Interlaminar endoscopic lumbar discectomy

- Percutaneous transforaminal endoscopic discectomy in patients with lumbar disc herniation: a meta-analysis
- The intrathecal morphine analgesia for full endoscopic lumbar discectomy: a prospective dose-finding study
- A Comparative Outcome of Full Endoscopic Lumbar Discectomy for L4/5 Central-Paracentral Disc Herniation: Interlaminar versus Transforaminal Approach: A 2-Year Prospective Randomized Controlled Follow-Up Study
- Endoscopic Interlaminar Standalone Decompression for Lumbar Lateral Recess Stenosis With Subligamentous Disc Herniation: A Disc-Preserving Alternative to Discectomy
- Minimally invasive surgery for lumbar disc herniation: a meta-analysis of efficacy and safety
- Return to work after lumbar endoscopic spinal surgery in the United States
- Endoscopic management of lumbar spinal tophaceous gout: six cases treated with percutaneous transforaminal (PTED) and interlaminar (PIED) discectomy and a literature review
- Comparative study of the learning curves for percutaneous endoscopic interlaminar lumbar discectomy and unilateral biportal endoscopy techniques

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The full endoscopic interlaminar approach (FEILA) is a minimally invasive technique for lumbar discectomy. It has multiple advantages over other conventional discectomy methods, including less traumatization of the soft tissues, fewer complication rates (dural injury, bleeding), rapid rehabilitation, quick return to daily life activities, and preferable cosmetic results. FEILA is a surgery with a relatively steep learning adaptation. Endoscopic surgery is a closed tubular approach, and all surgical maneuvers are performed within a uniportal single working channel. Also, the technique has not yet been standardized and well-documented. Therefore, the early learning stages of this technique may not be easy for most surgeons. Despite these, FEILA is easy, and the operation length is comparable to and even shorter than other techniques of lumbar discectomy. FEILA for lumbar discectomy could be considered a safe and effective alternative procedure for paracentral L5-S1 disc herniation. Sahin et al. describe the technique of FEILA, including every cutoff step required to reach technical proficiency for surgeons who want to start applying this approach [1)]

Interlaminar endoscopic lumbar discectomy is a minimally invasive surgical procedure used to treat herniated lumbar discs in the lower back. The method involves using an endoscope, a small camera inserted through a small incision in the patient's back to visualize the affected disc. The herniated portion of the disc is then removed through another small incision. The goal of the procedure is to relieve pressure on the nerve roots and/or spinal cord, resulting in the improvement of symptoms such as pain, numbness, or weakness.

A systematic review of the literature to develop an algorithm formulated by key opinion leaders.

Objective: This study aimed to analyze currently available data and propose a decision-making algorithm for full-endoscopic lumbar discectomy for treating lumbar disc herniation (LDH) to help surgeons choose the most appropriate approach (transforaminal endoscopic lumbar discectomy [TELD] or interlaminar endoscopic lumbar discectomy [IELD]) for patients.

Summary of background data: Full-endoscopic discectomy has gained popularity in recent decades. To our knowledge, an algorithm for choosing the proper surgical approach has never been proposed.

Methods: A systematic review of the literature using PubMed and MeSH terms was performed according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. Patient samples included patients with LDH treated with full endoscopic discectomy. The inclusion criteria were interventional research (randomized, non-randomized trials) and observation research (cohort, case-control, case series). Exclusion criteria were case series and technical reports. The criteria used for selecting patients were grouped and analyzed. Then, an algorithm was generated based on these findings with support and reconfirmation from key expert opinions. Data on overall complications were collected. Outcome measures included zone of herniation, level of herniation, and approach (TELD or IELD).

Results: In total, 474 articles met the initial screening criteria. The detailed analysis identified the 80 best-matching articles; after applying the inclusion and exclusion criteria, 53 articles remained for this review.

Conclusion: The proposed algorithm suggests a TELD for LDH located in the foraminal or extraforaminal zones at upper and lower levels and for central and subarticular discs at the upper levels considering the anatomical foraminal features and the craniocaudal pathology location. An IELD is preferred for LDH in the central or subarticular zones at L4/L5 and L5/S1, especially if a high iliac crest or high-grade migration is found [2)].

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Sahin D, Gulsever CI, Özata MS, Uysal IY, Aydoseli A, Aras Y. Full Endoscopic Interlaminar Approach for Paracentral L5-S1 Disc Herniation. J Vis Exp. 2023 Apr 14;(194). doi: 10.3791/64717. PMID: 37125794.
2)
Kotheeranurak V, Liawrungrueang W, Quillo-Olvera J, Siepe CJ, Li ZZ, Lokhande PV, Choi G, Ahn Y, Chen CM, Choi KC, Van Isseldyk F, Hagel V, Koichi S, Hofstetter CP, Del Curto D, Zhou Y, Bolai C, Bae JS, Assous M, Lin GX, Jitpakdee K, Liu Y, Kim JS. Full-endoscopic Lumbar Discectomy Approach Selection - A Systematic Review And Proposed Algorithm. Spine (Phila Pa 1976). 2023 Feb 6. doi: 10.1097/BRS.0000000000004589. Epub ahead of print. PMID: 36745468.