A quick checklist
This procedure is specifically designed for patients with uncomplicated, herniated discs accompanied by the following:

■ Pain radiating from the neck downward to the arm
■ Symptoms including severe headache, tingling, numbness, and findings of muscle weakness, and sensory loss
■ A positive CT or MRI scan for disc herniation
■ No improvement of symptoms after six to eight weeks of conservative therapy
■ Positive electromyogram (EMG) study is helpful
■ A positive provocative discogram

The procedure is not designed for:

■ Evidence of acute or progressive degenerative spinal cord diseases
■ Evidence of advanced spondylolisthesis (significant bony spurs blocking the anterior disc space) with disc space narrowing, diffuse annular bulging and other spine irregularities
■ Evidence of significant spinal stenosis
■ Evidence of a large extruded disc or a migrating free fragment
■ Existence of other pathologies or conditions such as fractures, tumors, or active infections
■ Neurological or vascular pathologies that mimic a herniated disc
Microdecompressive Lumbar Discectomy with Laser Application?

outpatient procedure.

Now there is a less traumatic procedure for some patients with disc problems known as microdecompressive cervical discectomy with laser application. Often, the increased stress from a fusion of one or more of their vertebral discs ruptures and presses on the nerves in the spinal area. Therefore, it is performed with much less tissue trauma when compared to an open surgical procedure.

Microdecompressive cervical discectomy is different from standard cervical disc surgery because there is no muscle dissection, bone removal, bone fusion, or large incision. This makes it a safer and less invasive option for patients.

The Procedure

The procedure is performed under local anesthesia with sedation or in some cases, under brief general anesthesia with the patient in a supine position. A small needle is inserted into the disc. Over this probe, a slightly larger sleeve is inserted to permit a 2mm incision to be made in the disc itself. Using x-ray guidance, the micro-instruments (forceps, curettes, trephines, rasps, burrs, and cutters), the discectome (a hollow probe with a cutting tubular blade inside), and the laser probe are inserted into the disc space through the sleeve.

Very small pieces of the disc material are removed and suctioned. The laser further shrinks the disc. The procedure takes about 30 minutes for each disc, on average.

Minimal to no scarring in and around the nerves post-operatively. Early return to work and to daily activities.

Postoperative Course

The patient could feel relief from pain immediately following the procedure. Walking and light exercising are usually encouraged the day after surgery. Some patients experience muscle spasms that can generally be relieved with mild analgesics.

Pain in the area of the operation is usually minimal and requires little or no medication. The day after discharge, a daily exercise program is recommended and there is a re-evaluation several days later. Little, if any, postoperative medication is required for most patients. Normal activities can usually be resumed at the doctor's discretion within a couple of weeks.

Advantages

There are numerous advantages to microdecompressive endoscopic cervical 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.

Top views of a herniated cervical disc. The right drawing shows a suction probe removing disc material.