

LUMBAR LAMINECTOMY

DEFINITION: An operation to decompress nerves supplying the legs, bladder, bowel and genital region, by removing the lamina from bone.

INDICATIONS: **Neurogenic claudication** - Pain in legs with walking and standing. Walking/standing distance/time gradually decreases. Often requires bending forward or sitting for relief.

Degenerative changes (*wear & tear*) – Usually caused with disc bulges because of loss of height with age, ligamentum flavum (*yellow ligament*) between the laminae infolds and facet joints (*who provide stability*) thicken.

Once symptoms are interfering with normal daily activities and don't respond to other treatments i.e. epidural steroid injections, surgery can be considered.

SUCCESS OF THE OPERATION:

70 - 80% success rate for improvement in leg pain, numbness, weakness, walking distance and standing time.

The outcome is lower depending on severity and how long you have had the signs and symptoms before having the operation. 20% of patients experience no change in symptoms.

RISKS OF THE OPERATION:

3-5% risk of the following:

- Infection, bleeding, CSF leak (*fluid leak from the nerve lining*)
- Nerve root damage causing leg, bladder, bowel & genital region numbness and weakness
- Recurrent stenosis
- Iatrogenic instability (*vertebrae instability*) requiring fusion surgery at later date

General medical risks associated with surgery:

- General anaesthesia complications and drug reaction
- Blood clots - DVT (*legs*) & pulmonary embolus (*lungs*)
- Pneumonia
- Urinary tract infection
- Heart attack and stroke
- Death

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BEFORE SURGERY: Tell Mr Malham about any medical conditions or previous operations. If you have a medical condition such as diabetes, heart problems, high blood pressure or asthma, Mr Malham may arrange for a specialist physician to see you for a pre-operative assessment and medical care following the neurosurgery.

Inform Mr Malham of medication that you are taking and/or have allergies to medications. Patient must stop using the following, pre-operatively:

- Aspirin (*Cartia, Asasantin*) and Clopidogrel (*Plavix, CoPlavix*) = 10 days prior to surgery
- Warfarin (*Coumadin*) = 5 days prior to surgery
- Xarelto (*Rivaroxaban*) and Eliquis (*Apixaban*) = 3 days prior to surgery.

Patient must stop using blood thinning medication (*such as Warfarin*), 3-5 days pre-operatively.

THE OPERATION: Operative Time : 1.5 – 2.5 hours

The operation is performed under general anaesthesia.

You may have a catheter inserted into your bladder. You are positioned face down on a special operative frame. The level of operation is checked by an intra-operative xray with the skin marked. The skin is cleaned with antiseptic and is made numb with a local anaesthetic.

A skin incision is made followed by dissection between bone and back muscles, allowing a tube retractor to be inserted holding the muscles out of the way. The correct spine level is checked with an intra operative x-ray.

Under the microscope, the spinous process bone (*which is purely for muscle attachment*) is removed allowing the thickened laminae and infolded yellow ligament to be removed. The nerve roots are decompressed in each of their exiting foramen (*bone holes*). This decompresses the cauda equina and nerve roots in the back.

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AFTER SURGERY: You are carefully watched in the recovery ward for 1 hour after the operation, then transferred back to the neurosurgery ward (4 Cato or 4 Lee). Your breathing, heart rate, blood pressure and leg strength will be monitored. Your bowel sounds are also monitored to indicate that your stomach & intestines are working again. If you drink or eat too early you may feel sick or vomit.

The next day you will be able to get out of bed and walk around the ward with the nurses and physiotherapist. Once you are comfortable walking independently you will be discharged home, normally 4-5 days after the operation.

Pain relief usually comes in the form of regular tablets. You will be provided with a prescription on discharge from the hospital.

You may require rehabilitation as an inpatient or outpatient to help your recovery. This will be discussed with you, if appropriate, prior to your surgery.

Leg pain, numbness and weakness will slowly improve after the surgery over the next 4-12 weeks.

RECOVERY AT HOME:

It is preferred that you do not drive until your post-operative appointment. You may travel as a passenger with the seat reclined to 30 degrees for up to 20 minutes. Be careful getting in and out of the car.

Do not perform bending/twisting activities or heavy lifting.

No sitting, standing or walking for longer than 30 minutes each time. You will be encouraged to walk 3-4 small walks a day (*building up with time & distance*) of up to 30 minutes each walk.

Mr. Malham will review you in the consulting rooms 4 weeks following the operation to assess your progress. Return to work timing will be discussed.

RECOVERY TABLE:

Weeks	Sit, Stand & Walk (min)	Lifting (kg)	Activities
0-4	30	5	Recovery @ home
4-8	45	10	Light: drive car, swim
8-12	60	15	Medium: jog
>12	-	20	Normal: sprint/run, golf, cycling