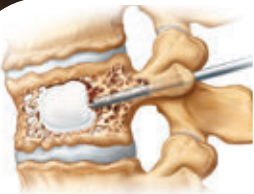


# VERTEBROPLASTY AND KYPHOPLASTY



Treating Spinal Fractures  
for Pain Relief

# Relief from Back Pain

You've been told that you have a **compression fracture** in your back. This is the collapse of one or more of the bones of the spine (**vertebrae**). These fractures can be very painful. But you don't have to live with this pain. This booklet tells you more about a procedure that can help treat the fracture. You can also learn how to avoid fractures in the future.

## What Causes Compression Fractures?

Compression fractures can occur in weakened vertebrae. **Osteoporosis** is a disease that makes bones weak and easy to break. It often affects the vertebrae. Certain other conditions, such as cancer, can also weaken vertebrae. In either case, vertebrae can become too weak to support the weight of the body. As a result, they break and collapse on themselves. Bones can be so weakened that a minor fall, bending over, or even coughing or sneezing can lead to a compression fracture. These fractures can be painful and limit your activities.

## Symptoms of Compression Fractures

Compression fractures may not cause symptoms. If symptoms do occur, they may include:

- Mild to severe pain (can be worse with walking).
- Shortened height.
- A rounded upper back (kyphosis).
- Numbness, tingling, or weakness.



## A Procedure Can Help

If other treatments to relieve your symptoms haven't helped, your provider may recommend a procedure. The two procedures that can help compression fractures are **vertebroplasty** and **kyphoplasty**. Either procedure can quickly relieve back pain caused by a compression fracture. During these procedures, special cement for bones is placed inside a fractured vertebra. This makes the vertebra stronger and better able to support your body. Then you can get back to living your life.



# The Spine Supports the Body

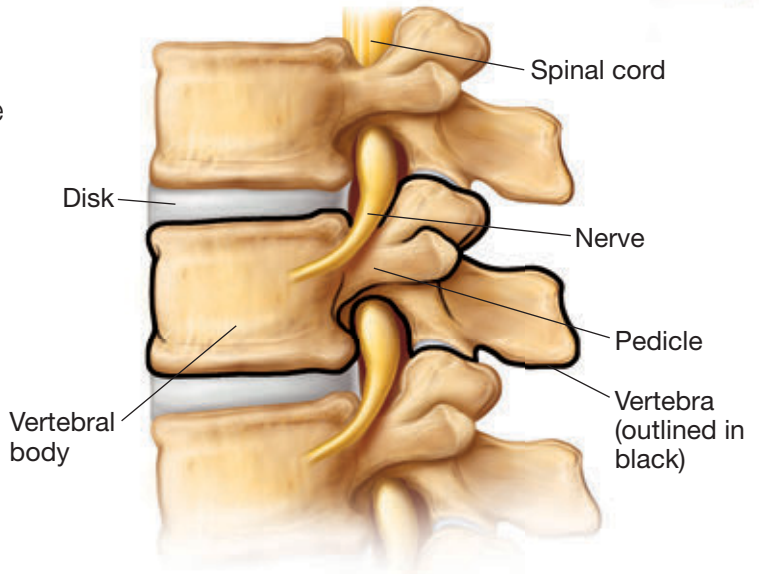
Vertebrae are bones that stack together to make up the spine. A healthy spine supports the body and lets it move freely. But moving can be painful for someone with a compression fracture. In some cases, even breathing is painful.



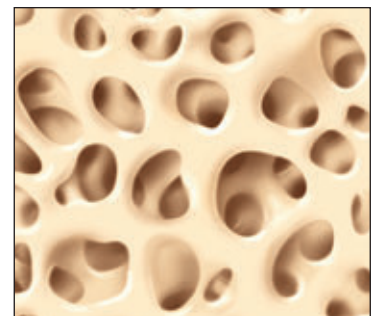
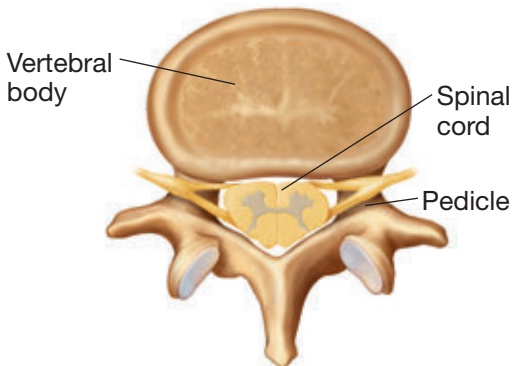
A healthy spine supports the body and helps maintain good posture.

## A Strong Spine

The spine supports much of the body's weight. It also protects the spinal cord and the nerves coming from the spinal cord. The main part of a vertebra is called the **vertebral body**. This is the largest section of each vertebra. Pads of cushioning tissue (**disks**) lie between the vertebrae. A healthy spine lets you stand straight and move without pain.



## Top view of vertebra

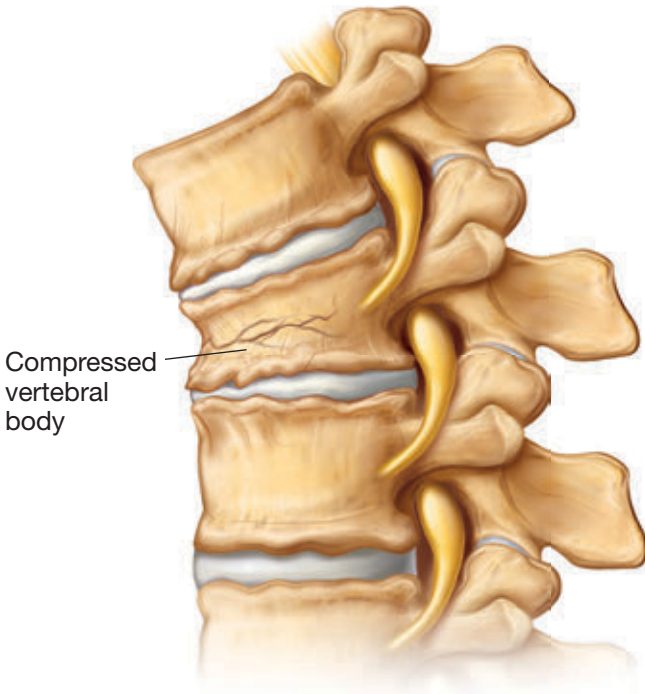


A healthy vertebral body is made of strong, dense bone.

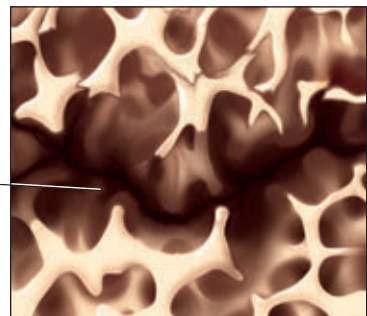
## A Weakened Spine

A disease that weakens the spine (such as osteoporosis or a tumor) can cause vertebrae to become brittle and easily broken. Just the weight of the body can cause the vertebral body to compress (crush). This is a compression fracture. Compression fractures can be very painful. Fractured vertebrae can't support the body well. When more than one vertebra fractures, the upper back often becomes rounded or "humped."

**A weakened spine does not support the body well. This can lead to stooped posture.**



Fracture



**A vertebra with osteoporosis contains thin, weak bone.**

# Strengthening the Fracture

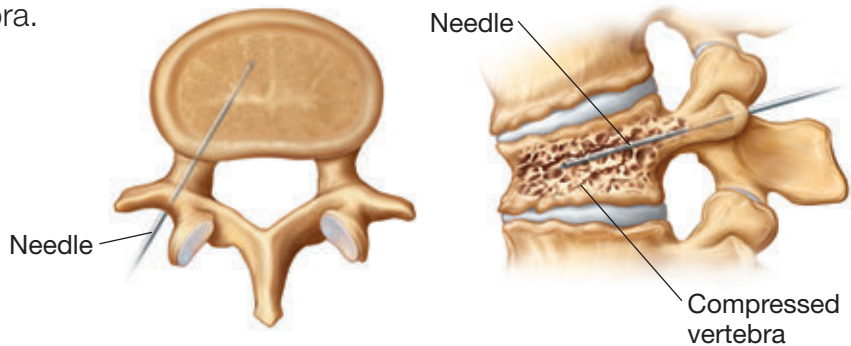
**Vertebroplasty and kyphoplasty are two procedures done to strengthen the fractured bone and help relieve pain. Your provider will tell you which procedure is best for you. Discuss the procedure with your provider. Know what it can and cannot do for you. And be sure to ask any questions you have. By being informed, you can help your provider ensure that your needs are met.**

## Vertebroplasty

During vertebroplasty, one or more tiny incisions are made in the back. A needle is put through the incision into the collapsed vertebra. Special cement for bones is injected through the needle into each side of the vertebra. The needle is removed and the incisions are closed.

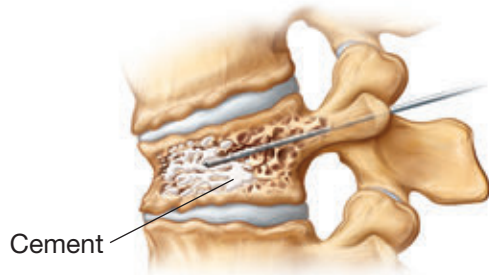
### Reaching the Vertebra

The needle passes into the vertebra.



### Strengthening the Vertebra

Once inside the vertebra, cement is injected through the needle. The cement hardens in minutes.



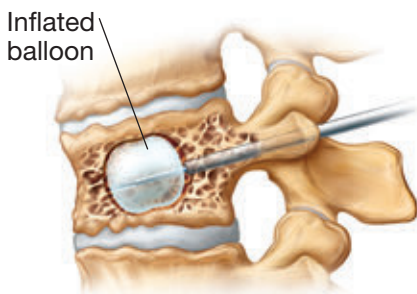
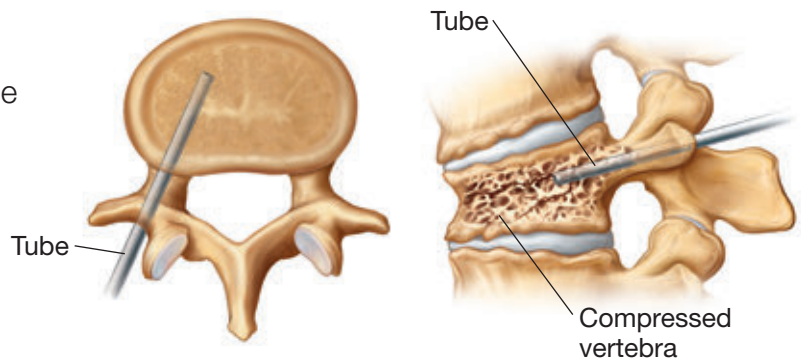
Both vertebroplasty and kyphoplasty are **minimally invasive**.  
This means they are done through very small incisions.

## Kyphoplasty

During kyphoplasty, one or more tiny incisions are made in the back. A thin tube is placed through the incision into the collapsed vertebra. A small balloon is passed through the tube into the vertebra. Once inside the vertebra, the balloon is inflated to make a space. The balloon is then deflated and removed. Special cement for bones is put through the tube into the new space. The tube is removed and the incisions are closed. In some cases, this procedure may restore some height to the vertebra.

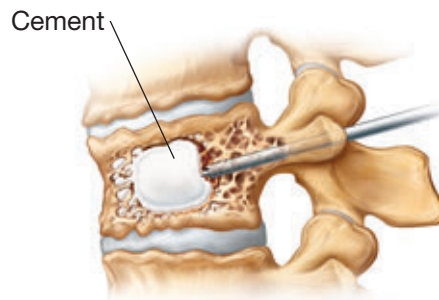
### Reaching the Vertebra

The tube passes into the compressed vertebra.



### Inflating the Balloon

The balloon is inflated to open a space inside the vertebra. The balloon is deflated and removed.



### Strengthening the Vertebra

Cement is used to fill the new space. The cement hardens in minutes.

# Having the Procedure

**Vertebroplasty and kyphoplasty are performed by specially trained providers. Talk with your provider to learn the benefits and risks of this surgery. Also, be sure you know what you need to do to prepare for the procedure and to recover from it.**

## Preparing for the Procedure

- Tell your healthcare provider about all medications you take. This includes over-the-counter medications, herbs, vitamins, and other supplements.
- Ask your healthcare provider if there are medications you must stop taking before the procedure. Follow these instructions carefully.
- Have any tests your provider asks for before the procedure. These include blood and urine tests and a check of your heart rhythm. They help make sure you are healthy enough for surgery.
- Have imaging tests, such as x-rays or an MRI, as your provider requests.
- Do not eat or drink anything as directed before the procedure.
- Arrange for an adult family member or friend to drive you home after the procedure. Know that you may need to stay overnight in the hospital. Your provider will discuss this with you ahead of time.



## Risks and Possible Complications

*These may include:*

- Nerve or spinal cord damage
- Cement problems, including leakage
- Heart or lung problems
- New or unrelieved back pain
- Infection





## Your Procedure Experience

- When you arrive at the hospital or surgery center, you will be asked to sign a form stating that the procedure has been explained to you and you agree to have it.
- You will be asked more than once to give your name, what surgery you're having, and what is being operated on. This is for your safety.
- You will receive an IV (intravenous) line to give you fluids and medications.
- You will be given anesthesia. This is medication to keep you free from pain during the procedure. It will make you very relaxed and sleepy or completely asleep. Once the anesthesia begins working, the procedure will start.
- The provider uses x-ray images of your spine to help guide the procedure.
- While you are relaxed or sleeping, a healthcare professional will monitor your heart, blood pressure, temperature, and breathing.
- The procedure will likely last between 30 minutes and 2 hours.

# After the Procedure

**You may go home later the day of the procedure. Or, you may stay the night in a hospital room. Once you're ready to go home, you'll be told how to take care of yourself.**

## Recovering at the Facility

Your loved ones may be able to visit you in the recovery room. Nurses and your surgeon will also check on you. Mention any pain you have. You may be given pain medication to relieve it.

## Going Home

An adult family member or friend will need to drive you home. Before you leave the hospital or surgery center:

- You'll be checked to be sure you have recovered from the anesthesia and are healthy enough to go home.
- You will be given discharge instructions. These tell you how to take care of yourself at home.
- You may be given a prescription for pain medication or other medications. Have someone fill these for you right away.

## Recovering at Home

- Follow all instructions you were given for what to do as you recover.
- Take all medications as directed.
- Some people feel relief from fracture-related back pain shortly after the procedure. In other cases, relief takes a few days. Either way, take care to ease back into your routine.
- As your back feels stronger, slowly increase activity. Walking is a good start. Also follow instructions for any exercises you are given.
- Make and keep follow-up visits with your provider.

## **When to Call Your Provider**

*Call your provider if you have any of these after surgery:*

- **Fever of 100.4°F (38°C) or higher, or as directed by your provider**
- **New pain, weakness, or numbness in your legs**
- **New or unrelieved back pain**



# Preventing Future Fractures

**You can take steps to prevent another compression fracture. Avoid falling, which can cause broken bones. Limit bending and lifting. Work with your provider on ways to help make your bones less likely to fracture. This includes treating osteoporosis to help strengthen weakened bones.**

## Avoid Dangerous Falls

Falling often leads to bone fractures. To help prevent falls:

- Look around your house for throw rugs, electrical cords, and other things that you could trip over. Ask someone to remove them for you.
- Have safety features, such as grab bars for the shower, added to your bathroom.
- Be sure each room has proper lighting.
- Get help with chores if needed.
- Wear slip-on shoes to limit bending. Be sure they have closed backs and nonskid soles.

## Strengthen Your Bones

To help strengthen weakened bones:

- Get some exercise every day. Exercise helps bone grow stronger.
- Ask your provider whether you need calcium and vitamin D supplements.
- Take medications to help strengthen your bones as prescribed.
- Ask your provider or physical therapist to teach you about good posture and good body mechanics.
- If you smoke, quit. Smoking weakens and steals calcium from bones.





## Your Surgical Checklist

Use the checklist below to remind you what to do before and after the procedure. Discuss this list with your healthcare provider. If you have questions, be sure to get them answered before the procedure.

### Before Surgery

- Have any tests that your provider orders.
- Stop smoking.
- Stop taking aspirin, ibuprofen, naproxen, and other anti-inflammatory medications a week before surgery.
- Do not eat or drink anything as directed before your procedure.
- Tell your provider what medications you take. Be sure to mention blood pressure medications. Your provider may want you to stop taking certain medications before your procedure.

### After Surgery

- Schedule a follow-up visit.
- Take care of your incision as directed.
- Take supplements and medications if prescribed to help strengthen bones.
- Complete a physical therapy program if one is prescribed.
- Ask your provider to list what activities to avoid and how long to avoid them after your procedure:

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