Microdecompressive Endoscopic (Arthroscopic) Spinal Discectomy

At times, patients who have free fragments of disc in the spinal canal, as determined by x-ray, might also benefit from this arthroscopic procedure.

It is essential to understand that not all patients are relieved of their pain by this procedure. Often more than 90 percent experience pain relief. There does not appear to be any detrimental effect from performing microdecompressive spinal discectomy before an open microsurgical procedure to remove discs. This procedure does not prevent or preclude any future spine surgery including fusion, if necessary.

**Summary**

Results with microdecompressive spinal discectomy (a minimally invasive spine surgery) indicate hospitalization is not required. Patients are able to return to work and their previous daily activities sooner than they could after a conventional spine surgery.

Some patients experience mild muscle spasms and transient pain. A small percentage of patients do not get relief of symptoms. Patients who initially have obtained good results appear to remain pain free.

If you have any questions concerning these procedures, please feel free to discuss them with us.

**Advantages**

There are numerous advantages to microdecompressive endoscopic spinal discectomy compared to open spinal surgery: Patients who have large free fragments of disc in the spinal canal, as determined by the x-ray, might not benefit from this procedure. However, the laser can shrink the bulging disc further for disc decompression. Some advantages are:

- Less traumatic physically since there is no interference with the muscles, bones, and joints or manipulation of the nerves in the spinal area.
- Hospitalization is not required since it is an outpatient procedure.
- Faster recovery since it is an outpatient procedure.
- Minimal to no scarring in and around the nerves post-operatively.
- Earlier return to work and to daily activities.
- Patients can begin an exercise program the day after surgery.
- We estimate the cost of endoscopic surgery is 40% less than conventional spine surgery.
Introduction
Back and neck pain is the price human beings pay for poor posture, prolonged sitting, lifting, repeated bending, obesity, and injury from accidents.

It is providing the United States with a massive economic headache. Approximately 85% of inhabitants of the Western world are afflicted with some degree of back or neck pain at some point in their lives. About 25% of our population has been incapacitated for two weeks or more and possibly 8 to 10 million people have a permanent disability from it.

In most cases, simple treatments such as bed rest, exercise, physiotherapy, and pain medication bring relief. Many sufferers are not so fortunate. If one or more of their vertebral discs ruptures and presses on nerve roots, the pain that radiates from the back or neck and down the limbs can be incapacitating and severe.

Until recently, the only treatment was surgical removal of part of the ruptured disc, a major operation that required general anesthesia, the dissection of muscle, removal of bone, manipulation of nerve roots, and, at times, bone fusion. In an effort to overcome the disadvantages of traditional surgical techniques, the scientific medical community began exploring the use of endoscopy (arthroscopy). An endoscope (arthroscope) provides clear visualization and magnification of deep structures.

This technology, first used in knee surgery, has been astonishingly successful in relieving pain. Now, because of advanced scientific technology and miniaturization, this operation is sometimes used for the removal of small bony spurs (osteophytes).

Who should consider this operation?
Microdecompressive Spinal Discectomy is specifically designed for patients with uncomplicated herniated discs accompanied by the following:

- Pain of the low back, neck or limbs
- Pain that has not responded to conventional treatments including rest, physical therapy, chiropractic treatment, medication, exercise, and pain management
- Positive corresponding neurological findings of reflex changes, muscular weakness, or decreased sensation
- A positive CT scan, MRI scan, or myelogram for disc herniation
- Positive provocative discogram

This procedure is not designed for:

- Patients with symptoms from advanced arthritis of the spinal joints, or large bone spurs that may cause a similar type of pain
- Evidence of neurological or vascular pathologies mimicking a herniated disc
- Fractures, tumors, or active infections

What is Microdecompressive Endoscopic Spinal Discectomy?
Microdecompressive Spinal Discectomy is a procedure for decompressing nerve roots damaged by spinal disc protrusions. Using the help of x-rays, fluoroscopy, endoscopy, and video for magnification and guidance, a small tube is inserted into the disc and a portion of the offending disc is removed. The procedure is also sometimes used for the removal of small bony spurs (osteophytes).

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The Procedure
Depending on the type of surgery indicated the procedure is done with the patient under either a local anesthesia or in some situations, a brief general anesthesia (some times for cervical procedures).

Using fluoroscopic x-rays, the endoscope and video image for guidance, a hollow tube is inserted into the disc space. A variety of surgical instruments could be used through the hollow tube, including mini-forceps, curettes, trephines, rasps, burrs, cutters, and other types of probes. Lasers are also used to shrink and tighten the disc and remove portions of the disc. The procedure takes about 30 minutes per disc, on the average. X-ray exposure is minimal.

The discectomy, a hollow probe, is used to suction and remove small pieces of disc material. Enough disc is removed for decompression of the nerve root. A laser is used to tighten the disc. The supporting structure of the disc is not affected. Upon completion a small band-aid is applied to the incision.

The right tools for the job.
Your procedure will involve some, or all, of these miniature cutting and grasping forceps, which were custom-designed for minimally invasive surgery.

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This endoscopic procedure is used for bony decompression and soon will be attempted even for bone fusion and internal fixation/stabilization.

Postoperative Course
The patient may feel relief from pain immediately following this outpatient procedure. Some patients experience mild muscle spasms that can generally be relieved with muscle relaxants and analgesics. Pain at the site of the operation...