

# Evidence Based Effectiveness of Balloon Kyphoplasty

Balloon Kyphoplasty can make it easier for you to return to everyday activities with significantly less pain than you had prior to the procedure. Favourable outcomes with this therapy often include (1-11):

- Correction of vertebral body deformity
- Significant pain reduction
- Improved ability to perform activities of daily living
- Improved quality of life
- Low complication rate

- (1) Garfin SR, Yuan HA, Reiley MA (2001) Kyphoplasty and vertebroplasty for the treatment of painful osteoporotic compression fractures. Spine 26: 1511-1515
- (2) Gold DT (1996) The clinical impact of vertebral body fractures: quality of life in women with osteoporosis. Bone 3: S185-S189
- (3) Gold DT and Silverman SL (2003) The Downward Spiral of Vertebral Osteoporosis: Consequences, AACME monograph, designated by Cedars-Sinai Medical Center.
- (4) Hallal J (1991) Back pain with postmenopausal osteoporosis and vertebral fractures. Geriatr Nurs 7:285-287
- (5) Hsiang J (2003) An unconventional indication for open kyphoplasty. Spine J 3: 520-523
- (6) Coumans JV, Reinhardt MK, Lieberman I (2003) Kyphoplasty for vertebral compression fractures: 1-year clinical outcomes from a prospective study. J Neurosurg (Spine 1) 99:44-50
- (7) Ledlie J, Renfro M (2003) Balloon Kyphoplasty: One year outcomes in Vertebral Height Restoration, Chronic Pain and Activity Levels, J Neurosurg (Spine 1) 98:36-42
- (8) Lieberman IH, Dudeney S, Reinhardt M-K, Bell G (2001) Initial Outcome and Efficacy of Kyphoplasty in the Treatment of Osteoporotic VCFs. Spine 26:2, 1631-1638
- (9) Phillips FM, Ho E, Campbell-Hupp M, McNally T, Wetzel T, Gupta P (2003) Early radiographic results of balloon kyphoplasty for the treatment of osteoporotic vertebral compression fractures. Spine 28, 19: 2260-2267
- (10) Taylor RS, Fritzell P, Taylor RJ. (2007) Balloon kyphoplasty in the management of vertebral compression fractures: an updated systematic review and meta-analysis. European Spine Journal: 16 (8): 1075-1306
- (11) Theodorou DJ, Theodorou SJ, Duncan T, Garfin SR, Wong W (2002) Percutaneous Balloon Kyphoplasty for the Correction of Spinal Deformity in Painful Vertebral Compression Fractures. J Clin Imaging 26:1-5



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## Balloon Kyphoplasty

A minimally invasive treatment for Vertebral Compression Fractures as a result of Osteoporosis

The Princess Grace Hospital

## Understanding Osteoporosis

Osteoporosis is a disease that causes your bones to weaken. Older women are at increased risk of Osteoporosis due to lower oestrogen concentration occurring after menopause. However men also suffer from this disease and findings have indicated that low calcium intake, smoking, excessive alcohol use or intake of glucocorticoids for other diseases can put both men and women at risk.



Normal Vertebra



Fractured Vertebra

The loss of bone quality (how the bone is structured) and loss of bone mass (total amount of bone) as a result of Osteoporosis makes it more likely for bones to fracture. More specifically, the vertebral bodies of our spine are affected by the osteoporotic process. Even small daily activities can cause a vertebra fracture. These fractures are called Vertebra Compression Fractures and give rise to acute or chronic pain.

## Symptoms of a Vertebral Compression Fracture

The following can be an indication that you are suffering from a Vertebral Compression Fracture:

- Sudden onset of back pain, unrelated or out of proportion to activity
- Back pain that occurs over a significant period of time (8 to 10 weeks)
- Back pain that becomes more intense when sitting, standing or walking
- Significant loss of height
- Your spine is curved forward (commonly called a dowager's hump)

If you have a history of post-menopausal osteoporosis, cancer, multiple myeloma or if you have been taking corticosteroids for a longer period of time then you may be at greater risk of incurring a Vertebral Compression Fracture.

## How does Balloon Kyphoplasty work

If you have been diagnosed with a spinal fracture caused by osteoporosis Balloon Kyphoplasty is a treatment option you may want to consider. Balloon Kyphoplasty is a minimally invasive procedure that can significantly reduce back pain and repair the broken bone of a spinal fracture.

The procedure is called Balloon Kyphoplasty because orthopaedic balloons are used to lift the fractured bone and return it to the correct position. Before the procedure, you will have a medical examination and undergo diagnostic studies such as X-rays, to determine the precise location of the fracture. Balloon Kyphoplasty can be done under local or general anaesthesia – your physician will decide which option is appropriate for you.

## The 4 steps of Balloon Kyphoplasty

Balloon Kyphoplasty will be carried out in 4 steps. These 4 steps are performed on both sides (left and right) of the vertebral body:

### STEP 1

The doctor makes a small, 1/2 cm incision in your back to create a small pathway into the fractured bone.



### STEP 2

A small, special balloon is placed through the pathway into the fractured vertebra.



### STEP 3

Next, the doctor carefully inflates the balloon to restore the height of the collapsed vertebral body. The balloon is then removed, leaving a cavity within the vertebra.



### STEP 4

This cavity is filled with a bone cement to support the bone, stabilise the fracture and keep the vertebra intact.