CONDITION

Spinal stenosis

Spinal stenosis is narrowing around the spinal cord or nerves that can cause pain, numbness, weakness, or difficulty walking.

WHAT IT IS
Narrowing around the spinal cord or spinal nerves

BODY SYSTEM
Spine and nervous system

MAIN SYMPTOMS
Back or neck pain, numbness, weakness, walking difficulty

WHAT CAUSES IT
Age-related spine changes, sometimes a naturally narrow canal

HOW IT IS DIAGNOSED
Neurological examination and MRI, sometimes CT

MAIN TREATMENT
Exercise-based therapy, symptom relief, sometimes decompression surgery

CAN IT BE CURED?
Sometimes - surgery relieves compression but not age-related wear

IS IT AN EMERGENCY?
Sometimes - bowel loss, saddle numbness, or worsening weakness

LONG-TERM OUTLOOK
Often manageable, though nerve symptoms may persist or progress

Overview

Spinal stenosis means that one or more spaces in the spine have become narrow. This can place pressure on the spinal cord or the nerves that travel from it.

The narrowing most often affects the lower back, called lumbar spinal stenosis , or the neck, called cervical spinal stenosis . Thoracic stenosis, in the middle of the back, is less common.

In lumbar stenosis, pressure usually affects nerves going to the legs. Symptoms often appear during standing or walking and ease when you sit or bend forward. In cervical stenosis, the spinal cord itself may be compressed. This can affect the hands, arms, balance, walking, bladder, or bowel function.

Spinal stenosis is often related to gradual changes in the spine over many years. A scan may

show narrowing even when someone has few or no symptoms. Treatment is therefore based on how the condition affects you, not on the scan alone.

The condition is not usually an emergency. However, new bladder or bowel problems, numbness around the groin, or rapidly worsening weakness can signal serious nerve compression and need emergency assessment.

Symptoms

Symptoms depend on where the narrowing is and which nerves are affected. They may develop slowly, remain stable for a time, or come and go.

Lumbar spinal stenosis may cause:

Pain or weakness brought on by walking is called neurogenic claudication . Some people find that leaning over a shopping cart lets them walk farther because this position can create slightly more room around the nerves.

Cervical spinal stenosis may cause neck pain, arm pain, numbness, or weakness. If the spinal cord is affected, called cervical myelopathy , you may develop poor balance, stiff or heavy legs, frequent falls, or trouble with fine hand movements. Buttons, handwriting, or picking up small objects may become difficult.

Severe nerve compression can affect bladder, bowel, or sexual function. These symptoms are uncommon but need prompt assessment.

- Aching, burning, tingling, or numbness in one or both legs
- Leg heaviness or weakness during standing or walking
- Lower back, buttock, or leg pain
- Symptoms that improve with sitting or bending forward

Causes and risk factors

The most common cause is age-related wear in the spine. The discs between the spinal bones may lose height and bulge. Joints can enlarge, ligaments may thicken, and extra bone called bone spurs may form. Together, these changes can reduce the space available for nerves.

Some people are born with a narrower spinal canal. They may develop symptoms earlier if further narrowing occurs.

Other possible causes include a slipped vertebra, known as spondylolisthesis , a major spinal

injury, or changes following previous spine surgery. Less commonly, a cyst, tumour, infection, or other condition takes up space around the spinal cord or nerves.

Risk increases with age, but age alone does not mean that symptoms will develop. Arthritis, previous spinal injury, and certain inherited bone conditions can also increase risk.

Diagnosis

A healthcare professional will ask where you feel pain, numbness, or weakness and what brings it on. They may check your strength, reflexes, sensation, balance, walking, and hand coordination.

An MRI scan is usually the most useful imaging test. It can show the spinal cord, nerves, discs, ligaments, and the area of narrowing. A CT scan may be used when MRI is unsuitable. In some cases, contrast dye is placed around the nerves before CT imaging; this is called a CT myelogram.

X-rays show bones and spinal alignment but do not show nerves clearly. They may help identify arthritis, instability, or a slipped vertebra.

Scan findings must be matched with your symptoms and examination. Significant narrowing may cause no symptoms, while a less dramatic scan can still matter if it affects the right nerve. Blood tests or nerve tests may sometimes be used to look for other explanations.

Treatment and management

Treatment depends on the location of the stenosis, the symptoms it causes, and whether there are signs of nerve or spinal cord damage.

For lumbar stenosis without serious weakness, treatment often begins with guided activity and symptom management. A physiotherapist may help you improve strength, flexibility, balance, and walking tolerance. Exercise cannot remove bone spurs, but it may help you stay active and function more comfortably.

You may need to adjust activities that repeatedly trigger symptoms. This does not usually mean avoiding movement altogether. Shorter walks, rest breaks, cycling, or walking with support may be more manageable than prolonged upright standing.

Pain medicines may be considered. Their benefits and risks differ, especially if you have kidney, stomach, heart, liver, or other health problems. Anti-inflammatory medicines are not suitable for everyone, and long-term opioid medicines carry important risks. Medication does

not widen the spinal canal.

An injection of corticosteroid medicine around irritated spinal nerves may give temporary relief for some people. It does not correct the narrowing, and the degree and duration of benefit are unpredictable.

Surgery may be considered when symptoms remain disabling despite non-surgical care, or when there is progressive weakness or spinal cord dysfunction. Decompression surgery removes bone or ligament that is pressing on the nerves. A common type is a laminectomy, which removes part of the bone at the back of a vertebra.

Some people also need spinal fusion, which joins vertebrae together. Fusion is generally used when instability, deformity, or another structural problem needs to be addressed; it is not required for every case.

Cervical myelopathy usually needs specialist assessment because ongoing spinal cord compression can lead to lasting problems. Surgery may prevent further decline and may improve function, but it cannot guarantee that established nerve damage will recover.

Complications

Spinal stenosis can limit walking, work, sleep, exercise, and everyday activities. Reduced leg strength or balance can increase the risk of falls. Long-lasting nerve compression may lead to persistent numbness, weakness, or pain.

Cervical myelopathy can cause progressive difficulty using the hands or walking. Some changes may become permanent, particularly when spinal cord compression has been severe or prolonged.

Severe lumbar nerve compression can cause cauda equina syndrome . This affects the bundle of nerves controlling the legs, bladder, bowel, and sensation around the groin. It is an emergency.

Surgery also has potential complications, including infection, bleeding, blood clots, fluid leakage around the nerves, or further nerve injury. Your surgical team should explain the expected benefits and risks for the planned procedure.

Prevention

Spinal stenosis cannot always be prevented. Age-related changes and a naturally narrow spinal canal are not under your control.

Regular physical activity, muscle strengthening, and maintaining a weight that is healthy for you may reduce strain and help preserve mobility. Avoiding smoking supports bone, disc, and surgical health. These steps may improve general spine health, but they cannot guarantee that stenosis will not develop.

Using safe methods when lifting and reducing the risk of major injury may protect your back. Normal movement and sensible exercise do not wear out a healthy spine.

Living with it and what to expect

Spinal stenosis often changes gradually over months or years. Symptoms may remain mild, fluctuate, or slowly become more limiting. A period of increased pain does not always mean that the narrowing has suddenly worsened.

Many people manage lumbar stenosis with exercise, pacing, pain management, and changes to how they walk or perform daily tasks. A walking aid may improve balance and allow a slightly bent-forward position, which can reduce some leg symptoms.

Regular follow-up is useful if your walking distance is decreasing or numbness and weakness are changing. Repeat scans are not always needed when symptoms remain stable. They may be appropriate if there are new neurological symptoms or if surgery is being considered.

After decompression surgery, leg pain may improve sooner than numbness or weakness. Recovery can continue over months, but long-standing nerve damage may not fully reverse. The spine also continues to age, so symptoms can later develop at the same or another level.

Cervical spinal cord symptoms deserve closer monitoring. Changes in balance, hand control, strength, or bladder function should not simply be treated as expected ageing.

When to get medical help

Arrange a routine appointment if back or neck symptoms persist, repeatedly limit walking, disturb sleep, or interfere with normal activities. Assessment is also appropriate for ongoing numbness, tingling, or pain spreading into an arm or leg.

Seek urgent medical advice if you develop:

Go to an emergency department immediately for new loss of bladder or bowel control, numbness around the genitals or anus, or rapidly worsening leg weakness. These can be signs of cauda equina syndrome.

Sudden paralysis, severe weakness, or symptoms beginning after a major injury also require

emergency care.

- New or increasing weakness in an arm or leg
- Worsening balance, repeated falls, or new hand clumsiness
- A major reduction in how far you can walk
- New difficulty starting urination or fully emptying your bladder

Common questions

Does spinal stenosis ever go away on its own?

The structural narrowing usually does not disappear without surgery. Symptoms can still improve or settle with exercise-based care, pacing, medication, or natural changes in nerve irritation. A scan may continue to show stenosis even when you feel better.

Is walking good or bad for spinal stenosis?

Walking is generally helpful if it is safe and tolerable. Lumbar stenosis can make upright walking uncomfortable, so shorter walks with breaks may work better. Some people tolerate a treadmill with a slight incline, cycling, swimming, or walking with support. Stop and seek advice if activity causes new weakness or major balance problems.

Can spinal stenosis cause permanent nerve damage?

It can, particularly when severe compression affects the spinal cord or remains untreated while weakness progresses. Pain alone does not prove permanent damage. New weakness, poor balance, hand clumsiness, or bladder and bowel changes are more concerning signs.

Will I need surgery?

Not everyone does. Surgery is more likely to be discussed when symptoms seriously limit daily life despite non-surgical treatment, or when examinations show progressive nerve or spinal cord problems. The decision considers your symptoms, scan findings, general health, and treatment goals.

What is the best sleeping position for spinal stenosis?

There is no single required position. With lumbar symptoms, lying on your side with your knees slightly bent or on your back with support under your knees may feel comfortable. For neck symptoms, a pillow that keeps your head in a neutral position may help. Comfort and safe movement matter more than following a fixed rule.

Is spinal stenosis the same as sciatica?

No. Spinal stenosis describes narrowing around nerves or the spinal cord. Sciatica describes

pain and other symptoms along the sciatic nerve, usually into the buttock and leg. Lumbar stenosis can cause sciatica-like symptoms, but a slipped or bulging disc is another common cause.

Sources

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