

Vertebroplasty for osteoporotic vertebral compression fractures (OVCFs)

Osteoporotic vertebral compression fractures (OVCFs), can happen due to ageing, especially in post-menopausal women, or due to long-term use of medications such as steroids, hormones, or anti-cancer drugs which result in bones losing calcium. This loss of calcium leads to bones that are less dense and break more easily, even with minor injuries. OVCFs are generally very painful, especially when you are moving. The goal of vertebroplasty is to fix the fracture, similar to the function of a cast in a broken arm or leg. Vertebroplasty is a procedure which involves the injection of bone cement (a bio-compatible resin called Poly-Methyl-Methacrylate, or PMMA for short) into the fractured vertebra, sticking the broken pieces of bone together. The cement hardens within a few minutes of the injection, resulting in fast pain relief and improved mobility.

How will vertebroplasty benefit me?

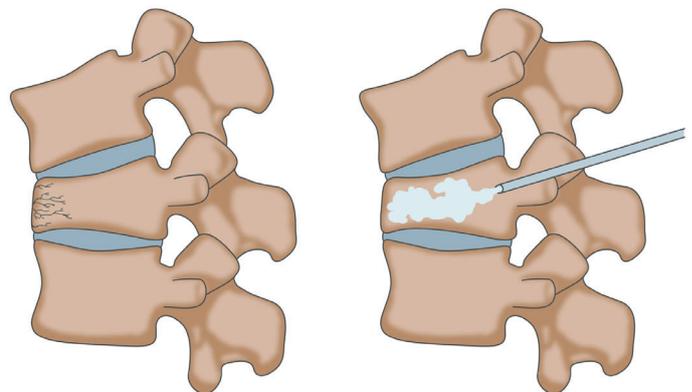
Vertebroplasty is a minimally invasive procedure done using image guidance to guide the needle and cement into the broken bone. It is performed through one or two 3-4 mm incision(s), so there are no major scars. Once the cement has hardened in the injured vertebra, you can start to move again and return to your normal daily activities. This is possible thanks to the fast pain relief granted by the procedure.

A word of caution: vertebroplasty exclusively treats the consequence (the fracture), but not the underlying cause (i.e., osteoporosis). You will need to talk to your doctor about the diagnosis and long-term treatment of any underlying causes.

How should I prepare for the procedure?

The procedure will be scheduled after a consultation with your interventional radiologist who will examine you to check all places along the spine that are affected by fractures and are causing pain. A spine MRI (or bone scintigraphy, if MRI cannot be used) is needed. A brief consultation with the anaesthesiologist will take place a few days before the intervention. The procedure will either be done under local anaesthesia and conscious sedation, or under general anaesthesia.

Percutaneous vertebroplasty



1. Vertebral fracture

2. Cement injection

The procedure

You will lie down on your stomach in a dedicated interventional room that has an X-ray machine. Using X-rays allows the doctor to see exactly which vertebra or vertebrae need treatment.

Antibiotics will be injected through a vein just before the cement injection to prevent infections. After anaesthesia, your interventionalist will place one or two bone needle(s) in each fractured vertebra. A few millilitres of cement will then be injected through these needles in each affected vertebra to fill as much of the fracture as possible. The cement should not leak outside of your vertebrae. Once the injection is finished, the needles are removed and you will be moved to a ward to rest for a few hours. 3-6 hours after the end of the procedure, your pain should be relieved and you should be able to walk again. The procedure is usually done during one day at the hospital without having to stay overnight.

What are the risks?

General anaesthesia always comes with some risks which you can discuss with the anaesthetist. Accidental injuries to nearby organs could occur (lungs, muscles, nerves, etc.), and cement leakage could occur which could be particularly dangerous if it leaks into the spinal canal.

Rarely, cement can travel to the lungs from veins in and around the spine. Infections at the treated vertebral site are rare but can occur. Overall, significant side effects occur in less than 1 in 200 patients.

What is the follow-up plan?

1-4 weeks after the treatment, a follow-up consultation will take place in your interventional radiologist's office to make sure that your pain has been relieved and that you have been able to return to your normal daily activities. If you experience sudden pain, a new spine MRI will be needed to check for new fractures, which may occur close to or far away from the treated site due to the underlying osteoporotic disease.

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