

View this article online at: patient.info/bones-joints-muscles/back-and-spine-pain/spinal-stenosis

Spinal stenosis

Spinal stenosis is a term used to describe a narrowing of the spinal canal. The narrowing may not cause any symptoms. However, the narrowing may progress to cause squeezing (compression) of the spinal nerves or compression of the spine. Spinal stenosis causes back pain and leg pain. Most often it occurs when you walk. Weakness of the legs may make you feel unsteady. This may affect both legs or just one leg. Spinal stenosis affecting the cervical spine in your neck may also cause pain and weakness in the shoulders and arms.

Spinal stenosis can often be treated by simple measures such as medicines for pain relief, keeping as active as you can and losing weight if you are overweight. Sometimes steroid injections or surgery are needed if simple measures are not successful.

What is spinal stenosis?

Spinal stenosis is a term used to describe a narrowing of the spinal canal. The narrowing may not cause any symptoms. However, the narrowing may progress to cause squeezing (compression) of the spinal nerves or compression of the spine. Narrowing that affects the spinal cord is sometimes called a myelopathy. More than one level of the spine may be affected. The blood supply to the nerves in the spine may also be temporarily reduced by the compression.

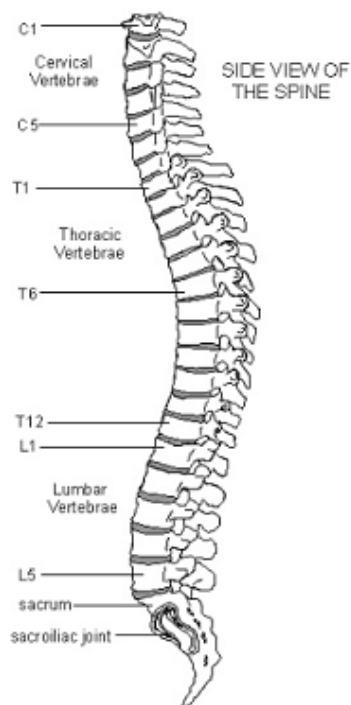
The lower end of the spinal cord is at the level of the first or second lumbar bone (vertebra). The nerves from the spinal cord then form a structure called the conus medullaris. The spinal nerves continue to branch out below the conus medullaris to form the cauda equina.

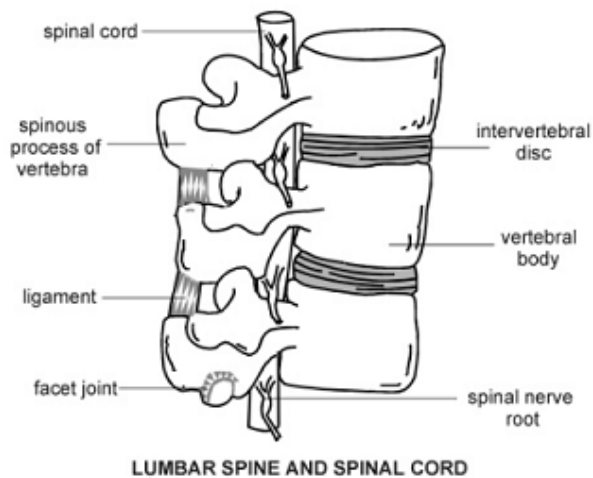
Pressure on the cauda equina [causes cauda equina syndrome](#). Cauda equina syndrome may cause low back pain and problems with bowel and bladder function, numbness in the saddle area, which is around the back passage (anus), and weakness in one or both legs. Cauda equina syndrome needs urgent investigation and treatment to prevent the nerves to the bladder and bowel from becoming permanently damaged.

Understanding the back

The spine is made up of many bones called vertebrae. These are roughly circular and between each vertebra is a disc. The discs are made of strong rubber-like tissue which allows the spine to be fairly flexible. A disc has a stronger fibrous outer part and a softer jelly-like middle part called the nucleus pulposus.

The spinal cord, which contains the nerves that come from the brain, is protected by the spine. Nerves from the spinal cord come out from between the vertebrae to relay messages to and from various parts of the body.





Spinal stenosis causes

Usually, as part of the normal ageing process, degenerative changes occur in the spine, especially in the lower back and neck. Sometimes this causes partial compression (stenosis) of the nerve tunnel within the spine. This is called central stenosis. Sometimes there is a constriction to the smaller side tunnels with the spine. This is called foraminal stenosis.

How common is spinal stenosis?

Spinal stenosis is common, especially in older people. However, it can also rarely affect younger people. Spinal stenosis most often affects the lower (lumbar) spine. The next most commonly affected part of the spine is the cervical spine in the neck. Stenosis of the spine at the back of your chest (thoracic spine) is much less common.

Spinal stenosis symptoms

Symptoms of spinal stenosis include back pain and leg pain. Most often it occurs when you walk. Weakness of the legs may make you feel unsteady. This may affect both legs or just one leg. Spinal stenosis affecting the cervical spine may also cause pain and weakness in the shoulders and arms.

Claudication is the term used to describe weakness of the legs that becomes worse specifically on walking. Claudication is caused either by narrowing of the blood vessels supplying the leg or because of spinal stenosis.

Usually spinal stenosis prevents you from walking beyond a certain distance. You then have to stop because of increasing pain and numbness in one or both of your legs. The symptoms can also occur when standing. Usually the symptoms reduce if you sit down or lean forwards. There is usually no pain when you are resting.

Walking usually only aggravates the leg symptoms. The back pain caused by spinal stenosis does not increase with walking.

What tests are used to diagnose spinal stenosis?

If your doctor thinks that you may have spinal stenosis then an [MRI scan](#) may be needed to confirm the diagnosis.

What is the treatment for spinal stenosis?

How you can help to improve your own symptoms

- [Maintain activity as much as you can](#). Try to gradually increase the distance you walk if you can.
- [Try to lose weight if you are overweight](#).
- Pain relief. Using over-the-counter medication such as [paracetamol](#) or [ibuprofen](#) may be sufficient. Other medicines prescribed by your doctor can be used if over-the-counter medicines do not provide enough pain relief. Some medicines can be used specifically to help the nerve pain in your legs – for example, [amitriptyline](#), [gabapentin](#) or [pregabalin](#).

Other available treatments

Spinal injections: [injections of a steroid](#) with local anaesthetic given into the spinal root canal or given by epidural injections can be helpful.

Surgery: if symptoms still do not improve then one option is surgery. The most commonly used operation is called a decompression. The bone that is compressing the nerves is removed so that the nerves have more room. The two bones (vertebrae) may also be fused together (this is called spinal fusion).

There is very limited evidence for surgery to treat spinal stenosis. The success of surgery for spinal stenosis is variable. Although the symptoms may improve just after the operation, the medium-term and long-term results can be disappointing.

Interspinous distraction: this procedure involves placing an implant between the spinous processes of the affected vertebrae (usually the fourth and fifth lumbar vertebrae) in order to limit you extending your back. This helps to prevent or reduce the pain in your legs when standing or walking.

What is the outcome (prognosis)?

The outcome is very variable and, without treatment, the symptoms usually gradually become worse. Although treatments for spinal stenosis are often effective at reducing symptoms, the symptoms don't usually completely resolve.

Further reading

- [Interspinous distraction procedures for lumbar spinal stenosis causing neurogenic claudication](#); NICE Interventional procedure guidance, November 2010
- [Zaina F, Tomkins-Lane C, Carragee E, et al](#); Surgical versus non-surgical treatment for lumbar spinal stenosis. Cochrane Database Syst Rev. 2016 Jan 29; (1):CD010264. doi: 10.1002/14651858.CD010264.pub2.
- [Kato S, Fehlings M](#); Degenerative cervical myelopathy. Curr Rev Musculoskelet Med. 2016 Sep;9(3):263-71. doi: 10.1007/s12178-016-9348-5.
- [Bagley C, MacAllister M, Dosselman L, et al](#); Current concepts and recent advances in understanding and managing lumbar spine stenosis. F1000Res. 2019 Jan 31;8. doi: 10.12688/f1000research.16082.1. eCollection 2019.
- [Raja A, Hoang S, Patel P, et al](#); Spinal Stenosis. StatPearls, Jan 2022.

Disclaimer: This article is for information only and should not be used for the diagnosis or treatment of medical conditions. Egton Medical Information Systems Limited has used all reasonable care in compiling the information but makes no warranty as to its accuracy. Consult a doctor or other healthcare professional for diagnosis and treatment of medical conditions. For details see our [conditions](#).

Last updated by: Dr Colin Tidy, MRCP 21/09/2022	Originally authored by: Dr Colin Tidy, MRCP 22/02/2017
Peer reviewed by: Dr Hayley Willacy, FRCGP 21/09/2022	Next review date: 20/09/2027

View this article online at: patient.info/bones-joints-muscles/back-and-spine-pain/spinal-stenosis

Discuss Spinal stenosis and find more trusted resources at [Patient](https://www.patient.com).



To find out more visit www.patientaccess.com
or download the app



Follow us

