



Kyphoplasty provides fast pain relief, increased physical function, and an improved quality of life.

Frequently Asked Questions

Q: *How common are vertebral compression fractures?*

A: In the United States, approximately 150,000 patients are hospitalized every year with compression fractures with an average hospital stay is eight days, resulting in costs in excess of \$1.6 billion. According to the National Osteoporosis Foundation, the annual direct expenditure (hospitals and nursing homes) for osteoporotic and related fractures has been estimated at \$17 billion (2001). This figure translates to \$47 million each day, and the cost is rising.

Q: *What is kyphoplasty and how can it help me?*

A: Kyphoplasty is a minimally invasive, medical procedure developed by orthopedist Mark A. Reiley, M.D. to stop the pain from spinal compression fractures caused by osteoporosis, a condition that weakens the bone. It is ideally performed within eight weeks of when the bone fracture occurs and is designed to stop the pain caused by the fracture, to stabilize the bone, and to restore some or all of the lost vertebral body height due to the compression fracture. As of January 31, 2008, over 393,000 patients and 460,000 fractures worldwide were treated with kyphoplasty.

Q: *How long is the procedure? Is anesthesia used?*

A: Kyphoplasty typically takes one hour per fracture treated and is normally done on an outpatient basis, meaning patients go home the same day as the surgery. The procedure can be done using either local or general anesthesia; the physician will determine the most appropriate method, based on your overall condition. Do not eat or drink anything after midnight the night before the procedure.

Q: *What are the potential benefits of the procedure?*

A: Kyphoplasty is a safe and effective method to restore vertebral body height and correct spinal deformity with a low complication rate. More than 95% of patients rate their treatment a success and have immediate pain relief. Since bone cement hardens within 15 minutes, there is really no healing. Patients return to previous activities and usually do not need any form of additional therapy. Studies indicate:

- Significant reduction in back pain
- Significant improvement in quality of life
- Significant reduction in number of days per month a patient remains in bed (most patients had a 100% reduction in days in bed, one month post-surgery)
- Significant improvement in mobility
- Significant improved ability to perform activities of daily living, such as walking, hobbies and work; and
- Significant reduction in number of days where pain interfered with daily activities.

Q: *Are there risks associated with kyphoplasty?*

A: Like all surgeries, kyphoplasty has its risks and depends on your overall health. The risk rate is low, involving less than 5% of cases. Serious adverse events can occur including:

- Myocardial infarction (heart attack)
- Cerebrovascular accident (stroke)
- Pulmonary embolism (leakage migrates to lungs), and
- Cardiac arrest (heart stops beating).

Other risks may include thrombophlebitis (blood clots), deep or superficial wound infection, cement leakage, and problems with anesthesia. Discuss risks with your physician.

Q: *Is kyphoplasty covered by insurance?*

A: In most cases, Medicare provides coverage for kyphoplasty. Other insurance plans may also cover the procedure.

Q: *Does a physician require special training?*

A: Yes. A physician needs advanced training to perform this procedure. Physicians who manage osteoporosis, such as general practitioners, rheumatologists, internists, etc., can refer patients to a trained spine specialist for treatment. Worldwide, over 12,800 orthopedic surgeons, neurosurgeons, interventional radiologists, and physiatrists are trained, including the spine and pain physicians at Mid Atlantic Spine.

Kyphoplasty

for vertebral compression fractures



Patients with a vertebral compression fractures have a 23% increased mortality rate, so it is very important to get treatment quickly. Kyphoplasty restores height, reduces pain, and provides stability.

Mid Atlantic Spine

Specializing in Spine and Pain Management

Kyphoplasty

At a cost of 10 to 15 billion dollars every year, vertebral compression fractures (VCF) are the most common complication of osteoporosis (an age-related softening of the bones), the spread of tumor to the vertebral body, or by certain forms of cancer that can also weaken bone and cause the same problems. The bone cracks under pressure, causing it to collapse in height. The fracture may angle the spine forward and produce a hunchbacked appearance known as kyphosis. There are approximately 700,000 vertebral compression fractures per year in the U.S. that result in spinal deformity, acute/chronic pain, disability, and reduced vital respiratory capacity. Patients with this condition are subject to debilitating pain, disturbed sleep, decreased lung and intestinal function, and difficulty completing routine activities.

Kyphoplasty Overview

The vertebral body is the main structure treated with a kyphoplasty. It is a spinal surgery procedure that restores vertebral body height, provides fracture stability, and reduces pain associated with vertebral compression fractures. Kyphoplasty involves the placement of a balloon catheter through a needle introducer into the vertebral fracture, inflation of the balloon (which creates a cavity and restores vertebral body

About Osteoporosis

About 10 million people in the U.S. suffer from osteoporosis, a chronic progressive disease affecting almost the entire skeleton, while 14 to 18 million people have osteopenia, low bone mass. Osteoporosis affects one in every three women and one in every eight men worldwide; it is the most common metabolic bone disease in the U.S. This debilitating condition is characterized by low bone mass and bone weakening that increases the risk for bone fractures. Osteoporosis often does not become clinically evident until a complication occurs, such as a bone fracture that can lead to severe pain, disability, and a poor quality of life.

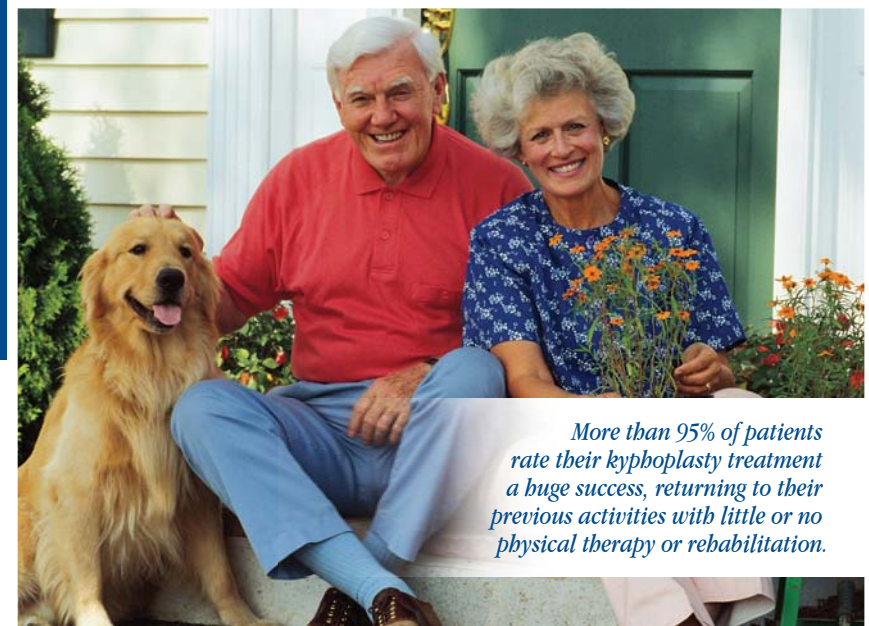
height) and injection of cement into the cavity. The indications for kyphoplasty include an osteoporotic or malignant spinal compression fracture, persistent back pain, progressive vertebral collapse, spinal deformity and a correct diagnosis from imaging studies. Contraindications consist of bone retro-pulsion with neurological complications, infection and greater than 80% loss of vertebral body height. Clinical studies demonstrate that kyphoplasty is a highly-effective treatment for compression fractures and provides correction of spinal deformities with significant pain relief, improved quality of life and increased physical function.

Kyphoplasty is not appropriate for:

- Patients with young, healthy bones or those who sustained a vertebral body fracture or collapse in a major accident
- Patients with spinal curvature, such as scoliosis or kyphosis, that results from causes other than osteoporosis; and
- Patients who suffer from spinal stenosis or a herniated disk with nerve or spinal cord compression and loss of neurologic function not associated with a vertebral compression fractures.

Treatment Advantage

Kyphoplasty gives physicians a way to mend a broken bone without the problems associated with open surgery. Unlike open surgery, which involves an incision and the use of larger instruments, kyphoplasty is a minimally invasive procedure, requiring a small opening in the skin and small instruments. This lessens the chance of bleeding, infection, and injury to muscles and soft tissues. The goal is to return the fractured vertebra as close as possible to its normal height. It is recommended that kyphoplasty be performed soon after a vertebral compression fracture happens to best restore vertebral.



More than 95% of patients rate their kyphoplasty treatment a huge success, returning to their previous activities with little or no physical therapy or rehabilitation.

Kyphoplasty is performed with the patient lying face down on the operating room table and under intravenous sedation. Two x-ray machines are used to show the collapsed bones. Two very small incisions are made in the back and a tube is inserted into the center of the vertebral body to the site of the fractured bone. A balloon is then inflated inside the fractured bone to restore the vertebral body to its normal height and shape. This inflation creates a cavity in the vertebral body, which is filled with bone cement. This special cement strengthens and stabilizes the vertebra. When the cement hardens, the tubes are removed and the incisions are closed with a single stitch. Patients are monitored in the recovery room for two to three hours after the procedure before going home with the instructions to move the back carefully and comfortably.

Quick Results

The cement used to fix the broken vertebra hardens quickly, within about 15 minutes; hence there is really no healing that needs to occur from the patient's standpoint. Patients often find it easier to do daily activities within just one week. Pain will decrease rapidly and diminish completely. Most people require less pain medication within two weeks and do not need any form of physical therapy or rehabilitation. Patients rarely need to wear a brace after kyphoplasty, since the bone cement immediately improves the strength and stiffness in the fractured vertebra. In all, it takes approximately three months for the bone to heal completely after kyphoplasty and for the patient to fully return to all previous activities and full range of body motion.