WASHINGTON
BRAIN & SPINE
INSTITUTE

MIS Lumbar Laminectomy / Discectomy

Preoperative Patient Information & Instructions

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Purpose of This Document

This document explains your upcoming minimally invasive (MIS) lumbar laminectomy or discectomy. Please review this packet thoroughly prior to surgery. Contact our office with any questions.

Anatomy of the Lumbar Spine

The lumbar spine consists of five vertebrae (L1 through L5) that support the weight of the upper body and allow flexion, extension, and rotation. Key structures include:

- **Vertebral bodies** — the load-bearing cylindrical bones.
- **Intervertebral discs** — fibrous shock-absorbing cushions between vertebrae with a tough outer ring (annulus fibrosus) and gel-like center (nucleus pulposus).
- **Lamina and spinous processes** — bony arches that form the back of the spinal canal.
- **Facet joints** — paired joints at the back of the spine that guide motion.
- **Spinal canal** — the central passage containing nerve roots (cauda equina) below L1.
- **Nerve roots** — exit the spine through openings called foramina and supply sensation and strength to the legs.
- **Ligamentum flavum** — a thick ligament along the back of the spinal canal that can hypertrophy and contribute to stenosis.

The Problem: Stenosis and Disc Herniation

- **Lumbar disc herniation:** The inner gel of a disc pushes through a tear in the outer ring, compressing a nerve root and causing leg pain (sciatica), numbness, or weakness.

- **Lumbar stenosis:** Narrowing of the spinal canal due to disc bulging, ligamentum flavum thickening, facet hypertrophy, or spondylolisthesis. Causes leg pain or heaviness with walking (neurogenic claudication) that improves with sitting or leaning forward.

The Procedure: MIS Lumbar Laminectomy or Discectomy

Minimally invasive surgery (MIS) uses tubular retractors and surgical microscopy or endoscopy to access the spine through a small incision (typically 1–2 cm). Compared to traditional open surgery, MIS preserves muscle attachments, reduces blood loss, decreases pain, and shortens recovery.

Surgical Steps

1. Under General anesthesia, you are positioned face-down on a specialized spine table.
2. Fluoroscopy (live x-ray) is used to localize the correct surgical level.
3. A small incision is made over the affected level.
4. A sequence of dilators gently separates muscle fibers, and a tubular retractor is docked on the spine.
5. Using a surgical microscope, a small portion of the lamina (laminotomy) and ligamentum flavum is removed to expose the spinal canal.
6. The compressed nerve root is identified, and the disc fragment is removed (discectomy) or the canal is decompressed (laminectomy).
7. Hemostasis is achieved, the tubular retractor is removed, and the small incision is closed with absorbable sutures and skin glue. .

Enhanced Recovery After Surgery (ERAS)

Our practice follows ERAS protocols designed to minimize narcotic use and accelerate recovery:

- **Multimodal preoperative analgesia** — acetaminophen, gabapentinoid, and celecoxib (if not contraindicated) before surgery.
- **Regional/local anesthetic infiltration** at the incision.
- **Minimal narcotic use** intraoperatively and postoperatively.
- **Early mobilization** — most patients walk within hours of surgery.
- **Same-day or next-day discharge** for most patients.

Preoperative Medication Instructions

CRITICAL — READ CAREFULLY

Improper medication management may result in cancellation or surgical complications. Call our office with any questions.

Medications to STOP Before Surgery

Medication Class	When to Stop
Clopidogrel (Plavix), ticagrelor (Brilinta), prasugrel (Effient)	5-7 days before surgery
Warfarin (Coumadin)	5 days before surgery — bridging may be required
Apixaban (Eliquis), rivaroxaban (Xarelto), dabigatran (Pradaxa), edoxaban (Savaysa)	72 hours before surgery (per cardiology)
NSAIDs (ibuprofen, naproxen, meloxicam, celecoxib, diclofenac)	7 days before surgery
SGLT2 Inhibitors (Jardiance, Farxiga, Invokana)	Hold 3-4 days prior to surgery (check with the anesthesia team)
Fish oil, vitamin E, ginkgo, garlic, ginseng, turmeric, CBD	7 days before surgery
GLP-1 agonists (Ozempic, Wegovy, Mounjaro, Zepbound)	1 week before surgery (anesthesia aspiration risk)
Hormone replacement, oral contraceptives	Discuss with surgeon — increases DVT risk
Recreational marijuana, nicotine products	Stop completely; nicotine impairs bone and wound healing

Medications to CONTINUE

- Antihypertensives (with a sip of water morning of surgery)
- Antiseizure medications
- Thyroid replacement, reflux medications, psychiatric medications

Preoperative Optimization Pathway

Getting Ready for Surgery — Simple Steps for Less Pain & a Faster Recovery

Patients who follow these steps tend to have **less pain, need less medication, heal faster, and return home sooner.** Please start as early as you can — ideally **4 weeks before** your surgery date.

1. Eat Well & Hit Your Protein Target

- **Eat more protein.** Include eggs, fish, chicken, dairy, beans, or a protein shake at every meal. Protein is what your body uses to heal wounds, knit bone, and keep muscle strong.

Daily protein goal: about 1.5 grams per kilogram of body weight.

Quick guide: a **150 lb person** should aim for roughly **100 g of protein per day**, spread across meals (about **25–35 g each**). Your care team can tailor this for you.

Note: patients with significant kidney disease (advanced CKD) should discuss protein targets with their nephrologist before increasing intake.

- **Choose healing foods.** Vegetables, fruit, and whole grains lower inflammation. Cut back on sugar, processed food, and alcohol.
- **Drink plenty of water** in the days before surgery. Clear liquids are usually allowed up to 2 hours before you arrive.
- **Carbohydrate drink.** Unless you are diabetic, a clear carbohydrate drink (such as ClearFast or unconcentrated Gatorade) **2–3 hours before** surgery reduces stress and nausea. Your team will advise on the specifics.

2. Plan for Comfort & Pain Control

- **We use several mild medicines together** so we can keep you comfortable while using as little opioid medication as possible.
- **Bring a full list of your medicines.** Some blood thinners, anti-inflammatories, supplements, and diabetes/weight medicines (including GLP-1 agonists such as Ozempic, Wegovy, and Mounjaro) may need to be paused.
- **Tell us if you take pain medication regularly.** A simple plan helps us keep you comfortable afterward and prevents withdrawal symptoms.

3. Helpful Supplements (Ask Us First)

- **Protein shake or powder** — the easiest way to reach your protein goal if appetite is low. Whey or plant blend with ~20–30 g per serving.
- **Vitamin D3** — low vitamin D is linked to slower bone healing and more pain after spine surgery. We may check your level and suggest a dose (often **1,000–2,000 IU daily**).

- **Iron** — only if you are anemic or low on iron. Correcting it before surgery lowers transfusion risk. We will test first.
- **Vitamin C and zinc** — support wound healing. A daily multivitamin usually covers both.

STOP these supplements about 1 week before surgery

Fish oil, vitamin E, high-dose garlic, ginkgo, turmeric (high-dose), and CBD — these can increase bleeding. Review every supplement with your surgeon before starting or stopping anything.

4. Keep Moving & Prepare Your Home

- **Walk every day.** A 20–30 minute walk builds strength and stamina. More active patients recover noticeably faster.
- **Practice the basics.** Rehearse getting in and out of bed, using a walker if needed, and slow deep breathing exercises with an incentive spirometer.
- **Set up your home.** Clear walkways, keep items within easy reach, and arrange a ride and a helper for the first day or two.

5. Other Important Steps

- **Stop smoking and nicotine.** This is the single most powerful change you can make. Quitting even 4 weeks before surgery greatly improves healing and lowers complications.
- **Control blood sugar.** If you have diabetes, work with your doctor to keep it well managed before surgery. Target HbA1c < 7.5% for elective cases.
- **Rest and relax.** Aim for 7–8 hours of sleep nightly. Worry can make pain feel worse — gentle breathing exercises (4-7-8 breathing), guided imagery, and mindfulness apps (Calm, Headspace, Insight Timer) help.
- **Prevent infection.** You will be asked to wash with chlorhexidine (Hibiclens) antiseptic soap the night before and morning of surgery. **Please do not shave the surgical area** — this can cause micro-abrasions that increase infection risk.
- **Manage other conditions.** Keep blood pressure, heart, and breathing problems under good control with your regular physicians before surgery.

6. What to Bring on Surgery Day

- **Photo ID and insurance card.** Plus a list of all your medicines and doses.
- **Loose, comfortable clothing** and flat, non-slip shoes that are easy to put on.
- **Your CPAP machine** if you use one for sleep apnea, and any braces or walking aids.
- **A responsible adult** to drive you home and stay with you for the first 24 hours.
- **Leave valuables and jewelry at home.** Remove nail polish and contact lenses before arrival.

Preoperative Physical Therapy ("Prehab")

We strongly recommend a **preoperative physical therapy evaluation and prehabilitation course** before surgery. Multiple randomized studies demonstrate that prehab improves postoperative pain scores, accelerates functional recovery, and reduces length of stay.

Goals of preoperative physical therapy include:

- **Core activation and lumbar stabilization** — transverse abdominis, multifidus, pelvic floor coordination
- **Hip mobility and posterior chain conditioning** — glutes, hamstrings, hip flexors
- **Log-roll and supine-to-sit transfer training** — so the technique is automatic on postoperative day 1
- **BLT body mechanics** — squat, hip-hinge, and lifting form review
- **Walking endurance baseline** — establishes a functional benchmark for postoperative comparison

Our office will coordinate this referral. If you have a preferred physical therapist, please let us know. **Sessions completed before surgery do not count against postoperative PT benefits** under most insurance plans, but we will verify this for your specific coverage.

Day Before & Day of Surgery

Day Before Surgery

- **Nothing to eat after midnight.** Clear liquids (water, black coffee, apple juice) are allowed up to **2 hours before** arrival unless told otherwise.
- **Chlorhexidine (Hibiclens) shower** the night before — focus on the planned surgical area.
- Sleep in clean sheets and clean clothing.
- Pack your bag: ID, insurance card, complete medication list, CPAP if applicable, loose-fitting clothing for going home, slip-on shoes.
- **Do not shave** the planned surgical site at home.

Day of Surgery

- Arrive at the time given (usually 2 hours before surgery).
- **Repeat the chlorhexidine shower** the morning of surgery.
- Brush teeth but do not swallow water.
- Do **not** wear makeup, lotions, perfumes, nail polish, or jewelry.
- Wear loose, comfortable clothing.
- Bring this packet and your medication list.
- Have a responsible adult drive you home and stay with you for the first 24 hours.

Your Countdown to Surgery

Keep this page handy — it shows what to do as your surgery date gets closer.

4–2 Weeks Before — BUILD STRENGTH	1 Week Before — GET READY	1–2 Days Before — FINAL STEPS
✓ Stop smoking & nicotine	✓ Confirm medicines to pause	✓ Antiseptic (chlorhexidine) soap wash
✓ Eat more protein (~1.5 g/kg/day)	✓ Arrange ride & helper	✓ Clear carbohydrate drink (non-diabetics)
✓ Walk 20–30 min daily	✓ Practice breathing exercises	✓ Clear liquids up to 2 hours prior
✓ Manage blood sugar & BP	✓ Keep eating protein	✓ Take pre-op medicines as instructed
✓ Correct any anemia	✓ Avoid alcohol	✓ Rest & arrive on time

Questions?

Call your care team at **301.718.9611**. Always follow the specific instructions from your surgeon and anesthesiologist — those instructions come first. This guide is for patient education and does not replace advice from your doctor.

Risks and Potential Complications

General Surgical Risks

- Bleeding requiring transfusion (rare in MIS)
- Infection (1–2% for MIS — lower than open surgery)
- Anesthesia complications
- DVT or pulmonary embolism
- Cardiac, pulmonary, or renal complications

Risks Specific to MIS Lumbar Decompression

- **Dural tear / CSF leak** — 1–5% risk; may require repair, prolonged bed rest, or additional procedure.
- **Nerve root injury** — 1–2%; usually transient but can cause weakness, numbness, or persistent pain.
- **Recurrent disc herniation** — 5–10% lifetime risk.
- **Wrong-level surgery** — extremely rare with fluoroscopic confirmation.
- **Persistent pain or failed back syndrome** — not all leg or back pain may resolve.
- **Instability** — rare with MIS; may require fusion at a later date.
- **Vascular injury** — very rare.
- **Death** — extremely rare for elective lumbar decompression.

Reason for Surgery

Surgery is recommended after failure of appropriate conservative care, which typically includes:

- Physical therapy
- NSAIDs and analgesics
- Epidural steroid injections
- Activity modification

Surgical indications include:

- Persistent leg pain (radiculopathy) or neurogenic claudication despite 6–12 weeks of conservative treatment.
- Progressive neurologic deficit (weakness, numbness).
- Loss of bowel or bladder control (cauda equina syndrome — an emergency).
- Severe functional limitation due to leg pain.

Hospital Stay and Discharge Planning

- Most patients undergo MIS lumbar decompression as **outpatient (same-day discharge)** or with a **23-hour stay**.
- Pain is generally controlled with oral medications.
- You will walk before discharge.
- Plan for a responsible adult to drive you home and stay with you the first 24 hours.

Contact Information

Provider: Lekhaj Daggubati, MD

Practice: Washington Brain & Spine Institute

Main Phone (All Locations): 301.718.9611 — business hours

After-Hours / Urgent Concerns: 301.718.9611 — answering service will contact the on-call provider

Clinical Office Locations

Rockville: 3202 Tower Oaks Boulevard, Suite 100, Rockville, MD 20852

Tysons: 8605 Westwood Center Drive, Suite 201, Vienna, VA

Frederick: 198 Thomas Johnson Drive, Suite 17, Frederick, MD 21704

White Oak: 11886 Healing Way, Suite 401, Silver Spring, MD 20904

Emergency: Call **911** or proceed to the nearest emergency department for life-threatening symptoms — severe difficulty breathing, sudden weakness or paralysis, loss of consciousness, seizure, severe sudden headache, chest pain, or stroke-like symptoms.