

## Spinal stenosis

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Spinal stenosis is narrowing of the spinal column that causes pressure on the spinal cord, or narrowing of the openings (called neural foramina) where spinal nerves leave the spinal column.

### Causes

Spinal stenosis usually occurs as a person ages and the disks become drier and start to shrink. At the same time, the bones and ligaments of the spine swell or grow larger due to arthritis or long-term swelling (inflammation).

Spinal stenosis may also be caused by:

- Arthritis of the spine, usually in middle-aged or elderly people
- Bone diseases, such as Paget's disease of bone and achondroplasia
- Defect or growth in the spine that was present from birth (congenital defect)
- Herniated or slipped disk, which often happened in the past
- Injury that causes pressure on the nerve roots or the spinal cord
- Tumors in the spine

### Symptoms

Often, symptoms will get worse slowly over time. Most often, symptoms will be on one side of the body or the other.

Symptoms include:

- Numbness, cramping, or pain in the back, buttocks, thighs, or calves, or in the neck, shoulders, or arms
- Weakness of part of a leg or arm

Symptoms are more likely to be present or get worse when you stand or walk. They will often lessen or disappear when you sit down or lean forward. Most people with spinal stenosis cannot walk for a long period of time.

Patients with spinal stenosis may be able to ride a bicycle with little pain.

More serious symptoms include:

- Difficulty or poor balance when walking
- Problems controlling urine or bowel movements

### Exams and Tests

During the physical exam, your doctor will try to find the location of the pain and figure out how it affects your movement. You will be asked to:

- Sit, stand, and walk. While you walk, your doctor may ask you to try walking on your toes and then your heels.
- Bend forward, backward, and sideways
- Lift your legs straight up while lying down. If the pain is worse when you do this, you may have sciatica, especially if you also feel numbness or tingling in one of your legs.

Your doctor will also move your legs in different positions, including bending and straightening your knees. All the while, the doctor is checking your strength and your ability to move.

To test nerve function, the doctor will use a rubber hammer to check your reflexes. Touching your legs in many places with a pin, cotton swab, or feather tests how well you feel. Your doctor will tell you to speak up if there are areas where you have less feeling from the pin, cotton, or feather.

A brain/nervous system (neurological) examination can confirm leg weakness and decreased sensation in the legs. The following tests may be done:

- EMG
- Spinal MRI or spinal CT scan
- X-ray of the spine

## Treatment

When your back pain does not go away, or it gets more painful at times, learning to take care of your back at home and prevent repeat episodes of your back pain can help you avoid surgery.

Your doctor and other health professionals will help you manage your pain and keep you as active as possible.

- Your doctor may refer you for physical therapy. The physical therapist will help you try to reduce your pain using stretches. The therapist will show you how to do exercises that make your neck muscles stronger.
- You may also see a massage therapist, and someone who performs acupuncture. Sometimes a few visits will help your back or neck pain.
- Cold packs and heat therapy may help your pain during flare-ups.
- A number of different medications can help with your back pain. See also: Medicines for chronic pain

A type of talk therapy called cognitive behavioral therapy may be helpful if the pain is having a serious impact on your life. This technique helps you better understand your pain and teaches you how to manage back pain.

## SURGERY

If the pain does not respond to these treatments, or you lose movement or feeling, you may need surgery. Surgery is done to relieve pressure on the nerves or spinal cord.

You and your doctor can decide when you need to have surgery for these symptoms. Spinal stenosis symptoms often become worse over time, but this may happen very slowly.

- People who had long-term back pain before their surgery are likely to still have some pain afterwards. Spinal fusion probably will not take away all the pain and other symptoms.
- Even when using MRI scans or other tests, it is hard for your surgeon to always predict whether you will improve and how much relief surgery will provide.

For more information about how surgery is done and who is most likely to benefit, see also:

- Foraminotomy
- Laminectomy
- Spinal fusion

## Outlook (Prognosis)

Many people with spinal stenosis are able to be active for many years with the condition, although they may need to make some changes in their activities or work.

Spine surgery will often partly or fully relieve symptoms. However, people who had long-term back pain before their surgery

are still likely to have some pain afterward. Spinal fusion probably will not take away all of the pain and other symptoms.

Spine problems are possible after spine surgery. The area of the spinal column above and below a spinal fusion are more likely to be stressed when the spine moves. Also, if you needed more than one kind of back surgery (such as laminectomy and spinal fusion), you may be more likely to have future problems.

### Possible Complications

A lack of feeling can make you more likely to injure your legs or feet. Infections may get worse because you may not feel the pain. Changes caused by pressure on the nerves may be permanent, even if the pressure is relieved.

### When to Contact a Medical Professional

Call your health care provider if you have symptoms of spinal stenosis.

More serious symptoms that need immediate attention include:

- Difficulty or poor balance when walking
- Problems controlling urine or bowel movements
- Problems urinating or having a bowel movement

### Alternative Names

Pseudo-claudication; Central spinal stenosis; Foraminal spinal stenosis

### References

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### Update Date: 6/4/2011

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