

Mis Tlif Surgery Overview - Bombay Spine Clinic

- MIS TLIF (Tubular)
- Minimally Invasive Transforaminal Lumbar Interbody Fusion

What Is This Surgery?

- MIS TLIF (Minimally Invasive Transforaminal Lumbar Interbody Fusion) is an advanced minimally invasive spine surgery performed to treat spinal instability, slipped vertebrae (Spondylolisthesis), recurrent disc problems and certain degenerative conditions affecting the lumbar spine.
- The goal of the surgery is to:
 - Decompress the affected nerves
 - Restore spinal stability
 - Correct abnormal spinal alignment
 - Relieve pain
 - Promote fusion between two vertebrae
- The procedure is performed through small incisions using specialized tubular retractors, microscopic visualization and pedicle screw fixation systems. A cage filled with bone graft is inserted into the disc space to facilitate fusion.
- This is a minimally invasive fusion surgery that combines nerve decompression with spinal stabilization.
- Why Is This Surgery Performed?
- This surgery may be recommended for:
 - Spondylolisthesis
 - Lumbar Instability
 - Recurrent Slip Disc
 - Degenerative Disc Disease
 - Foraminal Stenosis
 - Lumbar Canal Stenosis with Instability
 - Mechanical Low Back Pain due to instability
 - Revision Spine Surgery
- Common symptoms that may lead to surgery include:
 - Chronic low back pain
 - Sciatica
 - Leg pain
 - Numbness

- Tingling sensations
- Weakness in the legs
- Difficulty walking
- Back pain aggravated by standing or movement
- Who Is A Suitable Candidate?
- You may be a suitable candidate if:
 - ✓ Symptoms persist despite medications and physiotherapy
 - ✓ Conservative treatment has failed
 - ✓ MRI and dynamic X-rays demonstrate instability
 - ✓ Recurrent disc herniation is present
 - ✓ Spondylolisthesis is causing symptoms
 - ✓ Leg pain and back pain significantly affect daily activities
 - ✓ Quality of life is compromised
- How Is The Surgery Performed?
- Step 1
 - The procedure is performed under general anesthesia. The patient is positioned face down on a specialized operating table.
- Step 2
 - Small skin incisions are made over the affected spinal level.
- Step 3
 - Pedicle screws are inserted using minimally invasive techniques under image guidance.
- Step 4
 - A tubular retractor is used to access the affected side of the spine while minimizing muscle injury.
- Step 5
 - The compressed nerves are carefully decompressed using microscopic techniques.
- Step 6
 - The damaged disc is removed and the disc space is prepared.
- Step 7
 - A cage filled with bone graft is inserted between the vertebrae to restore disc height and promote fusion.
- Step 8
 - Rods are connected to the screws to stabilize the spine.
- Step 9
 - The wounds are closed and sterile dressings are applied.
 - Most procedures are completed within 2–4 hours depending on complexity and the number of levels involved.
- What Are The Advantages?
 - Potential benefits include:
 - Smaller incisions
 - Less blood loss

- Reduced muscle damage
- Less postoperative pain
- Faster recovery
- Earlier mobilization
- Improved spinal stability
- Reduced hospital stay
- Faster return to daily activities
- High fusion rates
- Improved quality of life
- Compared to traditional open fusion surgery, MIS TLIF significantly reduces soft tissue disruption while achieving the same surgical objectives.
- 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 surgical planning, advanced technology and comprehensive patient optimisation.
- At Bombay Spine Clinic™, MIS TLIF is performed using high-definition operating microscopes, specialised minimally invasive tubular retractors, modern pedicle screw systems and advanced imaging guidance. These technologies allow accurate decompression, implant placement and fusion while minimizing disruption to surrounding tissues.
- 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. This multidisciplinary approach helps improve surgical safety, recovery and overall outcomes.
- Potential risks that are discussed with patients include:
 - Infection
 - Bleeding
 - Dural tear (CSF leak)
 - Nerve injury
 - Implant-related complications
 - Cage migration
 - Screw malposition
 - Non-union (failure of fusion)
 - Persistent symptoms
 - Adjacent segment degeneration
 - Rare need for revision surgery
- Fortunately, the incidence of significant complications is low when surgery is performed for appropriate indications, following careful patient selection, optimisation and modern minimally invasive surgical principles.
- Preparing For Surgery
 - Before surgery:
 - Clinical evaluation

- MRI review
- Dynamic X-rays
- CT scan (if required)
- Blood investigations
- Medical fitness assessment
- Medication review
- Anaesthesia assessment
- Patients should inform their doctor regarding:
 - Blood thinning medications
 - Diabetes
 - Heart disease
 - Osteoporosis
 - Previous surgeries
 - Allergies
 - Smoking history
- Smoking cessation is strongly encouraged as it improves fusion rates and healing.
- What Happens During Hospital Stay?
 - Day of Surgery
 - Hospital admission
 - Surgery

Recovery room observation

- Pain management
- Assisted mobilization
- First 24–48 Hours
 - Walking under supervision
 - Physiotherapy guidance
 - Wound care
 - Gradual increase in activities
- Discharge
 - Most patients are discharged within:
 - 2–4 days
 - depending on recovery and overall medical condition.

Recovery After Surgery

- Week 1
 - Expected symptoms:

- Mild wound discomfort
- Improvement in leg symptoms
- Walking encouraged
- Light activities permitted
- Weeks 2–6
- Progressive walking program
- Return to routine activities
- Physiotherapy if advised
- Follow-up consultation
- 6 Weeks–3 Months
- Bone fusion process continues
- Progressive strengthening exercises
- Significant improvement in pain and function
- Long-Term Recovery
- Fusion typically continues over several months. Most patients experience substantial improvement in pain, walking ability and quality of life.
- Maintaining spinal fitness, healthy body weight and regular exercise contributes to long-term success.

Frequently Asked Questions

- 1. Why do I need this surgery?
- Because your spine has become unstable or a nerve is being compressed in a way that requires both decompression and stabilization.
- 2. Are there alternatives to surgery?
- Many patients improve with medications, physiotherapy and injections. Surgery is usually considered when symptoms persist despite adequate conservative treatment.
- 3. Will I have a large scar?
- No. MIS TLIF is performed through small incisions using minimally invasive techniques.
- 4. How long will I stay in hospital?
- Most patients remain in hospital for approximately 2–4 days.
- 5. When can I start walking after surgery?
- Most patients are encouraged to walk within a few hours after surgery under supervision.
- 6. When can I start outdoor walking?
- Indoor walking begins immediately after surgery. Outdoor walking usually starts after approximately 1 week.
- 7. When can I travel after surgery?
- Short local travel is generally possible after about 2 weeks. Long-distance travel is usually recommended after 6–8 weeks.
- 8. When can I return to work?
- Typical timelines are:

- Work From Home (WFH): Approximately 2–3 weeks
- Office-Based Work: Approximately 4–6 weeks
- Light Physical Work: Approximately 6–8 weeks
- Heavy Manual Labour: Approximately 3–6 months
- 9. When can I drive, exercise, dance or resume sports?
- Driving is usually permitted after approximately 4–6 weeks.
- Sports, gym workouts, dancing and high-impact activities are generally resumed after 3–6 months depending on fusion progress and your surgeon's advice.
- 10. What is the success rate of MIS TLIF?
- When performed for appropriate indications, MIS TLIF has excellent success rates for relieving leg pain, improving spinal stability and enhancing quality of life.
- Most patients experience substantial improvement in pain and function, particularly when surgery is performed before severe nerve damage develops.
- 11. Will the vertebrae permanently fuse together?
- Yes. The objective of TLIF surgery is to achieve a solid fusion between the involved vertebrae, creating long-term stability and reducing painful abnormal motion.
- Myth vs Fact
- Myth:
- Fusion surgery means I will not be able to bend or move normally.
- Fact:
- Most patients return to normal daily activities after recovery. Fusion occurs only at the affected spinal level, while the remaining spine continues to move normally.
- Myth:
- Spinal implants need to be removed later.
- Fact:
- In most cases, implants remain permanently and do not require removal unless a specific problem develops.
- When Should I Contact My Surgeon After Surgery?
- Contact your surgeon if you experience:
- Fever
- Increasing wound discharge
- Severe back or leg pain
- Progressive weakness
- Difficulty passing urine
- New numbness
- Persistent headache
- Significant wound swelling
- Related Conditions
- Spondylolisthesis
- Lumbar Instability

- Recurrent Slip Disc
- Degenerative Disc Disease
- Foraminal Stenosis
- Related Procedures
- Microscopic Discectomy (Tubular)
- MIS Decompression (Tubular)
- Biportal Endoscopic Decompression
- Need Expert Advice?
- If you have been advised spinal fusion surgery 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 KatkadeConsultant 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.