Kyphoplasty

Description of Kyphoplasty

The goals of a **kyphoplasty procedure** are designed to stop the pain caused by a spinal compression fracture, to stabilize the bone, and to restore some or all of the lost vertebral body height due to the compression fracture.

Performing Kyphoplasty

1. During kyphoplasty, a small incision is made in the back through which the doctor places a narrow tube. Using fluoroscopy (x-ray) to guide it to the correct position, the tube creates a path through the back into the fractured area of the involved vertebrae (bone).
2. Using X-ray images, the doctor inserts a special balloon through the tube and into the fractured bone, then gently and carefully inflates it. As the balloon inflates, it elevates the fracture, returning the pieces to a more normal position. It also compacts the soft inner bone to create a cavity inside the vertebrae.
3. The balloon is removed and the doctor uses specially designed instruments under low pressure to fill the cavity with a cement-like material called polymethylmethacrylate (PMMA). After being injected, the pasty material hardens quickly, stabilizing the bone.

Kyphoplasty is performed at a hospital under local or general anesthesia. Other logistics for a typical kyphoplasty procedure are:

- The kyphoplasty procedure takes about one hour for each vertebra involved
- Patients will be observed closely in the recovery room immediately following the kyphoplasty procedure
- Patients may spend one day in the hospital after the kyphoplasty procedure

If the patient is released the day of the kyphoplasty, he/she will need to arrange for transportation from the hospital. Patients cannot drive themselves home after the procedure.

Recovery from Kyphoplasty

Pain relief will be immediate for some patients. In others, elimination or reduction of pain is reported within several days. At home, patients can return to their normal daily activities, although strenuous exertion, such as heavy lifting, should be avoided for at least six weeks.

Candidates for Kyphoplasty

Kyphoplasty cannot correct an established deformity of the spine, and certain patients with osteoporosis are not candidates for this treatment. Patients experiencing painful symptoms or spinal deformities from recent osteoporotic compression fractures are likely candidates for kyphoplasty. The procedure should be completed within 12 weeks of when the fracture occurs in most cases.

Risks and Complications of Kyphoplasty

Some general risks apply to kyphoplasty, including a reaction to anesthesia and infection. Other risks that are specific to the kyphoplasty procedure include, but are not limited to:

1. Nerve damage or a spinal cord injury from malpositioned instruments placed in the back
2. Nerve or lung injury or spinal cord compression from leaking of the PMMA into veins or epidural space
3. Allergic reaction to the solution used to see the balloon on the x-ray image as it inflates
4. Restoring the compressed bone to its original height may not be possible

It is not known whether kyphoplasty, or vertebroplasty, will increase the number of fractures at adjacent levels of the spine. Bench studies on treated bone have shown that inserting PMMA does not change the stiffness of the bone, but human studies have not been done. Osteoporosis is a chronic, progressive disease. As stated earlier, patients who have sustained fractures from osteoporosis are at an increased risk for additional fractures due to the loss of bone strength caused by osteoporosis.