

Balloon Kyphoplasty

For acute change in axial spinal pain, strong consideration should be given to the presence of vertebral compression fractures (VCFs). Contact the Spinal Fracture Institute of Vitruvian Health where we provide timely focused VCF screening along with utilization of appropriate diagnostics to determine presence of fracture. As indicated, we will provide palliative medication, short-term spinal bracing, and perform minimally invasive vertebral augmentation to provide definitive fracture-stabilization.



Incidence:

- Estimated 1.5 million vertebral compression fractures (VCFs) yearly.
- Causes include fragility, trauma, and tumors.



History:

- New onset pain may indicate an acute fracture.
- Worsening pain at the site of a chronic fracture may suggest an acute on chronic fracture.
- Pain can be axial and may refer to other body parts (e.g., ribs, trunk, buttocks, thighs).
- Pain often worsens with spinal motion or turning in bed.
- Spinal tenderness with percussion is common.



Risk Factors:

- Age >50 (1-2% yearly incidence).
- Female, especially with estrogen deficiency or early menopause.
- History of VCFs (1-3 fractures increase risk by 5-75 times).
- Osteopenia, osteoporosis, calcium/vitamin D deficiency.
- Thoracic kyphosis increases loading on the anterior vertebral body.
- Tobacco and alcohol use, recent fall or trauma.
- Turning over in bed in osteoporotic bones can cause up to one-third of fragility fractures.
- Metastatic cancer.



Consequences of Delay:

- Untreated acute pain can lead to persistent chronic pain and opiate overuse.
- Immobility, deconditioning, muscle atrophy, bone loss, and difficulty with activities of daily living (ADLs).
- Fracture progression, height loss, and diminished success of fracture reduction via vertebral augmentation.
- Acceleration of spinal degeneration and stenosis.
- Progression of thoracic kyphosis and altered breathing dynamics.



Conservative Therapy Considerations:

- Often fails to prevent chronic pain, even with minimally compressed fractures.
- Medication may mask the underlying condition and delay care, with potential side effects.
- Physical therapy and spinal manipulation might accelerate fracturing.
- Physical therapy is best post-vertebral augmentation.
- Over-reliance on spinal bracing is often uncomfortable and less effective long-term.
- Bracing should not replace definitive treatment with vertebral augmentation.

Kyphoplasty Overview

Definition: Kyphoplasty is a minimally invasive procedure designed to treat vertebral compression fractures by stabilizing the affected vertebra, restoring vertebral height, and alleviating associated pain.

Procedure: Performed under local or general anesthesia, the procedure lasts approximately 45 minutes. It involves the insertion of a balloon into the fractured vertebra, which is then inflated to create a cavity. Bone cement is subsequently injected to stabilize the vertebra and maintain the restored height. The procedure is typically completed on an outpatient basis, allowing patients to return home the same day.

Expected Results: Patients can typically expect immediate pain relief and improved spinal alignment, resulting in significant pain reduction and enhanced mobility. The restoration of vertebral height can also help prevent further spinal deformity.

Follow-Up: Post-procedure, patients may need as little as a single follow-up appointment to ensure successful outcomes. Most patients can return to normal activities within a few days, although heavy lifting and strenuous activities should be avoided for a short period as advised by the physician.

Positive Outcome: With effective treatment through kyphoplasty, patients can look forward to resuming their daily activities and enjoying a pain-free, happy life. This procedure not only alleviates pain but also enhances the overall quality of life by enabling greater mobility and independence.

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