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### **Nonsurgical Vertebroplasty Is Effective Pain Treatment for Spinal Fractures Caused by Osteoporosis** *Minimally Invasive Procedure Uses Bone Cement to Stabilize Collapsed Vertebra*

Vertebroplasty is a pain treatment for vertebral compression fractures that fail to respond to conventional medical therapy, such as minimal or no pain relief with analgesics or narcotic doses that are intolerable. Vertebroplasty, a nonsurgical treatment performed by interventional radiologists using imaging guidance, stabilizes the collapsed vertebra with the injection of medical-grade bone cement into the spine. This reduces pain, and can prevent further collapse of the vertebra, thereby preventing the height loss and spine curvature commonly seen as a result of osteoporosis. Vertebroplasty dramatically improves back pain within hours of the procedure, provides long-term pain relief and has a low complication rate, as demonstrated in multiple studies.<sup>1-7</sup>

If the vertebra isn't shored up, it can heal in a compressed or flattened wedge shape. Once this occurs, the compression fracture cannot be treated effectively. It is very important for someone with persistent spinal pain lasting more than three months to consult an interventional radiologist, and people who require constant pain relief with narcotics should seek help immediately.

#### **About Vertebroplasty**

Vertebroplasty was first performed in France in 1984 to treat compression fractures caused by bone cancer or bone metastasis, and later to treat compression fractures caused by osteoporosis. Percutaneous vertebroplasty was introduced in the United States in 1994 and has become widely available since 1997 as a treatment for pain associated with compression fractures due to osteoporosis. The procedure has been shown to provide continued pain relief for osteoporotic compression fractures. A 1998 study by Dr. Deramond and colleagues reported on 80 patients with rapid and complete pain relief in more than 90 percent of osteoporotic cases.<sup>2</sup> The follow-up in this patient population ranged from one month to 10 years with evidence of prolonged pain relief. Vertebroplasty is likely to become a standard of care for treating osteoporotic compression fractures as more patients and physicians become aware of the new advances in interventional radiology.

#### **About the Procedure**

Vertebroplasty is an outpatient procedure using X-ray imaging and conscious sedation. The interventional radiologist inserts a needle through a nick in the skin in the back, directing it under fluoroscopy (continuous, moving X-ray imaging) into the fractured vertebra. The physician then injects the medical-grade bone cement into the vertebra. The cement hardens within 15 minutes and stabilizes the fracture, like an internal cast.

## **About Osteoporosis**

Osteoporosis is characterized by low bone mass and structural deterioration of the bone resulting in an increased susceptibility to fractures. According to the National Osteoporosis Foundation, osteoporosis affects 10 million Americans and is responsible for 700,000 vertebral fractures each year. Multiple vertebral fractures can result in chronic pain and disability, loss of independence, stooped posture and compression of the lungs and stomach. Nearly all vertebral fractures in otherwise healthy people are due to osteoporosis, and can occur from a minor impact, such as a bump or a fall, in those who suffer from this bone-weakening disease. People who have a spinal fracture often don't realize that they may have osteoporosis, because the disease is symptomless until a fracture occurs.

## **About Interventional Radiologists**

Interventional radiologists are doctors who specialize in minimally invasive, targeted treatments that have less risk, less pain and less recovery time compared to open surgery. They use their expertise in interpreting X-rays, ultrasound, MRI and other diagnostic imaging studies to understand, visualize and diagnose the full scope of the disease's pathology and to map out the procedure tailored to the individual patient. Then during the procedure, they image as they go to guide tiny instruments, such as catheters, through blood vessels or skin, to treat diseases at the site of the illness nonsurgically.

Interventional radiology is a recognized medical specialty by the American Board of Medical Specialties. Interventional radiologists complete preliminary training in Diagnostic Radiology and advanced training in Vascular and Interventional Radiology. The American Board of Radiology certifies their specialized training.

## **For Further Information**

For more information on vertebroplasty or interventional radiology, visit the SIR Web site at [www.SIRweb.org](http://www.SIRweb.org).

## **References**

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