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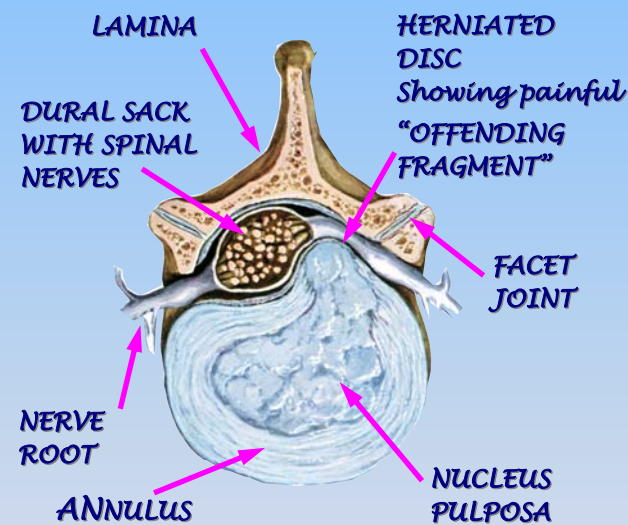


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Facing surgery for a
Herniated Disc
Or ***Stenosis*** of the
Lumbar Spine?
Consider proven:
***Minimally Invasive
OUTPATIENT
Endoscopic Surgery***



AMD
**ARTHROSCOPIC
MICRODISCECTOMY**

Deciding about surgery for a herniated disc? **Be sure to get only Dr. Reed's opinion regarding the AMD option for you.** Whether a professional, laborer, athlete or homemaker, consider:

- ◆ OUTPATIENT SURGERY
- ◆ ABUNDANT LOCAL ANESTHETIC
- ◆ COMFORTABLE SEDATION
- ◆ FASTER RECOVERY

ARTHROSCOPIC MICRODISCECTOMY is the **proven advanced endoscopic technique** for surgical treatment of **primary and recurrent** herniated discs using the safe, lateral "**MINIMALLY-INVASIVE HIGHWAY**" to the lumbar disc. In the hands of an experienced Orthopaedic Spine Surgeon, arthroscopic microdiscectomy provides **unparalleled clinical results** compared to all other surgical techniques for herniated discs of the thoraco-lumbar spine. Even a previously operated but recurrent herniation can be revised with **AMD**, and foraminal stenosis also.

"I went back to work in just two days!" -D.H.

Surgeons have developed and improved this **FDA approved technique** over the past 15 years. **AMD** is currently being practiced by many uniquely trained and skilled **Orthopaedic Spine Surgeons** around the world. **AMD** is based upon the guiding principles and techniques developed by Orthopaedic Surgeons in the arthroscopic surgery of many joints over the past 40 years. Arthroscopic surgery has **revolutionized** treatment of joint injuries, allowing rapid and relatively pain-free recovery. **AMD** now allows the same advantages for patients facing surgery for a herniated disc of the lumbar spine, using special instruments and arthroscopes. **No hospitalization or long painful recovery!** The elimination of a general anesthetic enhances patient safety. Nerve root injury becomes impossible since the major nerves remain awake to alert the surgeon of any nerve root irritation. The lateral **AMD** approach avoid the complication of painful spinal canal and nerve root scar tissue formation which plagues all posterior approaches such as laminectomy, laminotomy, neurosurgical "microdiscectomy", and M.E.D.

Instead of a long, disfiguring and tender scar, the herniated disc is removed through only two 1/4-inch incisions placed approximately six inches to either side of the spine. These are closed with a single suture, and covered by a clear band-aid. Upon healing, there is virtually no obvious scar remaining for others to see. Light duty work and activities are possible the next day since **Arthroscopic Microdiscectomy** allows an out-patient surgical experience. Brief Physical Therapy aids in a rapid recovery of strength, flexibility, regular work and sports activities. Limitations in lifting for two week intervals after **AMD** are 10 lbs., then 20 lbs., then 30 lbs. Only six weeks after surgery, regular work and activities are allowed without restrictions, and usually without significant pain! Recovery is at least **twice as fast** as with previous techniques. Long term studies have shown better results with fewer complications. While safer and more convenient for patients, cost is also lower. **The dramatic overall cost savings** with **AMD** is approximately **50%** compared to laminectomy, laminotomy, M.E.D., neurosurgical or any posterior "microdiscectomy".

Can arthroscopic training, experience, and frequent practice be of paramount importance when trying to provide good results for patients needing **AMD**? Yes, absolutely! **Dr. William Reed** trained in Orthopaedic and Spine Surgery at the prestigious Duke University Medical Center. He has practiced endoscopic and arthroscopic techniques in wrists, elbows, shoulders, knees, ankles, carpal tunnels and spines. He then trained with the originator of **AMD** before bringing this most advanced endoscopic procedure to Kansas City. Dr. Reed has practiced **AMD** for over 20 years, and has **performed over 2500** of these cases. He and his staff are anxious to help you, and answer any questions you may have. Please note that not everyone is a candidate for **AMD**, and not everyone can be helped with any operation, but everyone is carefully and individually evaluated. Your distance from Kansas City is no obstacle, since patients come from everywhere to enjoy the benefits of this advanced endoscopic procedure! We can arrange travel and hotel, which frequently insurance will cover!

ARTHROSCOPIC MICRODISCECTOMY

What are other surgical procedures for a herniated disc of the lumbar spine, and how do they differ from **AMD**? Previous surgical procedures for herniated disc of the lumbar spine can be divided into two groups: Those which provide central decompression, and those which are based on the posterior laminectomy-laminotomy approach. As you will see, these groups both have strong disadvantages when compared to **AMD**.

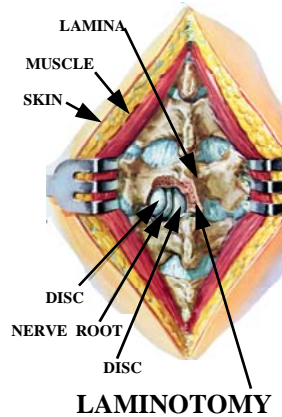
CENTRAL DECOMPRESSION

There are many procedures which fall into this group, and share the same basic qualities. These are: Chymopapain Disc Injection, Motorized Nucleotome, Nucleoplasty, and Laser Discectomy. These procedures all use the posterior-lateral approach. An X-Ray machine is used to place a needle into the disc space. With Chymopapain, an enzyme is injected into the disc space to dissolve a portion of the disc. With the other procedures, the needle tract is enlarged to accommodate a shaver probe or laser or radiofrequency heated probe which also just decompresses a limited portion of the center of the disc. This is similar to the approach used by **AMD**, but only one side of the disc is approached limiting access to disc material. The laser can be used with a fiberoptic scope, but visibility is very poor compared to **AMD**. These procedures are only useful under limited conditions, such as a symptomatic broadly bulging disc. These can be done as an outpatient, but the failure and recurrent disc rate is high. Also, they are of little help with the more common focal or extruded herniation, and thus, infrequently used today.

LAMINECTOMY / LAMINOTOMY

This common procedure and its variants are all based on the surgical incision directly over the lumbar spine. Although this seems like a more direct route, there are many disadvantages both short and long term compared to **AMD**. The laminotomy opens one side of the spinal canal, the laminectomy opens left and right sides of the canal. These are the most common procedures for herniated discs, but violating the spinal canal causes scar tissue formation around the dural sac of nerves. The scar tissue contracting six weeks after surgery causes recurrent leg and back pain which proves most difficult to treat in the future. Further disadvantages are spinal muscle denervation, increased pain, ligamentous

instability, facet joint arthritis and instability, general anesthetic, nerve injury, posterior annulus weakening, and prolonged painful recovery. The neurosurgical "microdiscectomy" procedure entails using a smaller incision with an operating microscope positioned over the spine. A similar procedure called "M.E.D." uses a large tube through a posterior incision in conjunction with an endoscope to remove a disc. When looked at critically, both of these procedures have all the risks and complications of a laminectomy while having inadequate visualization of the disc compared to **AMD**.



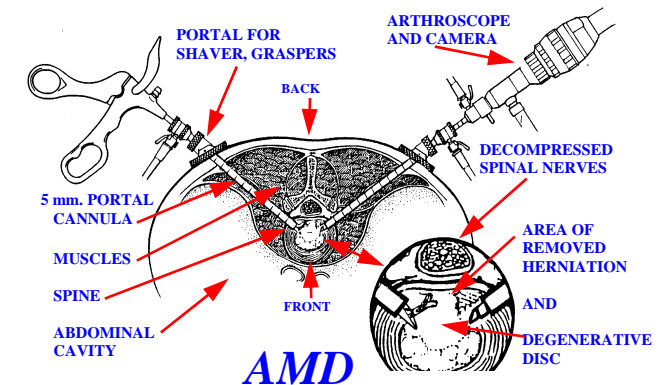
ARTHROSCOPIC MICRODISCECTOMY

AMD is performed through the "MINIMALLY-INVASIVE HIGHWAY" to the lumbar spine. This approach from the side of the spine avoids any muscular cutting or dissection. Most importantly, it avoids the spinal canal entirely, thus limiting post-

operative scar tissue formation around the nerves compared to other procedures. Well sedated and lying on your stomach, two special X-Ray machines are positioned to view the spine. Under comfortable local anesthetic, two small needles are placed into the desired disc. Gently two 5 mm. cannulas are then placed over the needles and into the disc. With the arthroscope inserted, the disc is then removed under direct visualization using shaver and graspers as needed. With the HDTV camera and 4 large HDTV Plasma Monitors, the visualization and magnification of the disc and nerves on both sides is **superior to any other procedure**. Constant irrigation, just like knee arthroscopy, cleanses the disc, and our **infection rate is only 0.15%**. Many patients notice their leg pain disappear during the procedure! Thirty to forty-five minutes in the Recovery Room, and patients are free to go home and resume limited activities. Sometimes leg pains occur several days after surgery due to swelling, but this usually resolves quickly. The two sutures are removed in one week, and gradually increasing activity is allowed for six weeks. After that, there are no limitations at all!



COMFORTABLE SURGICAL POSITION



Questions & Answers !

Question: "Is there any limitation of **AMD**?"

Answer: **AMD** cannot be performed when there is severe spinal stenosis or severe nerve compression called "cauda-equina syndrome". Then the more extensive laminectomy is recommended. Fortunately, these are more rare conditions. Also, **AMD** is not recommended for the cervical spine (neck).

Question: "Why don't more surgeons perform **AMD**?"

Answer: **AMD** is a very difficult procedure to learn and perform. Orthopaedic Surgeons who perform Arthroscopic Surgery frequently have the necessary skills, but few have a profound interest in the spine. Likewise, most Spine Surgeons have little interest or practice in arthroscopic skills. Thus the less common combination of **expertise in Spine Surgery and Arthroscopic Surgery** is needed to perfect and apply this procedure. Once the surgeon is experienced, typically **AMD** takes less time than the other procedures to perform, and is safer as well.

Question: "What if I live far away?"

Answer: By telephone or email you can consult with Dr. Reed, who will personally review your MRI, CT scan, etc. sent by UPS, FEDEX, or electronically to his office. Once conservative treatment has failed or is not possible, we will assist in travel arrangements. In an afternoon appointment with Dr. Reed, final arrangements for **AMD** surgery are made. With a wide choice of hotel accommodations nearby, you will comfortably await surgery in the morning. Travel home right after surgery is very comfortable. Patients have come from as far away as **China**, and include NFL players.

More questions? Visit our website or call Dr. Reed's Office. An informative and educational video is available online with important patient news and commentary.

A COMPARISON OF DISCECTOMY TECHNIQUES

PROCEDURE TYPE / FEATURE	LAMINECTOMY OR LAMINOTOMY	"M.E.D." or MICRODISCECTOMY (LAMINECTOMY OR LAMINOTOMY + MICROSCOPE)	CENTRAL DECOMPRESSION (LASAR, NUCLEOPLASTY, CHYMOPAPAIN, DECOMPRESSOR)	AMD ARTHROSCOPIC MICRODISCECTOMY
OUTPATIENT SURGERY	NEVER	POSSIBLY	MOSTLY	ALWAYS
LOCAL ANESTHETIC	NEVER	NEVER	POSSIBLE	ALWAYS
HOSPITALIZATION ?	2.7 DAYS AVERAGE	2.4 DAYS AVERAGE	SOMETIMES	ALMOST NEVER
POST-OP PAIN ?	2+ TO 4+	1+ TO 4+	1+ TO 2+	NONE TO 1+
FOCAL DISC	YES	YES	RARELY	YES
EXTRUDED DISC	YES	POSSIBLY	NO	YES
FORAMENAL DISC	FACET DAMAGED	FACET DAMAGED	NO	YES
LATERAL DISC	FACET SACRIFICED	FACET SACRIFICED	NO	YES
FORAMENAL STENOSIS	FACET DAMAGED	FACET DAMAGED	RARELY	YES
SPINAL STENOSIS	YES	POSSIBLY	NO	NONE TO 1+
RECOVERY RATE	SLOWEST	MODERATE	FAST	FASTEST
RECURRENCE RATE	15% TO 25%	15% TO 25%	50% TO 75%	2%
PERINEURAL FIBROSIS	ALWAYS	ALWAYS	RARELY	RARELY
FOLLOW-UP FUSION RATE	15% TO 25%	15% TO 25%	15%	2% TO 4%