

### Preparation:

The patient is positioned prone on the operating table.

General anesthesia is administered for induction, ensuring the patient remains unconscious and pain-free.

The surgical site, located in the lower back over the lumbar spine, is prepped and draped in a sterile fashion.

### Incision and Exposure:

A midline longitudinal incision is made over the affected lumbar vertebrae, exposing the spinous processes and laminae.

The paravertebral muscles, including the erector spinae and multifidus, are dissected and retracted laterally to provide access to the spine.

### Access to the Disc Space:

Using specialized retractors and dilators, the surgeon gains access to the intervertebral disc space of the affected lumbar level.

Care is taken to protect the surrounding neurovascular structures, including the spinal cord and nerve roots.

### Discectomy:

With direct visualization of the herniated disc, the surgeon carefully removes the portion of the disc protruding into the spinal canal.

Dissection proceeds through the annulus fibrosus to reach the nucleus pulposus, which is then excised or decompressed as needed.

Any loose disc fragments or extruded material compressing the nerve roots are meticulously removed.

### Closure:

Hemostasis is achieved, and the wound is irrigated with saline solution.

The deep tissues are approximated with sutures or surgical staples, and the paravertebral muscles are repositioned anatomically.

The skin incision is closed in layers, and a sterile dressing is applied.

### Recovery and Postoperative Care:

The patient is extubated and transferred to the recovery area for close monitoring.

Postoperative pain management is provided, typically with a combination of analgesics and anti-inflammatory medications.

Early mobilization and physical therapy are initiated to promote optimal recovery and prevent complications such as muscle atrophy or stiffness.

Follow-up and Rehabilitation:

The patient is discharged with instructions for wound care, activity restrictions, and follow-up appointments.

Rehabilitation exercises focus on strengthening the lumbar musculature, improving flexibility, and restoring functional mobility.

Long-term monitoring ensures proper healing, symptom resolution, and overall patient well-being.