

RADIOLOGY NEWS

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WHAT ARE VERTEBRAL COMPRESSION FRACTURES (VCF)

Vertebral compression fractures (VCFs) occur when the vertebral bone collapses, which can lead to **severe back pain**, deformity and loss of height. VCFs can be caused by back trauma or tumors spreading to the spine, but they are most common in patients with osteoporosis.¹

It is estimated that more than 900,000 people suffer from VCFs every year.

VERTEBROPLASTY/KYPHOPLASTY: A MINIMALLY INVASIVE APPROACH TO STABILIZE VCF

Kyphoplasty is a minimally invasive approach that stabilizes the fractured vertebra while maximizing the preservation of healthy bone. During the procedure, a needle system is used to cannulate the fractured vertebral body through the pedicle utilizing fluoroscopy. After a small space is created within the vertebra, a bone-stabilizing material (bone cement), is then injected into the space. Physicians are able to navigate within the vertebral body to target the spine fracture with greater precision. The therapy provides immediate and lasting back pain relief, improvement in mobility and restoration of quality of life. Many patients often return to daily activities soon after the procedure.^{1,1,1}

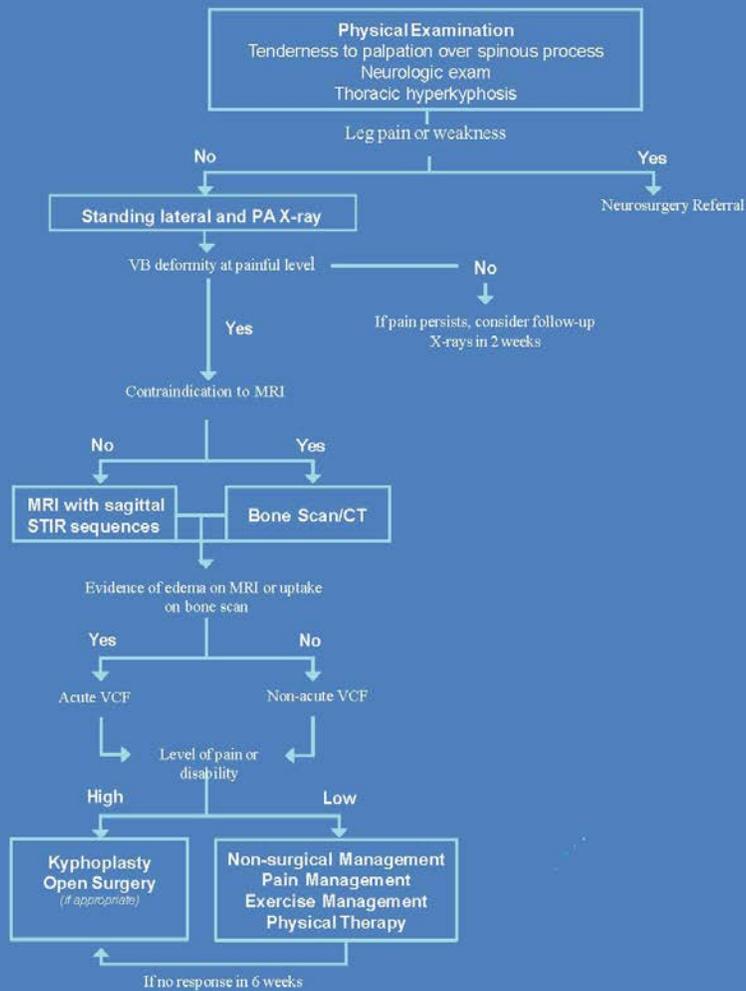
VERTEBRAL COMPRESSION



Who are candidates for Kyphoplasty?

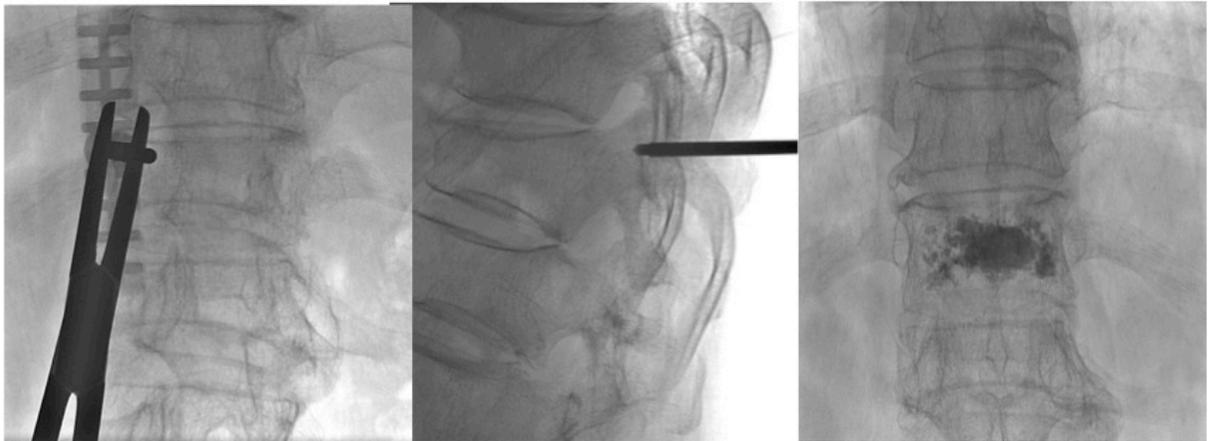
1. Symptomatic vertebral body compression fracture(s) associated with osteoporosis
2. Symptomatic vertebral fractures associated with osteolytic destruction (e.g., bone metastasis). This indication does not include patients with evidence of spinal cord compromise
3. Absolute contraindications are the presence of uncorrected coagulopathies and the presence of an active infectious process

Vertebral Compression Fracture Management



CASE STUDY

79 y.o. male with acute painful back pain after recent fall. MRI showed a subacute vertebral compression fracture involving the T12 vertebral body. (Arrow)



Percutaneous transpedicular insertion of needle using biplane fluoroscopy directly into the VCF at T12. After access the fractured vertebral body, injection of bony cement is performed to stabilize the vertebral body. Patient achieved pain relief almost immediately after the procedure.

¹ Medtronic, Inc. updated estimate from 700,000 spinal fractures estimated in 1985-89 study: Riggs BL, Melton LJ 3rd. The worldwide problem of osteoporosis: insights afforded by epidemiology. Bone. 1995;17 Suppl 5:S505-511 for demographics and incidence rate per Burge R, Dawson-Hughes B, Solomon DH, Wong JB, King A, Tosteson A. Incidence and economic burden of osteoporosis-related fractures in the United States, 2005-2025. J Bone Miner Res. 2007; 22:465-475.

¹ AANS. VCF Incidence and Prevalence. 2007. Accessed on 1/11/2012 at <http://aans.org/en/Patient%20Information/Conditions%20and%20Treatments/Vertebral%20Compression%20Fractures.aspx>

¹ Murphy K. Radiofrequency Kyphoplasty: A Novel Approach to Minimally Invasive Treatment of Vertebral Compression Fractures. The Comprehensive Treatment of the Aging Spine: Minimally Invasive and Advanced Techniques. Elsevier. P248-252.

¹ Elgeti F, Gebauer B., Stoffwechs JM. Radiofrequency Kyphoplasty for the Treatment of Osteoporotic and Neoplastic Vertebral Body Fractures: Preliminary Experience and Clinical Results after 6 Months. 2011; 18 (Supplement 1).

¹ Licht AW, Kramer W. One year observation study upon a new augmentation procedure (Radiofrequency-Kyphoplasty) in the treatment of vertebral body compression fractures. Eurospine 2011.

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