the doctor may order a magnetic resonance imaging (MRI) scan. The MRI machine uses magnetic waves rather than X-rays to show the soft tissues of the body.

Computed tomography (a CT scan) may be ordered. The CT scan is a detailed X-ray that lets the doctor see detailed slices of bone tissue. The image can show any bone spurs that may be sticking into the spinal column and taking up space around the spinal nerves.

Not all causes of spinal stenosis are due to degenerative conditions. Doctors use blood tests to determine whether symptoms are coming from other conditions, such as arthritis or infection.

What treatment options are available?

- Nonsurgical Treatment

At first, doctors may prescribe ways to immobilize the spine. Keeping the back still for a short time can calm inflammation and pain for one to two days of bed rest. Patients may find that curling up to sleep or lying back with their knees bent and supported gives the greatest relief.

A lumbar support belt or corset may be prescribed in addition to medication such as nonsteroidal anti-inflammatory medication, for instance nonsteroidal anti-inflammatory drugs (NSAIDs) or aspirin.

Some patients are given an epidural steroid injection (ESI). It is thought that injecting steroid medication fights inflammation.

- Surgery

In case of presence of signs that some pressure is building on the spinal nerves, surgery is required immediately.
Pressure on the spinal nerves can cause a loss of control in the bowels or bladder. This is an emergency. If the pressure isn't relieved, it can lead to permanent paralysis of the bowels and bladder. Surgery is recommended to remove pressure from the nerves.

The main surgical procedure used to treat spinal stenosis is lumbar laminectomy. Some patients also require fusion surgery immediately after the laminectomy procedure if spinal instability is present.

**What to expect from recovery?**

- **Nonsurgical Rehabilitation**

  The therapist creates a program to help the patient regain back movement, strength, endurance, and function. Treatments for lumbar spinal stenosis often include lumbar traction. Hands-on treatments such as massage and specialized forms of soft-tissue mobilization may be used initially.

- **After Surgery**

  After surgery, surgeons may have their patients practice special exercises with a physical or occupational therapist. During therapy after surgery, the therapist may use treatments such as heat or ice, electrical stimulation, and massage to help calm pain and muscle spasm. Then patients begin learning how to move safely with the least strain on their healing back.