

Hampton Roads Radiology Associates

Patient Information

Vertebroplasty and Kyphoplasty

Vertebroplasty and Kyphoplasty are two similar procedures that are typically performed for acute painful spine fractures related to osteoporosis but may be performed for metastatic cancer and myeloma or benign aggressive hemangioma involving the spine.

We perform these procedures on outpatients or inpatients under conscious sedation and typically without general anesthesia. One or two large needles are placed into the vertebral body. In general, Kyphoplasty requires that 2 needles are placed into the level treated while only one may be placed in Vertebroplasty. These needles are placed from the skin with fluoroscopic (x ray) guidance.

In Kyphoplasty, balloons are then inflated to create a cavity in the treated vertebral body and hopefully restore some of the height lost of that vertebral body by the fracture. If height is improved, the alignment of the spine may also be improved. Bone cement is then placed into the cavities through the same needles with very close fluoroscopic control.

In Vertebroplasty, the cement is injected directly into the vertebral body without any balloon inflation.

Both procedures work very well for painful fractures. About 90% of the patients that have these procedures for painful osteoporotic fractures have significant improvement with a significant number cured of pain completely. We have less experience in treating cancer spread to the spine, myeloma and hemangioma and the success rate in these patients is in general not as high.

These procedures have similar complications and include:

1. **BLEEDING.** All needle procedures have a risk of bleeding. Bleeding around the spine can push on nerve roots or the spinal cord. Patients have had to have emergency surgery because of hematomas formed during needle procedures.
2. **INFECTION.** All needle procedures have a risk of infection. Infection of the bone is an osteomyelitis and is an extremely rare complication of these procedures. We will give you IV antibiotics just prior to the procedure.
3. **NEW FRACTURE.** The large needles placed can cause a new fracture which can cause new symptoms of a portion of the spine or of a rib. A fracture fragment may displace away from the spine and push

- on nerve roots or the spinal cord. This rarely occurs and even more rarely requires surgery.
4. **LEAKAGE OF CEMENT.** This occurs frequently and typically does not cause symptoms. It is when the cement leaks out of the vertebral body, where it is injected. The cement can leak into the neural foramen and push on the nerves or into the spinal canal and push on the spinal cord. This possibly could cause symptoms that might require emergent surgery.
 5. **LEAKAGE OF CEMENT INTO VEINS AND PULMONARY EMBOLUS.** The cement can leak into the veins of the vertebral body and then go to the lungs as an embolus of cement. Leakage into a vein is common but pulmonary embolus is rare.
 6. **RESPIRATORY COMPROMISE.** There have been deaths associated with multilevel vertebroplasty and kyphoplasty, felt to be the result of fat emboli to the lungs from the vertebral body and cement. Patients with severe preexisting lung disease such as COPD may be at higher risk for this complication. No more than 2 levels at one time will be treated in these patients or even only one level at a time.

Although these complications sound serious, after several hundred levels have been treated, no Hampton Roads Radiology patient to date has had any symptomatic complication. Feel free to ask questions of the performing physician prior to signing any informed consent.