

Conventional Decompression

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Degenerative lumbar stenosis can be caused by bony, discal, capsular, or ligamentary structures. The compression may lead to the classic clinical symptoms of neurogenic claudication with radicular signs. Back pain is more likely to be attributable to degenerative secondary phenomena, such as segment instabilities or deformities. There are various hypotheses to explain the onset of pain associated with spinal stenosis and they include mechanical neural and vascular, inflammatory, as well as biomechanical reasons. There is no unequivocal correlation between the extent of stenosis observed in imaging procedures and the clinical symptoms. Conventional decompression of degenerative lumbar stenosis with laminectomy or extensive resection has been described as the technique of choice and this is frequently still the case.

A midline incision is made over each level to be decompressed, and the dorsal fascia is incised in the midline. The paraspinal muscles are elevated from the spinous processes and laminae by sharp dissection with a Cobb elevator or with the use of electrocautery. The muscles are retracted laterally to the level of the facet joints; however, the facet capsule and the muscle attachments should be preserved. The distal part of the proximal lamina is removed up to the point where the ligamentum flavum detaches from the lamina. The cranial part of the distal lamina is then resected to reach the point where the ligamentum flavum detaches. The ligamentum flavum is excised, starting centrally and continuing in a lateral direction, to decompress the lateral recess. In case of significant facet joint hypertrophy, the medial part of the inferior articular process; this exposes the superior articular process of the distal vertebra and often facilitates the lateral decompression. With severe bony stenosis of the lateral recess, excision of the medial border of the superior articular process of the distal vertebra may be necessary to finish the decompression of the lateral recess. The medial border of the pedicle is a good anatomic landmark for sufficient lateral decompression. At this stage, the lateral border of the dural sac is visualized, and the decompression can be finalized with undercutting of the roof of the neural foramen. Identification and preservation of the pars interarticularis is important to prevent iatrogenic fractures of this

structure. The extent of decompression is confirmed with a blunt dissector or a round-tipped nerve hook. Before wound closure, adequate hemostasis is ensured by diathermy, bone wax, or hemostatic sponges. Paraspinal muscles are approximated in the midline, and the subcutaneous tissue and skin are closed. The use of closed suction drainage after decompression remains at the discretion of the individual surgeons.

Decompressive Laminectomy Video

(Bong Ju Moon, Channel)

<https://youtu.be/vvnAAAvYnDE>