Vertebral Compression Fractures

Patients eligible for this procedure:
• Patients with painful vertebral compression fractures (benign or pathological) that do not compress the cord or spinal canal
• Patients must be free of active infection and be able to tolerate sedation in the prone position for approximately one hour.

Balloon kyphoplasty offers multiple benefits for patients with vertebral compression fractures:
• Greater safety vs. vertebroplasty
• Significant, long-term pain relief
• Correction of spinal curvature
Vertebral compression fractures (VCFs) can occur as a result of radiation therapy, steroid use, and osteoporosis, causing severe and intractable pain, limiting movement, and greatly diminishing the patient’s quality of life. In the past, vertebroplasty was the best treatment option, but it does nothing to correct the curvature of the spine resulting from collapsed vertebrae, and the bone cement tends to leak into areas beyond the fracture.

Roswell Park Cancer Institute (RPCI) is a high-volume center for a more advanced option—balloon kyphoplasty:

- A minimally invasive procedure, balloon kyphoplasty requires two very small incisions on the patient’s back.
- It is usually performed on an outpatient basis.
- In most cases, it provides rapid pain relief: “With most of the 900 procedures I have performed, fracture-related pain was significantly reduced just a few days after treatment,” says Ronald Alberico, MD, Director of Neuroradiology and Head & Neck Radiology at RPCI.
- It gives the physician greater control over the delivery of the bone cement, making it a safer option than vertebroplasty.

During the procedure, a balloon is inserted into the fractured vertebra. The balloon is inflated to move the vertebra closer to its normal shape and position. Then the balloon is removed, and bone cement is injected into the space the balloon created.

Study results document the safety & efficacy of kyphoplasty

- “For painful VCFs in patients with cancer, kyphoplasty is an effective and safe treatment that rapidly reduces pain and improves function.”

- “Kyphoplasty for treatment of VCF in well-selected patients may accelerate the return of independent patient function as indicated by improved measures of hospital discharge. The initially higher cost of treatment may be offset by the reduced use of post-hospital medical resources.”
  - “Comparison of 5766 vertebral compression fractures treated with or without kyphoplasty.” Clinical Orthopaedics and Related Research, July 2010

- “Kyphoplasty reduces pain and improves mobility as long as 3 years after the procedure. The long-term risk of new vertebral fractures after kyphoplasty was significantly reduced versus controls after 3 years.”