

Osteoporotic vertebral fracture

What you're feeling

An osteoporotic fracture happens when a bone in your spine, called a vertebra, becomes so thin and weak that it cracks under everyday load. The pain usually sits in the middle of your back or where your mid back meets your lower back. It often comes on suddenly, sometimes after something as small as bending, lifting or a minor stumble.

The pain is usually sharp at first and settles into a dull ache. It tends to worsen when you stand or walk for a while, when you twist, or when you bend forward. Sitting up from lying down can be hard, and the pain often flares on waking or after you have been on your feet. Lying down may ease it. Everyday tasks that load your spine become difficult: carrying shopping, getting out of a low chair, making the bed, or climbing stairs.

If the fracture affects the lower part of a vertebra, it can sometimes irritate a nerve running down your leg. That can cause pain, tingling or numbness in that leg. Some people also strain the strong sheet of tissue that wraps around their lower back muscles, which adds to the ache.

These fractures can affect more than one vertebra, and they are easy to miss on plain X-rays. If you are over 60 and have sudden back pain, it is worth having it checked properly. A fracture also means your bones are weaker than they should be, so there is a real chance of another fracture, including a hip fracture, within the next few years. That risk is higher again if you have already had more than one spinal fracture.

Most of these fractures settle with time and do not need surgery. If your pain stays severe despite pain medication, there are procedures that can help, which we cover in the next sections.

What's actually happening

Your spine is a stack of bones called vertebrae, and each one has a solid block at the front that carries your weight. Healthy bone is a living scaffold, constantly being rebuilt as old bone is removed and new bone is laid down. With osteoporosis, that balance tips: bone is removed faster than it is replaced, so the scaffold becomes thin and porous, like a honeycomb with larger and larger holes.

The front block of each vertebra is designed to take the compressive load of your body, a bit like a brick carrying the weight of a wall above it. When that brick becomes porous, everyday loads such as bending or

lifting can crush it. The bone compresses and wedges, so the vertebra loses height at the front and the spine bends forward slightly at that level. That crushing is the fracture you are feeling, and the pain comes from the cracked bone itself and from the strain it puts on the tissues around it.

These fractures happen most often where your mid back meets your lower back, because that junction takes more of the bending forces in your spine. If more than one vertebra is crushed, the forward bending can build up, which changes how your whole spine carries load and can add to the ache and stiffness you feel. The bone usually heals on its own over weeks to months, but because the bone is thin, the healed vertebra can keep slowly compressing, and the same weakness means another fracture elsewhere is possible.

Only about one in three people with these spinal fractures actually feel pain from them, which is why they are easy to miss. Most settle with time and pain medication alone. If your pain stays severe despite that, procedures exist that can steady the crushed bone and ease the pain, which we cover next.

What we can do about it

Dr Kieran Hirpara, a spine surgeon at Mater Private Hospital Rockhampton, starts with the least invasive options that suit your condition. Patients are generally referred to our clinic by their GP; if a physiotherapist has suggested you see us, you will still need a referral from your GP in order to be eligible for the Medicare rebate. We confirm the diagnosis with your history, an examination, and imaging where needed.

Most of these fractures heal without surgery. The first step is staying active. Gentle exercise and movement help the bone heal, stop further bone loss, and keep you doing the things you enjoy. Physiotherapy guides this: it aims to rebuild your strength and confidence while the fracture settles. Give it several weeks to months, because the bone usually heals on its own over that time. A brace may be used to support your back while it heals. Pain medication helps you keep moving through this period.

Alongside this, we look after the bone itself. Osteoporosis medicines can strengthen your bone and lower the chance of another fracture. Vitamin D deficiency is common with these fractures, and we check for it and correct it before any surgery. This bone health work matters: it improves healing, reduces complications, and lowers the risk of new fractures. It is often skipped, but it is an essential part of recovery after any fracture caused by osteoporosis.

If your pain is still severe after a trial of non-operative care, we may discuss a procedure called vertebral augmentation. This is a minimally invasive operation that steadies the crushed vertebra with bone cement. Two versions exist. Vertebroplasty injects the cement directly. Kyphoplasty first uses a small balloon to lift the collapsed bone, then fills the space with cement, which can also improve the forward bend caused by the fracture. Kyphoplasty is the option we favour when non-operative care has not helped enough. These procedures are done through small openings rather than a large incision, which keeps the risks low for older patients. Cement can sometimes leak out of the bone during the procedure, and this is more common with vertebroplasty, so we use techniques tailored to your fracture to prevent it. The operation has its own page, which explains what happens on the day and what recovery involves.

What to expect

For most people, the pain from one of these fractures settles over weeks to months as the bone heals on its own. The sharp pain usually eases first, and the dull ache fades more slowly. Staying active and keeping your strength up during this time helps, while long periods of rest can work against you by weakening your bones further and raising the chance of falls and new injuries.

If the pain is managed well, you can expect to get back to your normal activities as the fracture settles. If your pain is severe and does not ease with pain medication, a procedure to steady the bone can relieve that pain, and the benefit over medication alone can last through the first year. These procedures also aim to hold up the crushed vertebra so the spine does not keep bending forward at that level.

There are honest limits to know about. Because your bones are thin, a new fracture in another vertebra is possible afterwards, and the risk is higher if you are older, if you have fractured bones before, or if your bone density is low. The risk is lower when the osteoporosis itself is treated with medicines alongside the fracture care. Some people also find the collapsed vertebra slowly loses more height over time, which is part of how thin bone behaves rather than a sign the treatment has failed.

If a fracture is left alone and the forward bending builds up, especially with more than one fracture, that change in shape can affect how your spine carries load and can keep causing problems. Looking after your bone health, staying active, and following through on osteoporosis treatment give you the best chance of healing well and staying on your feet.

When to see someone

See your GP promptly if you are over 60 and get sudden back pain, even after a small stumble or a simple bend. These fractures are easy to miss on plain X-rays, so ask whether further imaging is needed. Go to an emergency department if you develop new weakness, numbness or tingling in your legs, or trouble controlling your bladder or bowel. Ask for a specialist review if your pain stays severe despite pain medication after several weeks, if you have already had one of these fractures and the pain returns or moves to another level, or if you have known thin bones and any new back pain at all.