



**SPORTS MEDICINE
ORTHOPEDIC
& SPINE CARE**

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Lumbar (Open) Microscopic Discectomy

Open discectomy is the most common surgical treatment for ruptured or herniated discs of the lumbar spine. When the outer wall of a disc, the annulus fibrosus, becomes weakened, it may tear allowing the soft inner part of the disc, the nucleus pulposus, to push its way out. This is called disc herniation, disc prolapse or a slipped or bulging disc. (See discussion of herniated disc for more information.) Once the inner disc material extends out past the regular margin of the outer disc wall, it can press against very sensitive nerve tissue in the spine. The disc material can compress or even damage the nerve tissue, and this can cause weakness, tingling or pain in the back area and into one or both legs. Open discectomy uses surgery to remove part of the damaged disc and thus to relieve the pressure on the nerve tissue and alleviate the pain. The surgery involves a small incision in the skin over the spine, removal of some ligament and bone material to access the disc and the removal of some of the disc material.

Open discectomy has been performed and improved over the course of the past 60 years. Over time, the procedure has been refined, and improved diagnostic tools—such as magnetic resonance imaging (MRI) and computerized tomography (CT) scans—have allowed physicians to gain a better understand of which patients will have the best results from the surgery.

Who is a Candidate for Open Discectomy?

Not all patients with herniated discs are candidates for the open discectomy procedure. Most people find pain relief with nonsurgical treatments such as rest, physical therapy, anti-inflammatory medications and epidural injections. However, sometimes the pain does not respond to these therapies and may require a more aggressive intervention.

If back and leg pain does not respond to nonsurgical treatment and continues for four to six weeks or longer, the physician may prescribe diagnostic tests, such as X-ray imaging, MRI or a CT scan, to verify the source of the pain. If a diagnosis of herniated disc is confirmed, open discectomy may be recommended.

Currently, spine surgery is undergoing a revolution in the way certain surgeries are performed. Discectomies can now be performed arthroscopically, that is, through a smaller incision using specialized tools with local anesthesia. In some simpler cases, this type of surgery may be recommended. However, open discectomy is still considered the “gold standard” by the spine community for surgical treatment of herniated discs. Open discectomy allows the surgeon the greatest ability to see and explore the surgical site.

The Procedure

Open discectomy is usually performed under general anesthesia (the patient is unconscious). It is performed while the patient is lying face down or in a kneeling position. During the procedure, the surgeon will make an approximately one-inch incision in the skin over the affected area of the spine. Muscle tissue is removed from the bone (lamina) above and below the affected disc and retractors hold the muscle and skin away from the surgical site so the surgeon has a clear view of the vertebrae and disc. In some cases bone and ligaments may have to be removed for the surgeon to be able to visualize and then gain access to the disc without damaging the nerve tissue. This is called a laminectomy or laminotomy depending on how much bone is removed.

Once the surgeon can visualize the lamina of the vertebrae, disc and other surrounding structures, he or she will remove the section of the disc that is protruding from the disc wall and any other disc fragments that may have been expelled from the disc. This is often done under magnification. No material is used to replace the disc tissue that is removed. The incision is then closed with sutures and the patient is taken to a recovery room.

After the Procedure

After surgery, you may feel pain at the site of the incision, and the original pain may not be completely relieved immediately after surgery. Your doctor may prescribe pain medication to ease you through the immediate postoperative period. You will be instructed on deep breathing techniques and encouraged to cough in order to free your lungs of any fluid buildup that may occur due to the general anesthesia. It is recommended that, with supervision, you begin walking as soon as you are fully recovered from the anesthesia. This will aid in your recovery.

Before you are discharged from the hospital, a physical therapist may visit with you to help you feel comfortable performing activities such as climbing stairs, sitting and getting out of a car or bed. Once you are discharged from the hospital, your physician may prescribe a physical therapy regimen suited to your condition.

At home, you may have some minor restrictions such as not sitting for long periods of time, lifting objects more than five pounds, or excessive bending or stretching for the first four weeks after surgery. Also, you should not attempt to drive an automobile until you have been instructed to do so by your physician.

Walking is the first physical activity you can attempt—in fact it is widely encouraged. Walking will allow you to maintain mobility in your spine as well as decrease the risk of scar tissue forming at the operative site. In a few weeks, you may be allowed to ride a bike or swim. Formal physical therapy may maximize your recovery.

Most people with jobs that are not physically challenging can return to work in two to four weeks or less. Those with jobs that require heavy lifting or operating heavy machinery that can cause intense vibration may need to wait at least six to eight weeks after surgery to return to work. Again, physical therapy may have a role in your recovery.