

CEMENT AUGMENTATION

What is a Cement Augmentation?

Cement Augmentation is a procedure used to treat painful vertebral compression fractures in the spinal column, which are a common result of osteoporosis. The doctor uses imaging guidance to inject a cement mixture into the fractured bone. Following cement augmentation, about 75 percent of patients regain lost mobility and become more active.

When a vertebra breaks or fractures, bone fragments develop. Pain occurs when these fragments slide or rub against each other or protrude into the spinal cord. Cement augmentation involves injecting the bone with a cement mixture to fuse the fragments, strengthen the vertebra and provide pain relief. First, the skin is numbed with a local anesthetic. Then, using imaging guidance, the hollow needle or trocar is passed through the skin into the vertebral body for injection of the cement mixture into the vertebra.

What happens the day of the procedure?

This procedure is performed in the radiology department at Sacred Heart Medical Center. It is normally an outpatient procedure with patient admission in the morning and discharge home in the afternoon. Most cement augmentations take about an hour, occasionally longer.

On the day of the procedure, you should be able to take your usual medications with sips of water or clear liquid up to six hours before the procedure. You should avoid drinking juice, cream and milk. Other than medications, you will be instructed to not eat or drink anything after midnight before your procedure.

You should plan to have a relative or friend drive you home after your procedure.

What will I experience during the procedure?

Devices to monitor your heart rate and blood pressure will be attached to your body. You will be positioned lying face down for the procedure. The area through which the hollow needle, or trocar, will be inserted will be shaved, sterilized with a cleaning solution and covered with a surgical drape. Most of the sensation is at the skin incision site, which is numbed using local anesthetic. You may feel pressure when the catheter is inserted. If the procedure is done with sedation, the intravenous (IV) sedative will make you feel relaxed, sleepy and comfortable for the procedure. You may or may not remain awake, depending on how deeply you are sedated. The treatment area of your back will be cleaned, shaved and numbed. During the procedure you will be asked questions related to your comfort. It is important for you to be able to tell your doctor whether you are feeling any pain. The longest part of cement augmentation procedure involves setting up the equipment and making sure the needle is perfectly positioned in the collapsed vertebral body. A local anesthetic is then injected into the skin and deep tissues, near the fracture. A very small skin incision is made at the site. Using x-ray guidance, the trocar is passed through the spinal muscles until its tip is precisely positioned within the fractured vertebra. The orthopedic cement is then injected. Medical-grade cement hardens quickly, typically within 20 minutes. The trocar is removed after the cement is injected. Pressure will be applied to prevent any bleeding and the opening in the skin is covered with a bandage. No sutures are needed. You may feel a tapping sensation during the procedure as the trocar is advanced into the bone.

What happens after the procedure?

You may not drive after the procedure. You will be advised to increase your activity gradually and resume all your regular medications. At home, patients may return to their normal daily activities, although strenuous exertion, such as heavy lifting, should be avoided for at least six weeks. If you take blood thinners, check with your doctor about restarting this medication the day after your procedure. Pain relief is immediate for some patients. In others, pain is eliminated or reduced within two days. Pain resulting from the procedure will typically diminish within two to three days. For two or three days afterward, you may feel a bit sore at the point of the needle insertion. You can use an icepack to relieve any discomfort but be sure to protect your skin from the ice with a cloth and ice the area for only 15 minutes per hour. Your bandage should remain in place for 48 hours. Do not immerse the bandage in water for 48 hours. This is to prevent infection. Taking showers is allowed.

What are the risks and benefits of cement augmentation?

Risks:

- Any procedure where the skin is penetrated carries a risk of infection. The chance of infection requiring antibiotic treatment appears to be less than one in 1,000.
- A small amount of orthopedic cement can leak out of the vertebral body. This does not usually cause a serious problem, unless the leakage moves into a potentially dangerous location such as the spinal canal or the blood vessels of the lungs.
- Other possible complications include infection, bleeding, increased back pain and neurological symptoms such as numbness or tingling. Paralysis is extremely rare.
- Approximately 10 percent of patients may develop additional compression fractures after cement augmentation. When this occurs, patients usually have relief from the procedure for a few days but develop recurrent pain soon thereafter.
- There is a low risk of allergic reaction to the medications.

Benefits:

- Cement augmentation can increase a patient's functional abilities and allow return to the previous level of activity without any form of physical therapy or rehabilitation.
- These procedures are usually successful at alleviating the pain caused by a vertebral compression fracture; many patients feel significant relief almost immediately or within a few days. Many patients become symptom-free.
- Following cement augmentation, about 75 percent of patients regain lost mobility and become more active, which helps combat osteoporosis. After the procedure, patients who had been immobile can get out of bed, and this can help reduce their risk of pneumonia. Increased activity builds more muscle strength, further encouraging mobility.
- No surgical incision is needed—only a small nick in the skin that does not have to be stitched.

Reference: <http://www.Radiologyinfo.org>