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第66回関東整形災害外科学会 ランチョンセミナー1

The 66th Kanto Society of Orthopedics Traumatology

Lateral Lumbar Interbody Fusion (LLIF)

: A Comprehensive Review of U.S. Experience, Documented Advantages, and Complication Trends

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Abstract

Lateral Lumbar Interbody Fusion (LLIF): A Comprehensive Review of U.S. Experience, Documented Advantages, and Complication Trends

The traditional transpsoas lateral lumbar interbody fusion (LLIF) performed in the lateral decubitus position has been widely adopted as a minimally invasive approach for anterior column access in lumbar degenerative conditions. However, this approach requires patient repositioning for posterior fixation or decompression/release and provides only moderate sagittal alignment correction unless anterior longitudinal ligament (ALL) release is performed, which carries additional surgical risk.

In recent years, performing transpsoas LLIF with the patient in prone position has gained significant attention. This presentation will review the surgical technique, summarize published clinical and radiographic outcomes, and present key case examples that illustrate anatomical and technical considerations.

A review of the literature, now documenting more than 18,000 cases in the United States, demonstrates that the surgery enables true single-position access to both anterior and posterior columns, while preserving the minimally invasive benefits of traditional LLIF.

Reported data also show comparable patient-reported outcomes and superior segmental and overall lordosis correction compared with lateral decubitus LLIF.

Complications reported in the literature—including neurological, visceral, and vascular events—will be analyzed with particular attention to how anatomical differences between prone and lateral decubitus positioning may influence risk. Current evidence indicates that the overall rate and nature of complications remain similar to those observed with traditional lateral decubitus LLIF, with no newly emerging risks identified to date.