

Vertebral Augmentation:

Effective, minimally invasive treatment for spine fractures

Vertebral compression fractures (VCFs) are common. They frequently occur in postmenopausal women, patients on steroid therapy, and in patients with bone metastasis in the spine or multiple myeloma.

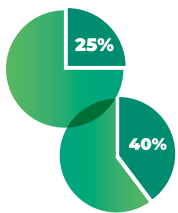
VCFs: Prevalence and Risks



34,000,000 Americans

have low bone mass, placing them at risk for osteoporosis.¹

Women are **4X more likely** than men to develop osteoporosis¹



VCFs are the most common fracture in patients with osteoporosis, affecting **25% of all postmenopausal women** and **40% of all women over 80**¹

Patients with a single thoracic vertebral compression are **5X more likely** to suffer another fracture.¹



A single fracture at any vertebrae **increases mortality risk by 15%**²

VCFs: Pharmacological Treatment

NSAIDs, often prescribed for pain control of VCFs, have **gastric toxicity** and an **increased risk of cardiac events** for patients with hypertension and coronary artery disease.³



Opioids may provide strong relief when NSAIDs are inadequate; however there is a **major risk of dependency**.

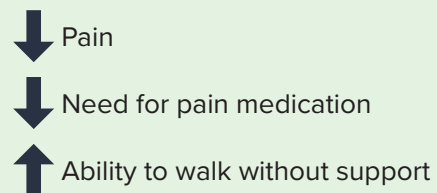
VCFs: Treatment with Vertebroplasty and Kyphoplasty

VERTEBROPLASTY

- Up to **90% success rate**⁴ in treating osteoporotic VCFs.
- When compared to traditional treatment, **patients treated with vertebroplasty had statistically significant improvements in pain relief**.⁵ **90% of patients** experienced **pain relief** and **improved mobility** at 24 hours post vertebroplasty.⁶

KYPHOPLASTY

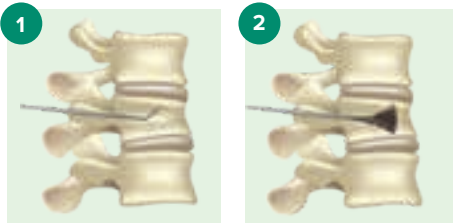
- A retrospective, 2-year single center study⁷ demonstrates that kyphoplasty was shown to:



- **7 out of 10** patients (approximately) achieved complete pain relief at 1 week and more than **8 out of 10** after 3-6 months, and was maintained for at least 2 years.⁷
- Vertebral height restoration of $\geq 10\%$ was achieved in 90% of fractures, along with normalization of morphologic shape.⁷
- 4 year results show that kyphoplasty patients experience **lower mortality and morbidity** than VCF patients who receive conservative management.⁸
- Patients undergoing kyphoplasty for VCF were **37% less likely to die** than patients with VCF who did not have the procedure.⁹

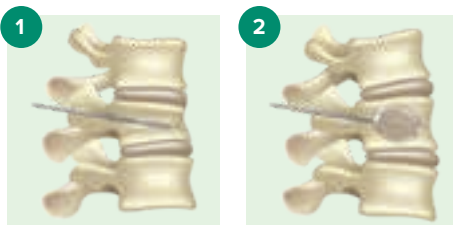
Vertebral Augmentation:

Vertebroplasty and Kyphoplasty procedures



1 Instrument Inserted

2 Cement Filled



1 Balloon Inserted

2 Balloon Inflated



3 Cement Filled

Vertebroplasty is performed on an outpatient basis, usually under local anesthesia. During the procedure, the interventional radiologist uses fluoroscopy to position a needle into the fractured vertebra. A special fast-drying bone cement is then injected into the bone to stabilize the fracture.

Kyphoplasty (also called balloon kyphoplasty) is also performed on an outpatient basis. During the procedure, cannula is placed directly in the fractured vertebrae. A balloon is then inserted into the disc and inflated to correct the loss of height suffered during the fracture. The cavity made by the balloon is then filled with a fast-drying bone cement.

Either procedure typically takes less than an hour for each fracture, and the patient is usually able to return home the same day. The vast majority of patients have reported that vertebroplasty and kyphoplasty provide immediate pain relief and has improved their quality of life.¹⁰

Dr. Golzarian and Dr. Astani of North Star Vascular & Interventional are among the most experienced in the region at performing interventional radiology procedures. If you are interested in learning more about vertebral augmentation or consulting with us regarding a patient, please call **(952) 960-9399**.

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