

Extraforaminal lumbar interbody fusion

Extraforaminal [lumbar interbody fusion \(ELIF\)](#) technique makes exposing only the exiting nerve root easy to perform interbody fusion without violating either the abdominal cavity or the posterior musculoligamentous and the bony stabilizers of the spine. This may be considered as one of the minimally invasive surgical options for isthmic spondylolisthesis ¹⁾.

To avoid the formation of posterior postoperative [epidural fibrosis \(PEF\)](#), Kurzbuch and Recoules-Arche propose a surgical approach whose working corridor is situated lateral to the dural sac and the nerve roots: the extraforaminal lumbar [interbody fusion \(ELIF\)](#) technique.

The ELIF technique is a muscle-sparing approach to the [intervertebral disk](#) space and the spinal canal that avoids the formation of posterior PEF. It represents an option to treat various degenerative lumbar spinal diseases as well as offering another approach for revision surgery in patients who have developed PEF ²⁾.

Case series

2016

A total of 107 patients [female/male: 67/40; average age, 52.8 ($\pm$ 13.8) y] were included at a maximum of 31($\pm$ 9.4) months. Complications occurred in 4% of patients. Transient radicular pain was investigated in 16 patients. The Oswestry Disability Index and the Visual Analogue Scale for back and leg pain improved significantly. Patients showed a short hospital stay and high percentage of return to work ratio (70%). Fusion was achieved in 97% of patients.

The unilateral ELIF fusion technique demonstrates encouraging clinical and radiologic midterm outcome that for some indications is comparable with established fusion techniques ³⁾.

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Baek OK, Lee SH. Extraforaminal lumbar interbody fusion for the treatment of isthmic spondylolisthesis. J Spinal Disord Tech. 2009 May;22(3):219-27. doi: 10.1097/BSD.0b013e3181761528. PubMed PMID: 19412026.

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Kurzbuch AR, Recoules-Arche D. Epidural Fibrosis Seen from a Different Angle: Extraforaminal Lumbar Interbody Fusion. J Neurol Surg A Cent Eur Neurosurg. 2016 Jul 14. [Epub ahead of print] PubMed PMID: 27415595.

³⁾

Recoules-Arche D, Druschel C, Fayada P, Vinikoff L, Disch AC. Unilateral Extraforaminal Lumbar Interbody Fusion (ELIF): Surgical Technique and Clinical Outcome in 107 Patients. Clin Spine Surg. 2016 Apr;29(3):E162-70. doi: 10.1097/BSD.000000000000125. PubMed PMID: 27002376.

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