

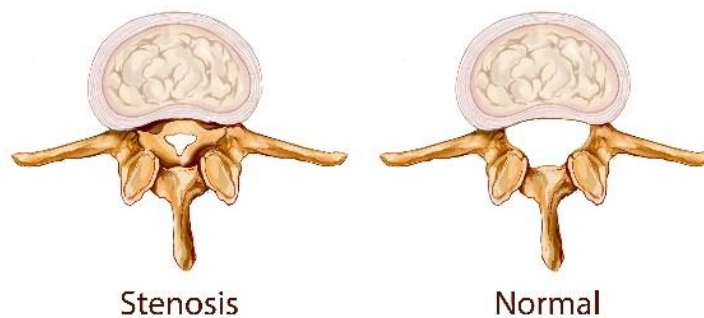
Lumbar Spinal Stenosis / Sciatica

Mesfin A. Lemma, MD

Minimally Invasive Spine Surgery, Scoliosis Surgery, Baltimore, MD

Overview

- The nerves in the lower back run down a type of “tube,” termed the **spinal canal**. Similar to a pipe used for plumbing, build-up can occur on the inside, narrowing the tube.
- Lumbar spinal stenosis occurs when this narrowing exerts pressure on the nerves in the lower back. This may lead to symptoms commonly referred to as **sciatica**.



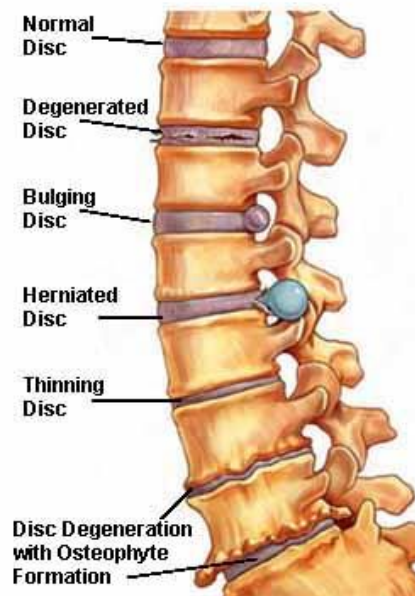
What are the symptoms of lumbar spinal stenosis?

- Symptoms of sciatica differ from person to person but may include:
 - Low back or buttock pain
 - Radiating leg pain
 - Leg numbness, tingling or weakness
 - Problems with bowel or bladder function (in rare and severe cases)

What causes lumbar spinal stenosis?

- Lumbar stenosis is most commonly a result of age-related “**wear and tear**” of the spine and typically affects people over the age of 50.
- **Anything that narrows the spinal canal** makes the spinal nerves more vulnerable to irritation, inflammation and resultant symptoms. Conditions that may result in narrowing of the spinal canal include:
 - Bulging or herniated discs
 - Age-related enlargement of the ligaments and facet joints
 - Bone spurs (osteophytes)
 - Spondylolisthesis
 - Degenerative disc disease
 - Scoliosis
 - A narrow spinal canal from birth (**congenital**)

Examples of Disc Problems



How is lumbar spinal stenosis diagnosed?

- **Symptoms related to lumbar stenosis often resemble other disorders** such as peripheral neuropathy or vascular claudication (leg pain due to inadequate blood flow), so confirming the diagnosis is of paramount importance prior to formulating a treatment plan.
- The first step in diagnosis is always to take a complete history and administer a thorough physical examination.
- The most common diagnostic test used to determine the presence of spinal stenosis is an **MRI of the lumbar spine**.
- In some cases, a CT scan may be ordered, either in addition to an MRI or instead of one.
- Upright x-rays will show any evidence of spinal misalignment.
- EMG/Nerve Conduction Studies (NCS) may be considered if there is suspicion of nerve related problem in the legs such as peripheral neuropathy.

What are the treatment options?

1. Non-surgical Treatment

In its early stages, lumbar spinal stenosis **typically responds well to conservative measures** such as:

- Activity modification
- Pain/anti-inflammatory medications
- Physical therapy
- Spinal injections

2. Surgical Treatment

- If conservative treatment proves ineffective in managing the pain, “**decompression**” surgery may be recommended.
- The main goal of surgery is to **alleviate the pressure on the spinal nerves.**
- The type of surgery recommended is specific to patient factors, such as age and general health, as well as the severity of the stenosis, its location, and presence of any other conditions such as spinal instability (spondylolisthesis) or deformity (scoliosis, kyphosis).
- Generally, one of the following procedures will be recommended:
 - Lumbar laminectomy
 - Lumbar laminotomy/foraminotomy
 - Coflex procedure
 - X-Stop procedure
 - In cases where the spinal alignment is abnormal (spondylolisthesis, scoliosis,) or when additional bone must be resected in order to treat the stenosis adequately, a spinal fusion may be required to stabilize the spine.