Lumbar Microdiscectomy

Mesfin A. Lemma, MD
Minimally Invasive Spine Surgery, Scoliosis Surgery, Baltimore, MD

What is a lumbar microdiscectomy?

Microdiscectomy is a minimally invasive procedure designed to relieve pain caused by a disc herniation in the lower spine. Microdiscectomy is a very common, if not the most common, surgery performed by spine surgeons.

The procedure is typically reserved for patients who do not respond to non-surgical methods of pain relief. In cases where there is weakness in the leg or ankle, surgery may be recommended sooner. The leg pain typically associated with a lumbar disc herniation is referred to as a lumbar radiculopathy, or sciatica.

Who performs the procedure?

- Lumbar microdiscectomy is best performed by a **fellowship-trained spine surgeon**. Ask your surgeon about their training, especially if your case is complex or you have had previous spinal surgery.

What to expect before the procedure:

- In the weeks prior to your surgery, **pre-operative testing** will be conducted either by your primary care physician or the pre-admission testing department of the hospital.
- One week prior to surgery, you will need to **stop taking aspirin, NSAIDs** or other medications that thin your blood and may increase bleeding.
- You will be given instructions and supplies to **cleanse** the back of your spinal area the day prior to your procedure.
- You are to have **nothing to eat or drink after midnight** on the night before.

What to expect during the procedure:

- Just before the procedure starts you will have an intravenous (IV) line started so you can receive fluids and medications to make you relaxed and sleepy. The procedure is performed under **general anesthesia** (you are asleep). Medications will be given through the IV to put you to sleep and a tube is inserted in your throat to supplement your breathing. **IV antibiotics** are administered and monitors are placed to check your heart, blood pressure, and oxygen level. A Foley catheter in the bladder is typically not required.
- The actual procedure typically lasts **about 1 hour,** depending on the specifics of the case. This is what to expect once the procedure begins:

1. Surgical approach

- You are positioned face down (prone) on a specialized, cushioned operating table.

- The area of your back where the incision will be made is cleansed with a special solution to kill the germs on the skin.

- A 1-2 inch skin incision is made in the midline directly overlying the affected area.

- Minimally invasive techniques allow access to the spine with a minimal amount of muscle and soft tissue disruption.

2. Decompression

- Once the spine is exposed, a small amount of bone is removed (laminotomy) to provide an opening into the spinal canal.

- Microsurgical instruments are then used to remove the herniated disc fragment(s) which relieves the compression of the spinal nerves.

3. Closure

- Blood loss is typically no more than a few drops. The skin is closed with absorbable sutures (stitches).

- A small dressing is applied over the incision and you are then taken to the recovery area.

What to expect after the procedure:

- Lumbar microdiscectomy is typically performed on an **outpatient** or overnight stay basis.
- In the recovery area, you will be observed until you recover from the anesthesia, then transferred to the floor.
- You will be encouraged to get out of bed and move around as soon as you are able to.
- Pain pills on an empty stomach may result in nausea, so initially IV pain medications are self-administered through a PCA, or **patient-controlled analgesia**.
- IV fluids will be continued until you can drink fluids well by mouth.
- Once you are able to drink normally, your diet will be advanced to your **normal diet** and you will be switched to pain pills.
- **Physical therapy and occupational therapy** will see you prior to your discharge from the hospital to make sure you are comfortable walking, escalating stairs and performing other activities of daily living.
- A back brace is typically not required.

Recovery and rehabilitation at home:

- Keep in mind, everybody is different, and therefore the amount of time it takes to return to normal activities is different for each individual.

- Discomfort should decrease a little each day, like a dimmer switch as opposed to an on-off switch. Most patients are able to return to most activities by **2 - 4 weeks**, although complete recovery time may take between 6 and 8 weeks. You will not be able to drive a car for about 2 weeks, depending on the specifics of your case.

- Restrictions such avoiding heavy lifting and bending at the waist are maintained for 4-6 weeks.

- Signs of infection such as **swelling, redness, draining, or fever > 101.5°F** should be brought to your surgeon's attention immediately.

- It is important to keep your incision **dry** for a period of 2 weeks to give your incision time to seal. You may sponge bath during this period.

- You will be seen in the office at **2 weeks**, then at regular intervals thereafter.

What are the expected outcomes?

The results of microdiscectomy surgery are generally excellent. **90-95% of patients typically feel relief from the leg pain**. Surgery is less reliable, however, at relieving numbness or weakness in the leg, as this may indicate presence of nerve damage.

We have all seen that when heavy furniture is removed off a carpet, the carpet may remain indented. This is analogous to pressure on a badly compressed nerve. Even after the nerve pressure is surgically relieved, permanent injury may have already occurred within the nerve.

5-10% of patients will develop a recurrent disc herniation at some point in the future. This may occur directly after surgery or many years later, although they are most common in the first 3 months after operation. If the disc does herniate again, generally a revision microdiscectomy will be just as successful as the first operation. However, after a recurrence, the patient is at higher risk of further recurrences (15% to 20% chance).

For patients with multiple herniated disc recurrences, a spinal fusion may be recommended to prevent further recurrences. Removing the entire disc space and fusing the level is the most common way to absolutely assure that no further herniated discs can occur.

What are the possible risks?

In skilled hands, lumbar microdiscectomy is a very safe procedure. However, no surgery is without possible risks. These risks can be minimized by choosing an experienced surgeon to perform your procedure, and by adhering to your surgeon's instructions before and after your procedure. General complications of any surgery include bleeding, infection (**1%**), blood clots, and reactions to anesthesia. Specific complications related to lumbar microdiscectomy may include:

- **Persistent nerve pain.** The primary cause for persistent nerve pain following spinal surgery is an inadequate decompression. This complication can be avoided by seeking out an experienced, fellowship-trained spine surgeon.

  It is important to note that another common cause of persistent symptoms is nerve damage from the compression itself, not the surgery. Compression may permanently damage the spinal nerves rendering it unresponsive to surgery.

- **Nerve root inury (1 in 1,000) or bowel/bladder incontinence (1 in 10,000)**. Paralysis would be extremely unusual since the spinal cord stops at about the T12 or L1 level, and surgery is usually done well below this level.

- **Cerebrospinal fluid leak (1% to 3%)**. If the dural sac is breached, a cerebrospinal fluid link may be encountered but does not change the outcome of the surgery. Generally a patient needs to lie down for about 24 - 48 hours to allow the leak to seal.