Lumbar Decompression Surgery for Spinal Canal Stenosis Indications

Coincident symptomatic lumbar spinal stenosis and cervical spinal stenosis is usually managed by first decompressing the cervical region, and later operating on the lumbar region (unless severe neurogenic claudication).

Lumbar stenosis and facet osteoarthritis represent indications for decompression and instrumentation. It is unclear if degenerative spondylolisthesis grade I with a remaining disc height could be an indication of non-fusion instrumentation [1)]

For those patients with lumbar spinal canal stenosis, who do not improve with conservative care, surgery is considered an appropriate treatment alternative. The primary objective of surgery is to reconstitute the lumbar spinal canal. The role of lumbar fusion, in the absence of a degenerative deformity, is uncertain. The previous guideline recommended against the inclusion of lumbar fusion in the absence of spinal instability or a likelihood of iatrogenic instability. Since the publication of the original guidelines, numerous studies have demonstrated the role of surgical decompression in this patient population; however, few have investigated the utility of fusion in patients without underlying instability. The majority of studies contain a heterogeneous cohort of subjects, often combining patients with and without spondylolisthesis who received various surgical interventions, limiting fusions to those patients with instability. It is difficult if not impossible, therefore, to formulate valid conclusions regarding the utility of fusion for patients with uncomplicated stenosis. Lower-level evidence exists, however, that does not demonstrate an added benefit of fusion for these patients; therefore, in the absence of deformity or instability, the inclusion of a fusion is not recommended [2)].

1)
Charles YP, Persohn S, Rouch P, Steib JP, Sauleau EA, Skalli W. The effect of posterior non-fusion instrumentation on segmental shear loading of the lumbar spine. Orthop Traumatol Surg Res. 2014 Sep;100(5):461-7. doi: 10.1016/j.otsr.2014.05.005. Epub 2014 Aug 5. PMID: 25106101.

2)
Resnick DK, Watters WC 3rd, Mummaneni PV, Dailey AT, Choudhri TF, Eck JC, Sharan A, Groff MW, Wang JC, Ghogawala Z, Dhall SS, Kaiser MG. Guideline update for the performance of fusion procedures for degenerative disease of the lumbar spine. Part 10: lumbar fusion for stenosis without spondylolisthesis. J Neurosurg Spine. 2014 Jul;21(1):62-6. doi: 10.3171/2014.4.SPINE14275. Review. PubMed PMID: 24980587.