

Minimally Invasive TLIF



What is a TLIF?

TLIF stands for transforaminal lumbar interbody fusion. The surgery is performed through an incision in your low back where a window is made in a specific portion of bone (the facet joint) that allows access to the disc at the level being fused. Through this window the disc can be removed and a structural metal cage or other support is placed into the place where the disc was along with bone graft and other materials that promote the two bones, or vertebrae (one above and one below the disc), to grow together (or “fuse”). Screws are then put into the vertebrae and attached with rods to stabilize the bones to allow the fusion to take place.

What does it mean that the TLIF is “Minimally Invasive”?

The traditional way that this surgery is performed is through a large incision in the middle of the low back that usually extends well above and well below the two vertebrae being fused. The muscle below the skin must be peeled away from the spine to allow for direct visualization of the bones to allow for placement of the cage and screws. Once the surgery is performed a drain is usually left to remove blood that pools and the muscle is sewn back together over the bones and screws.

The term minimally invasive means that the surgery is performed using smaller incisions which allows for much less damage to the muscles and the bones, no need for excessive stripping of muscle away from the spine, and implies the use of enhanced technology to visualize the spine to allow safe placement of the cage, bone graft and screws. This technique requires multiple small incisions rather than one large incision. What this translates into for the patient is decreased pain, decreased blood loss, enhanced early recovery and earlier return to work and other activities.

When is this surgery recommended?

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Fusions procedures such as a TLIF are most often recommended when there is pain or dysfunction that is related to some degree of instability in the spine. This means that if there is a pinched nerve, spinal stenosis, or severe back pain that is coming from an area of the spine where the two vertebrae have excessive motion between them. The technical term for this instability is spondylolisthesis. The fusion is performed, with or without additional decompression of the nerves effected, to stabilize these two bones. These fusions can also be recommended in other settings such as deformity (ex. Scoliosis), in certain trauma settings, in certain categories of nerve pinching (ex. Foraminal stenosis), or when the spine wears out above or below a prior fusion.

What are the risks of the surgery?

Risks common to all spine surgery include nerve irritation or nerve injury (rare), spinal fluid leak, fracture of the bone, failure of the two bones to heal/fuse together (known as pseudarthrosis) which can lead to broken rods or screws (known as hardware failure), increased stress on nearby non-fused levels that might occur over time – all of which might require additional surgeries. Most of these risks are rare, and it is important to make sure that you have had all of the appropriate workup to make sure you have the best chance of having maximum improvement in pain and function once you have recovered.

What is the recovery like?

Each patient's recovery is unique and depends on a number of factors such as age, fitness, medical history, and preoperative pain medication requirement. However, in general, the surgery takes about 90 minutes of surgical time for a one-level fusion. There is minimal blood loss with the minimally invasive technique and the risk for infection or wound healing issues is extremely low. You can expect 1-2 nights in the hospital for a one-level fusion, however, younger patients, healthier patients, and those who do not take prescription pain medications leading up to the surgery can sometimes discharge after a short observation period. You will be prescribed at least 14 days of prescription pain medications to take at home and are encouraged to take full strength Tylenol (1,000mg in 4 doses daily for most patients) in addition. You will be encouraged to be up walking right away and to work towards walking for 30min twice a day. You will be instructed on "BLT" precautions (Bending, Lifting and Twisting) in which you are not to lift more than 10 pounds in each hand and to avoid aggressive bending or twisting for the first 6 weeks. While most patients are instructed to plan on taking 6 weeks off from work, many request approval to return to work earlier. The first 2-3 days can be pretty painful, then as the pain improves you will increase your activity. After 2-3 weeks you start to feel like you are making big strides in your recovery and at 6 weeks most of the daily aching in the back has resolved. If you had leg pain from a pinched nerve before surgery this usually improves relatively quickly but can also be met with some irritating nerve symptoms as the nerve recovers.

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How should I prepare for my surgery?

The most important thing is to stay active leading up to surgery. Eat a healthy, well-balanced diet, keep up whatever cardiovascular exercise you can such as walking, biking, elliptical etc. If you are able to add a plank-based core routine to help tighten up the muscles around your spine that will also be beneficial. If you are already taking prescription pain medications, you will likely be instructed to try to decrease your overall dose or stop them completely for at least 2 weeks prior to your date as this will help with your pain management following the surgery. If you take other prescription medications, blood thinner, or supplements you should receive specific instructions on which medications to stop taking and when to stop taking them before your surgery.

Most importantly, as much as your recovery is a physical experience, for many it is also a mental and emotional experience as well. You have to be prepared for some discomfort, for some hard work, and for some mental and emotional toughness as you begin your journey to recovery. It is a process, with highs and lows, excitement and frustration – but ultimately it is about buying into the part you play in your recovery and in you eventually achieving your specific goals for your spine, your health, and your overall well-being.