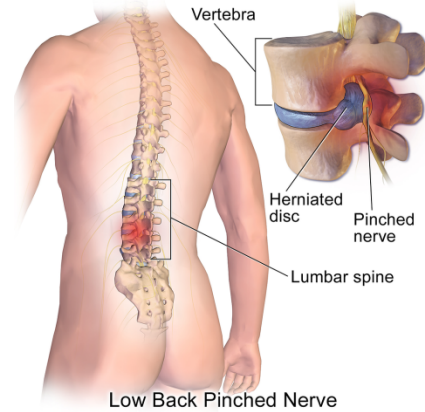


# Minimally Invasive Transforaminal Lumbar Interbody Fusion (MIS-TLIF)

## Introduction

MIS-TLIF is used to treat back and leg pain that typically results from disks that wear out in your low back. In your low back, there are five bones that make up what is called the lumbar spine. Between each bone are disks and they are numbered for the two bones the disks sit between, so the disk between bones 4 and 5 is known as L4/5. The number 5, the L5 bone, connects with part of your hips called the sacrum or S1 and the disk that sits between L5 and S1 is called L5/S1 disk. The most common disks that wear out are L4/5 and L5/S1.



When disks wear out, they can collapse and form bone spurs causing back pain, and they can pinch nerves that go into your legs that cause pain in your legs and toes. In severe cases, the bones may slip on each in a condition called spondylolisthesis, spondy for short, causing significant back and leg pain.

MIS-TLIF is a surgical procedure that removes the worn out disk, removes pressure on compressed nerves, and replaces the disk with titanium cage. It is usually performed on a single disk unless at specialized centers with special equipment (O-Arm) so we can perform on two disks. A small amount of synthetic bone (Medtronic Mastergraft) is used to help bone grow into the cages. Four titanium screws, 2 for each bone, are used to secure the bones to make sure they heal. The screws and cage are made of titanium by Medtronic. They don't go off with metal detectors and are MRI-compatible.

## Symptoms Treated

- Low back pain (lumbar spondylosis)
- Leg pain (pinched nerve, lumbar radiculopathy)

## Non-surgical Treatments

- low back brace (LSO) brace
- Improved back hygiene
- Physical therapy
- Medications such as steroids, gabapentin, anti-inflammatories, muscle relaxants
- Epidural injections that may reduce swelling of pinched nerves

## Description of Surgical Procedure

- Two vertical 1.25 inch cuts (incisions) on each side of the lumbar spine are used for MIS-TLIF
- A tunnel is created between the muscles of your lower back to get to the spine.
- Part of the spine called the lamina and part of the disk are removed and any bone spurs are removed until the nerves are freed.
- Titanium cage is placed where the disk is removed to improve bone healing and restore some of the loss curvature in your low back
- Four titanium screws called pedicle screws are used to secure the cage and provide a strong spine.
- The incisions are sutured back together with dissolvable stitches.

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## What to Expect

### Prior to surgery

- We will obtain authorization for your surgery which usually takes 5-7 business days. Once authorization is obtained, our surgery scheduler will contact you to help coordinate your preoperative health check-up and schedule a time for your surgery.
- Lab tests, EKG, chest x-ray, and any necessary imaging studies such as a lumbar spine CT, and lumbar spine x-rays will be performed.
- 7 days prior to surgery: stop certain medications such as blood thinners and anti-inflammatories.

### Morning of surgery

- No food except water after midnight.
- You may take water with your medications the morning of surgery. If you regularly take beta-blockers or blood pressure medications, make sure you take those as scheduled.
- Check in to admitting at the hospital 2 hours prior to your surgery schedule time.

### Surgery

- You will be asleep under general anesthesia. You will wake up in the recovery room. Most surgeries end about 4-5 hours from your scheduled start time.

### After surgery: Post-operative hospital care

- You will have some back pain. You will have a bandage on your low back.
- You will be admitted to the hospital. Most patients will go home the next day, once they can eat and walk, and their pain is controlled.
- Expected surgery pain: Moderate
- Leg pain may resolve right away.
- What to watch for: If you have pain, ask the nurse for pain medications.
- You can move around in your bed as much as you like. You should wear your back brace when you're out of bed.
- If you have difficulty moving your legs, please let the nurse know right away. These things are very rare, and may occur in less than 1% of patients.
- We will examine you the day after surgery. If you are doing well, then you can go home.

### After surgery: Home care

- Wear your back brace (LSO brace) whenever you're walking around.
- Bend with your knees and not your low back.
- You will have pain medications at home. For Percocet, you can take 1 to 2 tablets every 4 hours only as needed when you have pain. Take antibiotics for 3 days.
- You can remove the outside dressing 3 days after surgery. Do not touch the white strips of tape on the actual incision. Do not shower or get the incision wet until your follow-up visit with us.
- Follow up with us 7-10 days after surgery to check on your incision.
- Six weeks after surgery, we will get x-rays of your back. If the x-rays look good, then we will remove the back brace and start you on physical therapy.
- If everything goes well, you will be able to resume your normal activities 3 months after surgery.

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- Typical follow-up appointments are at 1 week, 6 weeks, and 12 weeks after surgery.
- Need for assistance: Most patients will need some assistance the first week after surgery. Most will be able to walk around and go the restroom without assistance but will have moderate back pain. It would be useful to have some help at home especially the first week. While having someone to help you at home is beneficial, it is typically not necessary for this operation after the first few days.

## Goals and Risks of Surgery

Goals of surgery: To relieve pain. To prevent worsening nerve damage. Most patients are quoted a 70-90% chance of symptomatic improvement and 10% chance of no symptomatic improvement or symptomatic worsening.

Risks of surgery: Infection, bleeding, failure to achieve the goals of surgery, CSF leak, injury to adjacent structures leading to increased pain, weakness, paralysis, misplaced screws, pseudoarthrosis requiring repeat surgery in the future, and adjacent-level disease

Most patients are quoted a low surgical risk at 5% chance of complications.

## References

- Medtronic TLIF:  
<https://www.medtronic.com/us-en/healthcare-professionals/therapies-procedures/spinal-orthopaedic/spine-robotics/procedural-workflows/tlif-procedure.html>
- Mastergraft:  
<https://www.medtronic.com/us-en/healthcare-professionals/products/spinal-orthopaedic/bone-grafting/mastergraft-bone-graft.html>
- Appendix: List of medications not to take, 7 days prior to surgery

## Contact Information

Surgery Scheduler: Claire Shi (626) 768-7373, extension 101

Website for more information: [www.drchou.la](http://www.drchou.la)

This handout: <https://drarthurchou.com/tlif.pdf>