

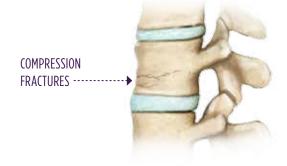
Vertebral bodies in the spine can develop hairline fractures and compress due to osteoporosis and in some cases trauma.

Vertebral Compression Fractures

Vertebral Compression Fractures (VCFs) can lead to extreme pain and disability. Oftentimes these fractures can simply be monitored and heal with time, rest, pain medicines, and bracing. Other times pain can be severe enough to require interventional treatment, including vertebroplasty/kyphoplasty. If you notice severe or unusual pain in your back in the setting of osteoporosis, you should see a spine provider. Sometimes acute VCFs are missed on plain X-rays and an MRI is needed for diagnosis. Advanced imaging also helps identify if the fracture is causing any narrowing of the nearby spinal nerves. If you are identified as having a fracture, your spine provider will closely monitor you to make sure that your fracture is not progressing over time and that you functionally improve.

Vertebroplasty/Kyphoplasty

Vertebroplasty involves advancing a specialized needle into the fractured vertebrae. This is usually done through a two-needle approach (one on each side of the vertebrae) but can occasionally be accomplished with one needle. Once the needles are placed into the front part of the vertebrae, a specialized bone cement is injected into the vertebrae. The cement then hardens. This provides an internal cast for the vertebrae with the hopes of decreasing pain and preventing further vertebrae collapse.



LUMBAR VERTEBRAE

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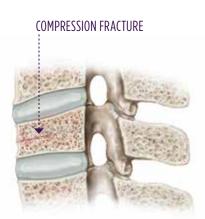


The Procedure

The patient lies face down on a specialized X-ray table. The skin over the fracture is then sterilely prepped and draped. Conscious sedation is given to help keep the patient as comfortable as possible during the procedure. Using fluoroscopy (live X-ray) the fracture is identified. The skin and tissues behind the fracture are then anesthetized with judicial use of local anesthetic. A small scalpel is used to make a nick in the skin whereupon the bone needle is advanced onto the back of the vertebrae. It is then advanced using gentle pressure into the front part of the vertebrae using multiple X-ray pictures.

Occasionally the needle has to be advanced with light taps from a small mallet device. The patient may hear the tapping but should not be alarmed. Once the needles are placed in the front part of the vertebrae under live X-ray, bone cement is injected until the vertebral body looks sufficiently filled. The needles are then removed. Although the cement hardens rapidly, the patient recovers lying flat for 1 hour after the procedure to ensure that the cement is completely hardened.

What is the difference between vertebroplasty and kyphoplasty? During kyphoplasty, prior to the cement being injected, a small balloon is placed through the needle into the vertebral body. Once in the vertebrae it is inflated to create a small cavity within the vertebrae. This cavity is then filled with cement. Your physician will determine which procedure is necessary.





LUMBAR VERTEBROPLASTY CROSS SECTION

IF YOUR PROCEDURE INCLUDES SEDATION

- » You should have no solid foods for 6 hours before your procedure.
- » You may have clear liquids up to 2 hours before your procedure. Examples include: water, broth, clear fruit juices such as apple, cranberry, and grape juice. These juices should not include pulp. Tea, black coffee with no cream, and carbonated beverages are also allowed.
- » Please take your regular medications the day of your procedure, especially any heart or blood pressure medications.

- » Nothing by mouth, including throat lozenges, mints, and all hard candy.
- » No gum for 2 hours before your procedure.
- » You must have a responsible adult arrive with you to our facility. If you use a taxi or volunteer ride service, you still must have a responsible adult with you in order to help take care of you after your sedation procedure.

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How should I prepare?

Follow the specific instructions given to you by the nurses at the procedure center.

- » While the procedure usually takes around 30 to 45 minutes to perform, you should allow for at least 1 to 2 hours at the procedure center.
- » You must have a responsible adult arrive with you to our facility. If you use a taxi or volunteer ride service, you still must have a responsible adult with you in order to help take care of you after your sedation procedure.
- » If you are taking prescription blood thinners such as Coumadin (warfarin), Ticlid (ticlopidine), or Plavix (clopidogrel bisulfate), please inform your doctor's patient care coordinator. These medications will need to be stopped before the procedure, but only after you receive permission from the doctor who is prescribing these medications.
- » If you are on high doses of aspirin (more than 2 per day), inform your doctor's patient care coordinator.
- » Inform your doctor's patient care coordinator if you have a pacemaker.
- » If you develop a fever, night sweats, or an active infection, your procedure will need to be rescheduled. Please contact our office at (651) 968-5201 immediately to inform us of your change in condition.

Potential Risks

Vertebroplasty/kyphoplasty is a relatively safe, minimally invasive procedure. The risks associated with the procedure include:

- » bleeding
- » infection
- » pain at the injection site
- » trauma to nearby structures from needle placement and potential risks from cement leakage out of the vertebrae

These complications are all very rare.

CAUTION

Driving while sedated is illegal and can result in serious accidents. Please be sure to use your driver to get you home safely! If using medical transportation or a taxi, another responsible party must accompany you.

After the Injection

You will lie flat for 1 hour after the injection.

Follow the specific instructions given to you by the nurses at the surgery center.

- » Plan to be quiet for 1 to 2 days after the procedure. You may resume activity as tolerated by your level of comfort.
- » Keep the skin puncture sites clean and dry. Remove any bandages the next day and keep the skin open to air.
- » For discomfort, apply ice packs to the area for 15 minutes several times a day.
- » Do not soak in a tub for 24 hours after the procedure. Thereafter, you may soak in a warm tub or under a warm shower 2 to 3 times per day for comfort. After each soak, pat the overlying skin dry with a clean towel.
- » Observe for any signs of infection, including redness and warmth at the injection site, increasing pain, swelling, drainage, chills, night sweats, or fever that reaches above 100° F. Report any signs of infection or other unusual symptoms.

You may experience an increase in pain for up to 2 weeks after the procedure. This discomfort should gradually disappear as you heal. After the procedure soreness is gone and you begin to resume normal activity, you will be able to evaluate any improvement in your pain. Your pain relief benefits from vertebroplasty/kyphoplasty may be not fully known until 4 weeks after the procedure.

