



## Spinal Stenosis

Spinal stenosis (or narrowing) is a common condition that occurs when the small spinal canal that contains the nerve roots and spinal cord becomes restricted. This narrowing can squeeze the nerves and the spinal cord causing lower back and leg pain. In general, spinal narrowing is caused by osteoarthritis, or “wear and tear” arthritis, of the spinal column. This results in a “pinching” of the spinal cord and/or nerve roots.

People suffering from spinal stenosis have trouble walking any significant distance, and frequently must sit or lean over forward on a grocery cart, countertop or assistive device such as a walker. While there are no cures, there are many therapies available.

### Fast facts

- Spinal stenosis is typically the result of osteoarthritis causing a pinching of the spinal cord.
- There are no cures for spinal stenosis, but therapies can assist in regaining mobility and comfort.
- Exercise is of paramount importance in the treatment of spinal stenosis.

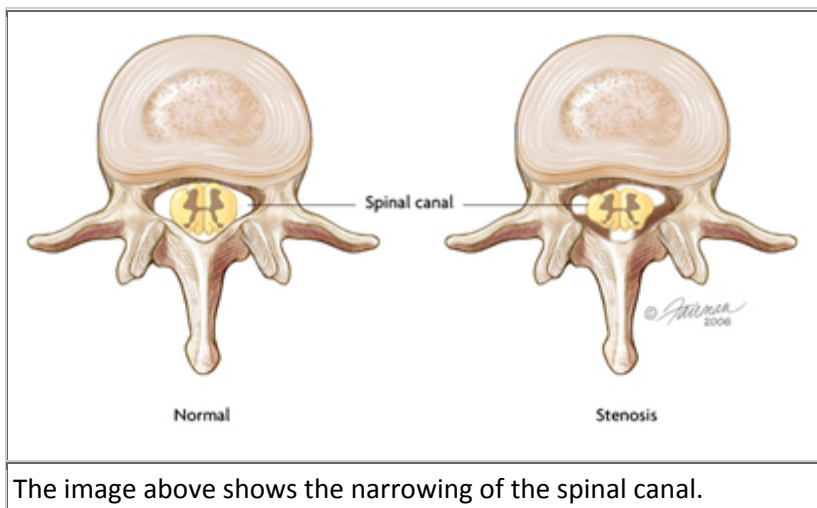
### What is spinal stenosis?

Spinal stenosis is a narrowing of one or more areas of the spine. This narrowing, which occurs most often in lumbar region (lower back) can put pressure on the spinal cord or nerves branching out from the compressed areas.

Typically, a person with spinal stenosis complains about developing tremendous pain in the legs or calves and lower back after walking. Pain comes on more quickly when walking up hills. This is usually very reproducible and immediately relieved by sitting down, or leaning over. When the spine is bent forward, more space is available for the spinal cord, causing a reduction in symptoms.



Although symptoms may arise from narrowing of the spinal canal, not all patients with narrowing develop symptoms. Why some patients develop symptomatic stenosis and others do not remains unknown. Therefore, the term spinal stenosis refers not to the finding of spinal canal narrowing, but rather to manifestation of lower extremity pain caused by compression on the affected nerves.



The image above shows the narrowing of the spinal canal.

### What causes spinal stenosis?

Unless the individual is born with a small spinal canal (congenital stenosis), spinal narrowing most commonly results from progressive degenerative changes. This “acquired spinal stenosis” can occur from the narrowing of the space around the spinal cord due to bony overgrowth from osteoarthritis combined with thickening of one of the ligaments in the back, and a bulge of the intervertebral discs.

### Who gets spinal stenosis?

The risk of developing spinal stenosis increases in those who:

- Are born with a narrow spinal canal
- Are female
- Are 50 years of age or older
- Have had previous injury or surgery of the spine

Conditions that can cause spinal stenosis include:

- Osteoarthritis and osteophytes (bony spurs) associated with aging
- Inflammatory spondyloarthritis
- Spinal tumors
- Trauma
- [Paget's disease](#) of the bone
- Previous surgery

### How is spinal stenosis diagnosed?

Your doctor will ask about your symptoms and medical history, and perform a physical exam if spinal stenosis is suspected. Your symptoms may include: numbness, weakness, cramping, or pain in the legs and thighs; radiating pain down the leg; abnormal bowel and/or bladder function; decreased sensation in the feet causing difficulty placing the feet when walking; loss of sexual function; and/or partial or complete leg paralysis.



Additional tests conducted to confirm and assess the diagnosis may include:

- An X-ray of the spine to check for abnormalities in the bones of the back including osteoarthritis, bone spurs and obvious narrowing of the spinal canal.
- A computed tomography (CT) scan to take images of the bony architecture of the back. This helps to evaluate the spinal canal.
- A magnetic resonance imaging (MRI) scan of the spine to make pictures of soft tissues such as the spinal cord and the spinal nerves inside the back.
- An EMG which may show active and chronic neurological changes.

### How is spinal stenosis treated?

Although there is no cure for spinal stenosis, various therapies are available, one of the most important being exercise. Keeping the hip adductors and abductors, quadriceps and hamstrings from developing atrophy helps increase stability and the ability to walk.

Medications such as [nonsteroidal anti-inflammatories](#) (NSAIDs) also may be appropriate and helpful in pain relief. Cortisone injections into the epidural space, the area around the spinal cord, can afford tremendous temporary or permanent relief to people suffering this disorder.

Under severe circumstances, surgery to correct this disorder may be appropriate. However, adequate decompression of the neural elements and maintenance of bony stability are necessary for a good surgical outcome for patients with spinal stenosis. Decompression laminectomy, which is the removal of a build-up of bony spurs or increased bone mass in the spinal canal, can free space for the nerves and the spinal cord. Spinal fusion to fuse two vertebrae together to provide stronger support for the spine almost always follows a decompression laminectomy.

Several studies report that surgical treatment produces better outcomes than non-surgical treatment in the short term. However, results tend to deteriorate with time. Lumbar decompressive surgery can be complicated by epidural hematoma, deep venous thrombosis, dural tear, infection, nerve root injury and recurrence of symptoms.

### Broader health impacts

The most serious health consequence of spinal stenosis is progressive loss of strength of the lower extremities. However, patients with spinal stenosis may be quite disabled due to pain. This pain decreases work capacity and significantly decreases quality of life, even if they have no appreciable muscle weakness.

### Living with spinal stenosis

- Exercise regularly. Regular exercise, which focuses on flexion-based exercise, often reduces pain symptoms. Add in some walking, swimming and stretch exercises for even better results.
- Modify activity. Avoid activities that can cause or worsen pain and disability.
- Talk to your physician about pain medications, and other methods recommended for pain reduction.
- Explore non-surgical options first except in rare cases of rapid neurologic progression or cauda equina syndrome.



### Points to remember

- Medical history is key in making the diagnosis of spinal stenosis.
- Anyone over the age of 50 is at risk.
- The impact of stenosis on a particular patient can vary from minimal to severe.
- Exercising regularly to keep muscles functioning can reduce discomfort and maintain strength
- How the symptoms of spinal stenosis are affecting quality of life should direct treatment choices.

### The role of the rheumatologist

Spinal stenosis causes a significant impairment in a patient's every-day life. The rheumatologist is often the one who makes the diagnosis and rules out other forms of rheumatic diseases and helps in establishing a proper treatment strategy.

### To find a rheumatologist

For a listing of rheumatologists in your area, [click here](#). Learn more about [rheumatologists](#) and [rheumatology health professionals](#).

### For more information

The American College of Rheumatology has compiled this list to give you a starting point for your own additional research. The ACR does not endorse or maintain these Web sites, and is not responsible for any information or claims provided on them. It is always best to talk with your rheumatologist for more information and before making any decisions about your care.

Arthritis Foundation

[www.arthritis.org](http://www.arthritis.org)

The Arthritis Society

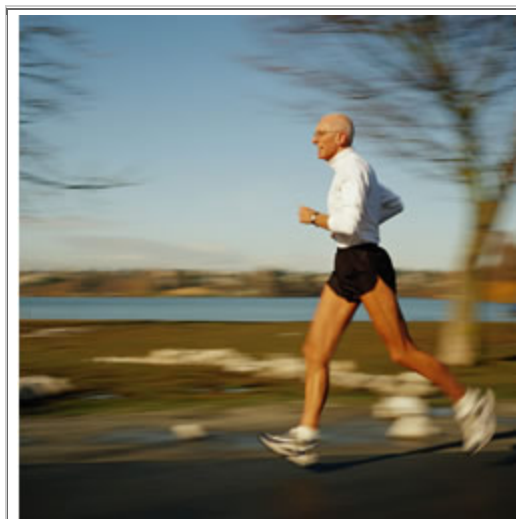
[www.arthritis.ca](http://www.arthritis.ca)

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Written by Piercarlo Sarzi-Puttini, M.D. and Elinor Mody, MD, and reviewed by the American College of Rheumatology Patient Education Task Force.

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Regular exercise can help minimize disability from spinal stenosis.