

Spinal infection and discitis

What you're feeling

The main sign of a spinal infection is pain that does not settle. It is usually deep in one part of your back or neck, and it stays there day after day. Rest, heat or the painkillers you would normally take do not shift it. The area is often tender to touch, and the muscles around it may feel tight or cramped. Moving that part of your spine becomes harder, so turning in bed, getting out of a chair or looking over your shoulder can all take real effort.

The pain often flares at night and can wake you. It may also worsen after activity or first thing in the morning. Some people feel feverish or generally unwell, but many do not, and that is part of why this condition is easy to miss. Back pain with no fever can look like a simpler back problem on early X-rays, which is one reason diagnosis is often delayed. On average it takes between two and six months from the first symptoms to a diagnosis, and delays of 6 to 12 weeks are common.

Day to day, the pain tends to limit anything that loads your spine. Sitting through a meal, standing at the bench to cook, lifting washing or driving more than a short distance can all become difficult. Some people stop wanting to sit at all and prefer to lie down or stand.

If the infection starts pressing on the nerves of your spine, new symptoms can appear. These include pain or pins and needles running down an arm or a leg, weakness in a limb, or trouble controlling your bladder. Roughly one in three people with this condition develops some nerve-related problem. New weakness, numbness or bladder changes need urgent attention, so contact your surgeon or the hospital straight away if they appear.

You are more likely to develop a spinal infection if you have diabetes, smoke, have another infection somewhere in your body, have had previous spine surgery, or have a weakened immune system.

What's actually happening

A spinal infection is bacteria getting into the bones of your spine or the cushion between them. The cushion between two back bones is called a disc. It works a bit like a shock absorber, letting your spine bend and take load. A disc has very little blood supply of its own, so it gets its nutrients by soaking them up from the bone next door. That slow supply is also how infection travels: bacteria usually start in the bone of a vertebra, then

seep across into the disc and the bone on the other side. Doctors call infection in the bone osteomyelitis, and infection in the disc discitis.

The bacteria usually arrive through your bloodstream from somewhere else in your body, most often a common skin germ called *Staphylococcus aureus*. Less often they get in directly, for example through a wound, an ulcer, or during spine surgery or an injection. Because the infection is deep inside bone, your body cannot simply wall it off. The bone and disc become inflamed and start to break down, which is why the pain is constant, night-time and unrelieved by rest, as described above.

Most of the time the infection stays in the front part of the spine, the bones and discs that carry the load. But it can spread. Pus can collect beside the spinal cord in the space around the nerves, forming a pocket of infection called an epidural abscess. That pocket presses on the nerves, which is where new arm or leg weakness, numbness or bladder trouble comes from. Those symptoms need urgent attention.

The good news is that most spinal infections settle with antibiotics and a back support, without any operation. Surgery is kept for specific situations: an abscess pressing on nerves, infection that will not respond to antibiotics, spine becoming unstable or misshapen, or when tissue samples are needed to identify the germ.

What we can do about it

The first line of treatment is antibiotics given through a drip, usually for at least 6 weeks, then tablets. You stay up and moving during this time. A brace or back support is often fitted as well, to hold the spine steady while it heals. For a lower spine infection this is usually a lumbosacral support, and for the mid-back a thoracolumbar brace or a Jewett extension brace. With the right antibiotics and a back support, most infections settle without an operation. If an abscess has formed beside the nerves but is not pressing on them, the same plan applies: at least 6 weeks of drip antibiotics, close monitoring of your blood markers and repeat checks of your nerve function, with a brace for support.

Surgery is considered when antibiotics have not worked, when tissue samples are needed to identify the germ, when the spine is becoming unstable or misshapen, or when there is nerve trouble such as weakness, numbness or bladder changes. An abscess pressing on the nerves is also treated with surgery. The aim is to drain the pus, take out infected bone and hold the spine steady while it heals. Sometimes bone taken from elsewhere in your body, donated bone or a cage is used to fill the gap left behind, and screws and rods hold the levels above and below steady. Roughly half of people with this condition end up needing an operation. When surgery is needed, it also allows you to get up and moving sooner afterwards.

What to expect

Most spinal infections settle with treatment. Antibiotics and a back support are enough for most people, and the spine stays stable and keeps its shape. If you are younger than sixty, your immune system is working well, and your blood markers of inflammation start falling, the outlook with antibiotics alone is better.

Recovery is slow, and it is worth knowing that up front. The infection sits deep in bone, so it takes weeks to months for the pain to ease and for the bone to knit back together. You will be on antibiotics for at least 6 weeks, often longer, and you will have regular blood tests and check-ups so we can track how the infection is responding. Many people notice the pain gradually lifting over that time, though some tenderness and stiffness can linger.

Roughly half of people with this condition end up needing an operation. When surgery is done early, people report less back pain and better daily function a year on than those treated with antibiotics alone. Surgery also lets you get up and moving sooner afterwards.

If the infection is left untreated, it does not simply burn out. It can keep destroying bone and disc, the spine can become unstable or misshapen, and the infection can spread. An abscess beside the nerves can cause lasting weakness or paralysis, and once the spinal cord itself is damaged that damage does not come back. Untreated, this condition can also be life threatening. Between about 2% and 17% of people with this condition die in hospital from it, and the risk rises when there is nerve trouble or infection tracking into the chest.

Some things make serious nerve problems more likely: diabetes, rheumatoid arthritis, older age, and infection higher up in the spine. If you notice new weakness, numbness or bladder changes at any point, contact your surgeon or the hospital straight away. Caught early and treated properly, most people come through this with a stable spine and no lasting nerve damage.

When to see someone

See your GP if you have back or neck pain that will not settle, especially if you also feel feverish or generally unwell. This matters even more if you have diabetes, smoke, have another infection somewhere in your body, or have had recent spine surgery or an injection near your spine. Ask for a specialist review if your GP suspects a spinal infection, because the sooner it is found the simpler the treatment.

Go to an emergency department straight away if you develop new weakness in an arm or a leg, new numbness, or trouble controlling your bladder or bowels. These mean the infection may be pressing on your spinal cord or nerves, and that needs same-day assessment. An abscess beside the nerves can cause lasting weakness or paralysis, and damage to the spinal cord itself cannot be undone, so do not wait to see if it improves.

Also seek urgent care if the pain becomes severe and unlike anything you have had before, or if you cannot bear weight on a leg or use an arm normally.