

Epidural injection (EI) has been used to manage lower back and radicular leg pain caused by a herniated lumbar disc. There are 3 types of EI techniques currently being used: transforaminal (TFEI), interlaminar (ILEI), and caudal epidural injections (CEI).

Objectives: To evaluate the comparative effectiveness of TFEI, ILEI, and CEI in reducing pain and improving function in patients with HLD.

Study design: Systematic review and meta-analysis.

Methods: The PubMed, Embase, Cochrane Library, and Scopus databases were searched from the earliest records up to August 2022 for randomized controlled trials (RCTs) and non-RCTs. The standard mean differences (SMDs) in the changes in the Visual Analog Scale (VAS) and Oswestry Disability Index (ODI) scores were calculated from one week through one month posttreatment (short-term) and from 4 months through 6 months posttreatment (long-term).

Results: In total, 11 studies comprising 1,050 patients were included. Network meta-analysis showed that the improvement in the VAS scores was better with TFEI than with CEI (SMD = -1.16, 95% CI = -2.10 to -0.23). Ranking probability analysis showed that TFEI had the highest probability of being the best treatment for reducing pain and improving function in the short- and long-term evaluation periods.

Limitations: Only a small number of previous studies were included in our analysis. Also, subgroup analysis according to the injection volume, material type, or pain onset could not be conducted.

Conclusions: TFEI had the best potential of the 3 EI techniques to reduce pain and improve function in patients with a herniated lumbar disc. Further qualified trials comparing the effects of these 3 techniques are warranted to derive definitive conclusions ¹⁾.

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Kwak SG, Choo YJ, Kwak S, Chang MC. Effectiveness of Transforaminal, Interlaminar, and Caudal Epidural Injections in Lumbosacral Disc Herniation: A Systematic Review and Network Meta-analysis. Pain Physician. 2023 Mar;26(2):113-123. PMID: 36988356.

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