

Vertebroplasty Kyphoplasty Overview - Bombay Spine Clinic

- Vertebroplasty / Kyphoplasty
- Minimally Invasive Surgery for Osteoporotic and Compression Fractures

What Is This Surgery?

- Vertebroplasty and Kyphoplasty are minimally invasive spine procedures performed to treat painful vertebral compression fractures, most commonly caused by osteoporosis.
- When a vertebra collapses due to osteoporosis, trauma, cancer or certain infections, it can lead to severe back pain, reduced mobility and spinal deformity.
- The goals of these procedures are to:
 - Stabilize the fractured vertebra
 - Relieve pain
 - Improve mobility
 - Restore spinal alignment (especially with Kyphoplasty)
 - Prevent further collapse of the vertebral body
- Both procedures involve injecting specialized bone cement into the fractured vertebra through a small needle puncture.
- In Kyphoplasty, a balloon is first inserted and inflated to restore vertebral height before cement injection.
- These are minimally invasive image-guided procedures that usually do not require large incisions.
- Why Is This Surgery Performed?
 - This procedure may be recommended for:
 - Osteoporotic Compression Fractures
 - Fragility Fractures
 - Painful Vertebral Collapse
 - Pathological Fractures due to Cancer
 - Multiple Myeloma-related Vertebral Fractures
 - Selected Vertebral Tumours
 - Persistent Pain despite Conservative Treatment
 - Common symptoms that may lead to surgery include:
 - Sudden onset back pain
 - Severe pain while standing or walking
 - Difficulty getting out of bed
 - Pain after a minor fall

- Progressive stooping posture
- Loss of height
- Reduced mobility
- Difficulty performing daily activities
- Who Is A Suitable Candidate?
- You may be a suitable candidate if:
 - ✓ You have a recent vertebral compression fracture
 - ✓ Severe pain persists despite medications and bracing
 - ✓ MRI confirms an active painful fracture
 - ✓ Daily activities are significantly affected
 - ✓ Walking and mobility have become difficult
 - ✓ Conservative treatment has failed
 - ✓ Vertebral collapse is progressing
- How Is The Surgery Performed?
- Step 1
 - The procedure is performed under local anesthesia, spinal anesthesia or general anesthesia depending on the patient's condition.
- Step 2
 - The patient is positioned face down on a radiolucent operating table.
- Step 3
 - Using continuous X-ray guidance (C-arm fluoroscopy), a specialized needle is carefully inserted into the fractured vertebra.
- Step 4 (Vertebroplasty)
 - Medical-grade bone cement is injected directly into the fractured vertebra to stabilize it.
- Step 4 (Kyphoplasty)
 - A specialized balloon is inserted into the vertebra and gently inflated to create a cavity and partially restore vertebral height.
- Step 5
 - The balloon is removed and bone cement is injected into the cavity.
- Step 6
 - Once the cement hardens, the vertebra becomes stabilized and the needle is removed.
 - Most procedures are completed within 30–60 minutes per level.
- What Are The Advantages?
 - Potential benefits include:
 - Minimally invasive procedure
 - No large incision
 - Rapid pain relief
 - Improved mobility

- Early walking
- Reduced hospital stay
- Improved posture
- Prevention of further vertebral collapse
- Faster return to daily activities
- Improved quality of life
- Many patients experience significant pain relief within the first few days after the procedure.
- What Are The Risks?
- Every surgical procedure carries certain theoretical risks and potential complications. However, every effort is made to minimise these risks through meticulous planning, advanced imaging technology and comprehensive patient optimisation.
- At Bombay Spine Clinic™, Vertebroplasty and Kyphoplasty are performed using advanced fluoroscopic imaging systems and specialized instruments that allow accurate placement of bone cement while minimizing risks.
- In addition, every patient undergoes a thorough pre-operative assessment. Depending on individual health requirements, this may involve evaluation and optimisation by physicians, cardiologists, anaesthetists and other medical specialists.
- Potential risks that are discussed with patients include:
 - Infection
 - Bleeding
 - Cement leakage
 - Nerve irritation
 - Adjacent vertebral fractures
 - Persistent pain
 - Rare neurological complications
 - Rare need for further surgery
- Fortunately, serious complications are uncommon when procedures are performed for appropriate indications using modern techniques.
- Preparing For Surgery
 - Before surgery:
 - Clinical evaluation
 - X-rays
 - MRI review
 - CT scan (if required)
 - Blood investigations
 - Medical fitness assessment
 - Medication review
 - Patients should inform their doctor regarding:
 - Blood thinning medications
 - Osteoporosis medications

- Diabetes
- Heart disease
- Previous surgeries
- Allergies
- What Happens During Hospital Stay?
- Day of Procedure
- Hospital admission

Procedure

Recovery room observation

- Early mobilization
- First 24 Hours
- Pain assessment
- Walking under supervision
- Physiotherapy advice
- Discharge
- Most patients are discharged within:
- Same day or next day
- depending on recovery and medical condition.

Recovery After Surgery

- Week 1
- Expected outcomes:
- Significant reduction in pain
- Improved ability to sit and stand
- Walking encouraged
- Light daily activities permitted
- Weeks 2–6
- Progressive increase in activities
- Osteoporosis treatment optimisation
- Follow-up consultation
- 6 Weeks–3 Months
- Improvement in mobility
- Strengthening exercises
- Return to normal routine
- Long-Term Recovery

- Long-term success depends not only on fracture stabilization but also on appropriate osteoporosis treatment, nutrition and regular weight-bearing exercise.

Frequently Asked Questions

- 1. Why do I need this procedure?
- Because a vertebral compression fracture is causing significant pain and limiting your mobility despite conservative treatment.
- 2. Are there alternatives to this procedure?
- Yes. Some fractures can be managed with medications, bracing and osteoporosis treatment. However, persistent severe pain may require Vertebroplasty or Kyphoplasty.
- 3. Will I have a large scar?
- No. The procedure is performed through a small needle puncture and typically leaves minimal scarring.
- 4. How long will I stay in hospital?
- Most patients are discharged on the same day or within 24 hours.
- 5. When can I start walking after the procedure?
- Most patients begin walking within a few hours after the procedure.
- 6. When can I start outdoor walking?
- Outdoor walking can usually begin within a few days depending on comfort and recovery.
- 7. When can I travel after the procedure?
- Short local travel is often possible within a few days. Longer travel is generally permitted after 2–4 weeks depending on recovery.
- 8. When can I return to work?
- Typical timelines are:
 - Work From Home (WFH): Approximately 1–2 weeks
 - Office-Based Work: Approximately 2–4 weeks
 - Light Physical Work: Approximately 4–6 weeks
 - Heavy Manual Labour: Individualized based on fracture healing
- 9. When can I resume exercise and normal activities?
- Walking is encouraged immediately. Gradual return to exercise occurs over several weeks depending on fracture healing and overall bone health.
- 10. What is the success rate of Vertebroplasty / Kyphoplasty?
- When performed for appropriate indications, these procedures have high success rates in relieving pain and improving mobility. Most patients experience substantial improvement in their quality of life.
- 11. Will the fracture heal completely?
- The procedure stabilizes the fracture and relieves pain. Ongoing osteoporosis management is essential to reduce the risk of future fractures.
- Myth vs Fact
- Myth:
 - A spinal compression fracture is simply part of ageing and cannot be treated.

- Fact:
- Many painful vertebral compression fractures can be effectively treated, allowing patients to regain mobility and independence.
- Myth:
- Nothing can be done once a vertebra collapses.
- Fact:
- Modern procedures such as Vertebroplasty and Kyphoplasty can stabilize fractures, relieve pain and improve function in appropriately selected patients.
- When Should I Contact My Surgeon After Surgery?
- Contact your surgeon if you experience:
- Fever
- Increasing back pain
- Progressive weakness
- Difficulty walking
- New numbness
- Difficulty passing urine
- Shortness of breath
- Any unexpected worsening of symptoms
- Related Conditions
- Osteoporosis
- Osteoporotic Compression Fracture
- Fragility Fracture
- Pathological Vertebral Fracture
- Multiple Myeloma
- Related Procedures
- Fracture Fixation Surgery
- Spino-Pelvic Fixation Surgery
- Osteoporosis Management Programme
- Need Expert Advice?
- If you have been diagnosed with an osteoporotic vertebral fracture or would like a second opinion regarding your MRI, CT scan or X-rays, you may schedule a consultation or upload your imaging studies for specialist review.
- Dr. Siddharth Katkade Consultant Spine Surgeon
- Bombay Spine Clinic™

Need Clinical Evaluation or Second Opinion?

This educational document was prepared by **Dr. Siddharth Katkade**. For appointments or to share MRI scan reports for clinical review, call **+91 88507 73095** or consult at Byculla (E) / Khar (W) clinics.

