LUMBAR LAMINECTOMY AND DISCECTOMY

Lumbar – Relating to the loins or the section of the back and sides between the ribs and the pelvis. In the spinal column, the last five vertebrae (from superior to inferior, L1-L5)

Laminectomy – Surgical removal of part or all of the posterior vertebral elements

Discectomy – The removal of all or part of an intervertebral disc

Basic Anatomical Landmarks: Posterior View Lumbar Spine
LUMBAR LAMINECTOMY AND DISCECTOMY

Basic Anatomical Landmarks: Lumbar Spine

Lumbar Spine
Posterior View
- Superior articular process
- Facet joint
- Lamina
- Transverse process
- Inferior articular process

Vertebral Body, Endplate and Disc
Anterior View
- Intervertebral disc
- Endplate cartilagenous layer
- Endplate bony layer

Vertebral Body
Lateral View
- Superior articular process
- Transverse process
- Spinous process
- Hour glass shape

Lumbar Vertebrae
Superior View
- Cortical rim
- Cancellous bone
- Pedicle
- Transverse process
- Superior articular process
- Lamina
- Vertebral foramen
- Spinous process

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LUMBAR LAMINECTOMY AND DISCECTOMY

Basic Anatomical Landmarks

The posterior elements of the spine lie under these muscles.

Superficial and Intermediate Layers of the Back

Deep Muscles of the Back
LUMBAR LAMINECTOMY AND DISCECTOMY

Approach/Patient Positioning

The patient is positioned in the prone position with abdomen free and spine flexed to aid in Intraoperative exposure.
LUMBAR LAMINECTOMY AND DISCECTOMY

Techniques

1. Standard Microdiscectomy
2. Transmuscular Microdiscectomy - (Minimally Invasive)
3. Intermuscular Discectomy

Essentially all three of these procedures are intended to serve the same purpose: to remove all or part of the intervertebral disc. The differentiating factor between the procedures is the approach taken to create an exposure of the disc to be excised.

All three involve a skin incision, resection of the subcutaneous tissue (fat), fascia, muscle and a laminectomy.
LUMBAR LAMINECTOMY AND DISCECTOMY

Technique: Standard Microdiscectomy

The removal of all or part of an intervertebral disc. This technique involves stripping the muscles from the spinous process through a small skin incision followed by a laminectomy and then discectomy.
LUMBAR LAMINECTOMY AND DISCECTOMY

Technique: Transmuscular (Muscle Splitting)

The skin incision is made slightly off midline. The intramuscular approach enables the surgeon to access the spine in a less invasive fashion than a midline incision. It’s considered minimally invasive because it preserves the posterior musculature of the spine.

Incision Created for a Transmuscular Approach
LUMBAR LAMINECTOMY AND DISCECTOMY

Technique: Transmuscular (Muscle Splitting)

This approach utilizes a technique of muscle splitting to access the spine. Essentially, a needle is inserted at the operative site and a series of tubular dilators are advanced over it to create an exposure large enough to perform the procedure through the appropriate size tube.
LUMBAR LAMINECTOMY AND DISCECTOMY

Technique: Transmuscular Discectomy

Discectomy Performed through a Tube
LUMBAR LAMINECTOMY AND DISCECTOMY

Technique: Intermuscular/Paramedian Discectomy

Intermuscular Microdiscectomy – The removal of all or part of an intervertebral disc through a Wiltse incision

Wiltse Incision – Approach in which the surgeon dissects between the fascial planes of the longusimus and multifidus muscles