



# Back pain?

Minimally invasive treatment  
for spine fractures.

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**NORTH STAR**  
VASCULAR & INTERVENTIONAL

# Vertebral Augmentation

*A spine fracture—or vertebral compression fracture—occurs when one of the bones within the spinal column weakens and collapses. Spinal fractures can be a cause of great pain, and left untreated, can lead to more serious health problems and/or permanent deformity.*

## What causes compression fractures?

Nearly one million vertebral compression fractures (VCF) are diagnosed each year in the U.S.; most are caused by osteoporosis. Osteoporosis decreases bone density, which makes bones more susceptible to VCF and other fractures. Women over 50 are at the greatest risk for osteoporosis, but so are men. Caucasian and Asian women are at higher risk than other ethnicities for osteoporosis and VCF.

### Other risk factors include:

- Smoking
- Early menopause
- Low body weight
- Some medications

Studies have shown that individuals with VCF are at higher risk for developing additional fractures, reduced lung function, pneumonia, blood clots, loss of bladder or bowel control, and loss of strength or mobility that contribute to decreased quality of life.<sup>1,2,3</sup>





## How do I know if I have a spine fracture?

Only your doctor can properly diagnose a spine (vertebral compression) fracture with the assistance of diagnostic imaging like MRI or X-ray. However, some of the more common symptoms include:

- Back pain, and possibly additional pain in the hip, abdomen or thigh
- Numbness, tingling and weakness
- Loss of height/hunched appearance
- Difficulty breathing
- Urinary incontinence

**If you are experiencing these symptoms, talk to your doctor.**

1. Lindsay R, Silverman SL, Cooper C, et al. Risk of new vertebral fracture in the year following a fracture. *JAMA*. 2001 Jan 17;285(3):320-3.
2. Kado DM, Browner WS, Palermo L, Nevitt MC, Genant HK, Cummings SR. Vertebral fractures and mortality in older women: a prospective study. Study of Osteoporotic Fractures Research Group. *Arch Intern Med*. 1999 Jun 14;159(11):1215-20.
3. Huang MH, Barrett-Connor E, Greendale GA, Kado DM. Hyperkyphotic posture and risk of future osteoporotic fractures: the Rancho Bernardo study. *J Bone Miner Res*. 2006 Mar;21(3):419-23.
4. Deramond H, Depriester C, Galibert P, Le Gars D. Percutaneous vertebroplasty with polymethyl methacrylate. Technique, indications, and results. *Radiol Clin North Am*. 1998;36:533-46.
5. McGirt MJ, Parker SL, Wolinsky JP, Witham TF, Bydon A, Gokaslan ZL. Vertebroplasty and kyphoplasty for the treatment of vertebral compression fractures: an evidenced-based review of the literature. *Spine J*. 2009;9(6):501-508

## Treatment

Back braces, pain medication, and bed rest are traditional methods of treating VCF. However, these may take months to work and are not always effective. During this time the chances of other complications increase.

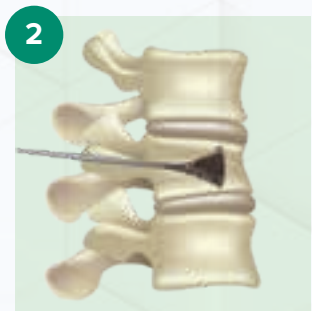
If conservative management isn't working, two minimally invasive treatments called vertebroplasty and kyphoplasty are available at North Star Vascular & Interventional. Vertebroplasty repairs the fracture without open surgery, while kyphoplasty simultaneously repairs the fracture and restores height to the vertebrae, also without surgery. Both procedures provide near-immediate relief of pain and other symptoms.

## Vertebroplasty procedure

Performed on an outpatient basis, vertebroplasty requires only local anesthesia to numb the injection site. During the procedure, the interventional radiologist uses fluoroscopy imaging to guide a needle into position within the fractured vertebra. A fast-drying medical grade cement is then injected into the bone to stabilize the fracture. The patient is kept under observation while the cement hardens but can return home 2-3 hours after the procedure. 90% of patients experience pain relief and improved mobility within 24 hours of vertebroplasty.<sup>4</sup>



**Instrument Inserted**



**Cement Filled**

1



**Balloon Inserted**

2



**Balloon Inflated**

3



**Cement Filled**

## **Kyphoplasty procedure**

Kyphoplasty (also called balloon kyphoplasty) is also performed on an outpatient basis. During the procedure, a special 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. The patient is able to return home the same day. The vast majority of patients have reported that kyphoplasty provides immediate pain relief and has improved their quality of life.<sup>5</sup>

## **Fast, quality results**

At North Star Vascular and Interventional, our patients experience significantly reduced pain and a very low complication rate. In fact, our complication rates are much lower than the national average for vertebroplasty procedures.

## North Star Vascular & Interventional

The doctors at NSVI are pioneers in interventional radiology. Hailing from some of the region's most prestigious healthcare and academic institutions, they were among the first to perform certain imaging-guided procedures in the U.S.

NSVI offers a full range of minimally invasive vascular and interventional radiology services, including cancer treatment, at our state-of-the-art Minneapolis-based outpatient center.

Cancer, spine fractures, uterine fibroids, knee osteoarthritis and vascular disease can be treated faster, less expensively and with greater precision and safety than ever before.

**To learn more, visit [NorthStarIR.com](http://NorthStarIR.com).**



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