Integrity Spine Care
Compassion and Excellence

Information leaflet

Vertebroplasty/Kyphoplasty (V2570) / (V4451/2/3)

You have been added to the waiting list for vertebral compression fracture surgery. This is a group of operations performed on your spine. These include: vertebroplasty, balloon kyphoplasty and the insertion of vertebral stents.

Your spine is made of bones called vertebrae. The bones in your spine can weaken through osteoporosis and other conditions. This can result in a collapse of the bone called a vertebral compression fracture (VCF). These fractures often heal without surgery, but if they cause significant ongoing pain you may be offered surgery. Sometimes a special image is taken in the MRI scanner to assess whether your bones are suitable for the procedure.

The aims of surgery are to stabilise the weak bone to reduce your pain. There are other treatments that can help ease pain from the fracture such as braces, pain-relieving medicines, physiotherapy and spinal injections.

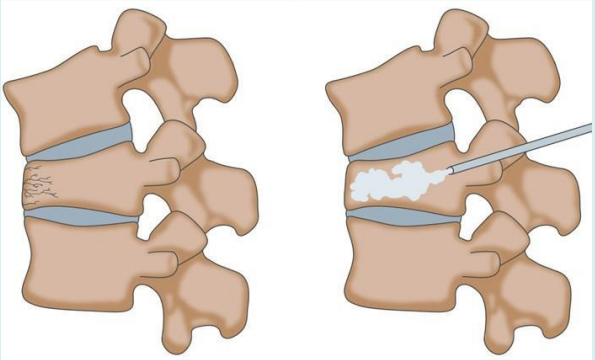
Often pain from the fracture will improve on its own without surgery. If you have osteoporosis, you may well also need medication to help strengthen the bones.
Some fractures may require other types of operation involving screws and rods.

Written by Tony Bateman Version 1.2 Mar 2024 (due for next review Mar 2027)

Types of procedure

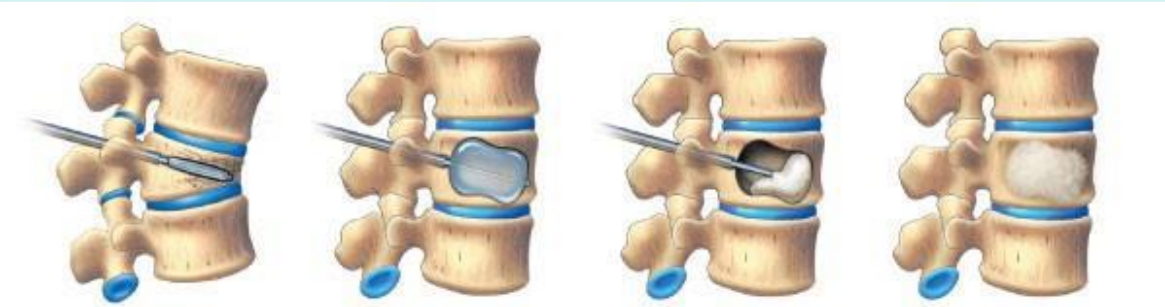
Vertebroplasty

Bone cement is injected into the bone at the site of the fracture to stabilise it. This aims to reduce the pain you are feeling.



Balloon kyphoplasty or stent insertion

This tries to restore some of the height the bones have lost during their collapse. This is usually done by inflating a small balloon in the middle of the bone. When the balloon is removed cement is injected in its place. In some cases, expandable metal stents can also be used with the same aim.



What happens during the procedure?

On the day of your procedure you will see Mr Bateman to confirm you wish to proceed. He may ask you to confirm your symptoms again. The anaesthetist will also see you and give you further details about your anaesthetic. This procedure is often done under general anaesthetic where you are asleep throughout. It may also be done under local anaesthetic and/or sedation.

You will be taken to the operating theatre where you will lie on your front for the procedure. Your arms are supported and your head rests on a soft ring. Mr Bateman will then use X-ray to confirm the site of your surgery.

When all the checks have been completed Mr Bateman will make several small incisions (cuts) on your skin to insert special needles that allow the insertion of balloons (if used) and cement. These are inserted through the pedicles under x-ray guidance. A bone biopsy (sample) may be taken. Once the needles are in position a balloon or stent (if needed) can be inserted and expanded. Once Mr Bateman is happy that the fracture is in the best possible position the balloon is removed and bone cement injected using X-rays to watch where it goes. The needles are then removed.

At the end of the procedure Mr Bateman will close the small wounds with tissue glue and a small dressing that can be removed a few days later.

The operation normally takes between 1 and 2 hours depending on the number of bones involved and the complexity of your spinal problem.

What are the risks?

VCF surgery is generally considered a safe procedure but as with any operation there is a small risk of complications. These may only be rare but you need to be aware of what can go wrong before you agree to the procedure.

- You will have small scars on your back (1 or 2 for each operated level)
- Some patients may have ongoing pain or a return of pain after what is technically a successful operation. We don't always know why this happens.

- There is a risk of a further fracture at a different site in your spine. If this does occur it often does so at the site next to where the cement has been injected.
- There is a risk that cement can leak out of the bone during the procedure. Rarely this may cause damage to local nerves, blood vessels or the spinal cord. This may require a further operation to remove excess cement but recovery does not always occur and any loss of function may be permanent.
- During the procedure the spinal cord or spinal nerves can be injured. This is very rare and can be temporary or permanent. Spinal cord injury may cause paralysis, with or without a loss of bladder and bowel control. Spinal nerve injury can cause numbness or weakness in the arms or legs. These symptoms do not always improve with time.
- The risk of infection is less than 1%. A superficial wound infection usually settles quickly with antibiotics. A deep infection can be more difficult to treat and may require a long course of antibiotics and possibly further surgery.
- There is usually only a small amount of blood loss with this procedure but heavy bleeding can occur. This may be due to damage to the major vessels in your body. Very rarely, patients may require a blood transfusion. Major vessel injury is a rare but potentially life-threatening complication. Extremely rarely, bleeding into the spinal canal may cause an epidural haematoma. If this occurs it can compress the spinal cord and may cause paralysis. This may require further surgery to address the problem but the paralysis is not always reversible.
- Deep vein thrombosis is another possible problem. It is very uncommon but can go to the lungs and cause serious or life threatening problems. To reduce your risk you will be given special stockings to wear. You should move your legs and feet as soon as you can after the procedure. Walking around as soon as you are able will also help.

- Back pain may persist or even worsen despite your surgery. This often takes the form of a grumbling, nuisance neck ache and is not normally disabling.
- There is a small risk of injury to the protective coating (dura) around the spinal cord and nerves. It can cause a headache for a few days. It should not cause any long-term problems but may slow down your initial recovery. Very rarely the fluid around the nerves can leak. If this happens, it may require a lumbar drain or further surgery.

The risks of a general anaesthetic include:

- Common temporary side effects including bruising or pain in the area of injections, blurred vision and sickness, these can often be treated and clear quickly.
- Infrequent (less than 1%) complications include temporary breathing difficulties, muscle pains, headaches, damage to teeth, lip or tongue, sore throat and temporary problems speaking. There is a small risk of stroke.
- Extremely rare and serious complications (less than 1 in 10,000) including severe allergic reactions and death, brain damage, kidney and liver failure, lung damage, permanent nerve or blood vessel damage, eye injury, blindness, and damage to the voice-box.
- If you are concerned about any of these risks, or have any further queries, please speak to Mr Bateman or your anaesthetist.

Alternatives

Mr Bateman has recommended this procedure as being the best option for you.

The alternatives to this procedure include continuing with pain-relieving medication and sometimes, physiotherapy. There is also the option of not receiving any treatment at all.

If you would like more information, please speak to Mr Bateman or one of the nurses caring for you.

What happens after the procedure?

Following surgery you will be taken to the recovery department. This is where you are monitored for the initial period after surgery. You will then be taken to the ward. You can sit up after the operation and begin to move around as soon as you feel able to. Please ask for assistance to begin with.

You may see a physiotherapist who will show you some exercises to help with your recovery. You should continue these at home.

If you have any concerns about your walking, numbness or controlling your bladder/bowel, please tell a member of staff immediately.

You will be given special stockings to minimise the risk of blood clots.

Going home

You will need to arrange for a responsible adult to collect you from hospital, preferably in a car. Travel on public transport is not recommended. Some people are able to go home the same day as their operation but most people will go home the day after their operation. Occasionally a slightly longer stay is required.

Pain relief

It is usual to feel some pain after this operation. Take either the painkillers you were given from the hospital or a mild painkiller such as Paracetamol - follow the manufacturer's instructions and do not exceed the stated dose. It is best to control your pain well to allow rehab exercises.

Personal hygiene

You can shower as normal but dry the surgical area well. Avoid soaking the area in the bath until the wounds are fully healed.

Returning to normal activities

You can return to all activities as pain allows following surgery.

Driving

You are safe to drive once your pain has settled and you are able to safely control your vehicle and perform an emergency stop.

Further appointment

You will be seen in the clinic around 6 weeks after your surgery. You may require an x-ray at that point. If you have any concerns before your appointment please contact the nurses on the ward for advice.

Will it work?

There is a good chance of improving your back pain with the procedure. Most patients will still experience some discomfort which may occur elsewhere in the back. There remains a risk of further spine fracture in the future.