

Spinal conditions



A healthy spine allows you to move and function with ease. But if something goes wrong, you want expert help to work out why and get relief from your symptoms. Our team of specialists provide state-of-the-art care for people with spinal conditions. We offer leading diagnostic procedures and management techniques for spine problems, helping you get back on track with your life.

What is a spinal condition?

Your spine is an incredible structure that serves multiple functions. It protects your spinal cord, helps you stay upright, and allows you to move in many directions. The spine is made up of bones, joints, discs, ligaments, muscles, tendons and nerves. A spinal condition can result from a disease or injury that affects any of these tissues.

Types of spinal disorders

Several types of disorders can affect the spine, causing a range of symptoms and problems. Here are some common spinal conditions.

Herniated disc

Your discs act like cushions between the bones (vertebrae) of your spine. They consist of a gel-like core surrounded by layers of tough connective tissue. A herniated disc occurs when the soft inner portion of a disc protrudes through the outer layers. This can put pressure on nearby nerves. This spinal condition is also sometimes known as a slipped, bulging or ruptured disc.

Spinal stenosis

Your spinal cord travels through a canal down the centre of your spine. Spinal stenosis involves a narrowing of this canal, which can cause pressure on the spinal cord and nerves. It most often affects the neck (cervical stenosis) or lower back (lumbar stenosis).

Spondylolisthesis

In this condition, one vertebra slips forward on the adjacent vertebra. Spondylolisthesis may be caused by a congenital irregularity (one you are born with), spinal degeneration, or trauma.

Fractures

Spinal fractures can result from trauma, osteoporosis (a condition that weakens the bones), and some other underlying conditions. Fractures can affect any part of the spine and may result in spinal cord injury.

Degenerative disc disease

This common spinal condition involves wear and tear of the discs over time. It is associated with ageing because discs become thinner, drier, and less flexible as we get older.

Arthritis

Several types of arthritis can affect the spine, including osteoarthritis, rheumatoid arthritis, and ankylosing spondylitis.

Scoliosis

Scoliosis is an abnormal sideways curve or twist in the spine. It is most often discovered in childhood or adolescence, but it can also happen in adulthood.

Tumours

Spinal tumours are growths that occur in the spinal cord or vertebrae. They can be non-cancerous (benign) or cancerous (malignant).

Infections

Bacteria and other micro-organisms can sometimes get into the spine, leading to an infection in the spinal bones (vertebral osteomyelitis), discs (discitis) or tissues within the spinal canal.

Spinal cord injuries

Spinal cord injuries involve damage to the nerves of the spinal cord, typically caused by a traumatic incident such as a motor vehicle accident, fall or sporting injury.

Radiculopathy

Radiculopathy is caused by irritation or pressure on a nerve where it exits the spine. This may result from a herniated disc, spinal stenosis, or bony spurs from arthritis.

Many other conditions can affect the spine. If you have a spinal problem, it's important to be assessed by a qualified healthcare professional.

Spinal disorders symptoms

Your spine is a large and complex structure, so spinal disorder symptoms can vary widely. They will depend on where the problem is, how severe it is, and the cause. The symptoms of spinal conditions can include:

- pain in the neck or back – which may be sharp, dull, throbbing, or burning
- weakness, numbness or tingling in the arms or legs
- pain radiating into the arms or legs
- stiffness anywhere along the spine
- changes in bladder or bowel control
- swelling or redness
- changes in posture
- headaches
- fever.

While spinal problems are rarely life-threatening, they can have a major effect on your function and quality of life. If a spinal problem doesn't settle by itself and is affecting your ability to do everyday things, your GP can refer you to a specialist experienced in managing spine conditions.

What causes spinal disorders?

Many diseases and injuries can affect the spine. Causes of spinal disorders include:

- injury or trauma – such as a motor vehicle accident, workplace injury, fall or sports injury
- autoimmune disorders – including rheumatoid arthritis and lupus
- genetic or congenital (birth) conditions
- age-related degeneration
- conditions that cause pressure on nerves
- weak muscles
- repeated strain or overuse
- infection.

In some people with spinal problems, the cause is not clear. The most important thing is that expert help is available.

Referral for management of a spinal condition

If you have a spinal condition, your GP might refer you to a neurologist, neurosurgeon or ortho-spine surgeon for further assessment and treatment.

To start your treatment with us, ask your GP for a referral to one of our experienced spinal specialists.

Your doctor can address the referral to a specific specialist, or simply to 'Dear Doctor'.

Spinal disorder prevention

It's not always possible to prevent a spinal condition, especially from something like an accident. However, you can do things to help keep your spine healthy, such as:

- avoiding movements or positions that put excessive strain on your back or neck
- keeping your back muscles strong with exercise
- doing what you can to avoid an injury
- maintaining a healthy weight
- practising safe lifting
- watching your posture
- eating a healthy diet.

How are spinal problems diagnosed?

If you have a spinal condition, your specialist will do a comprehensive assessment. The choice of investigations will depend on your symptoms and the suspected cause. You might need several investigations to get an accurate diagnosis. Your healthcare team will talk to you about which of the following tests are suitable.

Physical examination

Your doctor will conduct physical tests to see how your spine is working. For example, they might look at your muscle strength, walking, co-ordination, balance, vision, sensation, and reflexes.

Blood tests

Blood tests can detect underlying problems such as infections and some types of arthritis.

X-ray

X-rays provide an image of the bones in the spine. They can help to identify fractures, bone deformities, and irregularities such as scoliosis or spondylolisthesis.

CT (computerised tomography) scan

This test uses X-rays to take multiple images of your spine, which a computer puts together to provide detailed pictures. A CT scan can help to identify fractures, spinal abnormalities, bulging discs, canal stenosis and spinal degeneration.

MRI (magnetic resonance imaging)

In an MRI scan, the machine uses a powerful magnet, radio waves and a computer to create detailed, cross-sectional images of the tissues. MRI scans can be helpful for finding herniated discs, spinal stenosis, tumours, infections, and spinal cord injuries.

Bone scan

In this procedure, a small amount of contrast dye is injected into the bloodstream. This gets absorbed by bone tissue. A special camera captures images showing how much contrast dye is taken up in different bones. Increased uptake indicates areas of heightened bone activity, which may result from conditions such as fractures, tumours, and infections. Bone scans can help detect bone problems that may not be clearly seen on X-rays or CT scans.

Myelography

In this test, a contrast dye is injected into the spinal canal and X-rays or CT scans taken. This procedure helps doctors see the spinal cord, nerve roots, and spinal fluid spaces. Myelography is often used when MRI or CT scans are not feasible or when additional information is needed, such as in cases of spinal stenosis, nerve compression, or spinal cord abnormalities.

Discography

Discography involves injecting contrast dye into the spinal discs to get a better idea of their health. Discography can be helpful if doctors suspect your symptoms are coming from a disc problem or they are planning spinal fusion surgery.

Electromyography (EMG) and nerve conduction studies (NCS)

These tests can be helpful for assessing nerve function and are often done together. EMG involves inserting tiny needles into muscles to measure their electrical activity. Nerve conduction studies measure the strength and speed of electrical signals as they travel along nerve pathways. These tests can help identify nerve damage and assess how severe it is.

How are spinal conditions treated?

Treatment for a spinal disorder will depend on various things, including the cause, severity, and location of the problem. Your age and general health will also be considered. Your specialist will talk to you about the options and help you decide on the best treatment approach.

The goal of treatment is to alleviate symptoms, improve function, and enhance your quality of life. Here are some common treatment options for spinal conditions.

Non-surgical treatment for spinal disorders

Most spinal conditions can be managed conservatively. Some can even be cured. Non-surgical management options for spinal disorders include:

Treating any underlying causes

Some spinal problems are caused by health conditions or lifestyle factors. Managing or modifying these may help to ease symptoms, or even resolve them as nerves recover from damage. Correction of underlying causes might include:

- managing health conditions such as arthritis or vitamin deficiencies
- getting support to reach a healthy weight
- avoiding prolonged sitting or heavy lifting.

Medications

Many types of medications are used to treat spinal conditions.

- Pain relievers – your doctor might prescribe medicines to ease pain coming from nerves (neuropathic pain) or to reduce pain signalling in the brain.
- Topical medicines – some medicines (such as local anaesthetics) can be used on the skin to help ease symptoms.
- Immune suppressing medications – these may be prescribed if your nerves are affected by an autoimmune condition.

Physiotherapy

Physiotherapists are university qualified health professionals. They have extensive training in body structure and function and the conditions which affect them. Physiotherapists use a range of evidence-based strategies to help people with spinal problems get relief from symptoms and move better. A tailored program of strengthening and stretching exercises can help improve spinal stability, flexibility, posture and function.

Physiotherapists might also use hands-on techniques such as massage or manipulation, and modalities such as heat or cold therapy and electrical stimulation.

Symptom management

Various strategies can help to relieve the symptoms of a spinal disorder, or help you live with it better. These include:

- walking aids (such as a walking stick or frame) can help you get around more easily
- braces or splints to support or relieve pressure on the spine
- therapies to ease pain, such as massage, acupuncture or electrical stimulation
- staying active to support better mood and physical function
- psychological therapies to help you cope with your condition.

Medical procedures for spinal disorders

In some cases, a procedure or surgery might be recommended to manage a spinal problem. This may be performed by a neurosurgeon, an orthopaedic surgeon with expertise in managing spinal conditions (orthospine surgeon), a pain management specialist, or a radiologist who specialises in interventional procedures.

Interventional procedures for spinal conditions

Interventional procedures may be recommended to relieve symptoms. They are also sometimes used to aid diagnosis. They include:

- epidural steroid injections – in this procedure, steroids are injected into the space around the spinal nerves to lower inflammation and relieve pain.
- facet joint injections – this involves injecting medications into the small joints between the vertebrae (facet joints) to ease pain from joint inflammation or arthritis.
- radiofrequency ablation – this minimally invasive procedure uses heat from radiofrequency waves to switch off nerves that relay pain signals from the affected area.
- spinal cord stimulation – this involves implanting a small device that sends electrical signals to the spinal cord. These interrupt pain signals, helping to relieve chronic pain.

Surgery for spinal disorders

In some cases, your specialists might think an operation is the best way to treat your problem. Surgeries used to manage spinal conditions include:

- decompression – decompression procedures aim to relieve symptoms by reducing pressure on nerves or the spinal cord. Your surgeon may trim away bony spurs, tumour tissue, bulging disc material or soft tissues to give nerves more space.
- disc replacement – if a damaged or degenerated disc in the spine is pressing on a nerve, it can sometimes be removed and replaced with an artificial one.
- spinal fusion – this procedure aims to ease symptoms or improve function by preventing joint movement. It involves fusing two or more vertebrae together using screws, rods or grafted bone.
- minimally invasive surgery – in some cases, procedures can be performed through smaller incisions, which means fewer tissues are disrupted. This can facilitate faster recovery than traditional open surgery.

Recovery from a spinal disorder

Your recovery time will depend on your condition and which type of treatment you have, along with factors like your age, health, and lifestyle. If you have surgery for a spinal condition, here's a guideline about what to expect afterwards.

Immediate postoperative recovery

After a surgical procedure, it's normal to have some swelling, discomfort, and limited mobility in the affected area. You will probably be prescribed pain medications and given instructions for looking after the wound.

Protection of healing tissues

You might need to protect the area to prevent undue strain on healing tissues by wearing a brace or splint. You might also need to avoid or modify some activities during the recovery period. As healing progresses, you can expect to gradually get back to your usual activities.

Rehabilitation and physiotherapy

Regaining physical function is an important part of recovery after spinal surgery. Physiotherapy can help restore muscle strength, improve your movement, and optimise your functional capacity. Physiotherapy techniques include exercises, stretching, manual therapy, and modalities such as electrical stimulation to support healing.

Nerve regeneration

Nerves heal and regenerate slowly, so it's important to be patient. While some symptoms might be better right away, others might improve over several weeks to many months. It's common to experience gradual improvement in things like pain, tingling or weakness as nerves recover. This will vary from one person to another, and it helps to have realistic expectations.

Psychological support

Spinal disorders can affect your function and quality of life, which can be emotionally challenging. You might benefit from the support of family and friends or seeing a mental health professional such as a counsellor or psychologist.

Follow up care

You'll have follow-up visits with your surgeon and therapy team to monitor your progress and adjust your rehabilitation program as necessary. To help ensure a smooth recovery, make sure you follow your surgeon's guidelines, attend appointments, and let your healthcare team know if you have any concerns.

Importantly, many spinal disorders are chronic conditions that need ongoing management. Treatment often revolves around controlling the symptoms, maintaining your function, reducing any risk of complications, and helping you have the best possible quality of life.

Many people with a spinal disorder can benefit from having a multidisciplinary team involved in their care. In addition to a neurologist or neurosurgeon, this may include an orthopaedic surgeon, physiotherapist, occupational therapist, psychologist and more.

Your healthcare team will work with you and your loved ones to develop a personalised plan to help you recover and continue doing things that matter to you.

Sources

Information provided and reviewed by A/Prof Andrew Davidson, Neurosurgeon at Melbourne Private Hospital.

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