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## Average 10-year Follow-up Outcomes of Lumbar Total Disc Replacement in 109 Patients

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**Objective:** The purpose of this study is to report long-term serial clinical and radiological outcomes of 109 patients who underwent total disc replacement (TDR) with an average follow-up of 10 years.

**Material-Method:** Data at preoperative, postoperative, 2-, 5-, and last follow-up were analyzed. Clinical outcomes were evaluated using Visual Analog Scale (VAS), Oswestry Disability Index (ODI) and subjective satisfaction. Radiological outcomes included segmental range of motion (ROM), L1-S1 lordosis, disc height of each level, and heterotopic ossification. The clinical success rate was assessed according to the FDA criteria.

**Result:** Total study population consisted of 109 patients with 123 segments. The mean follow-up duration was 122.0 months. The mean VAS and ODI score decreased significantly up to the postoperative 5 years. The overall satisfaction rate was 89% at the last follow-up. The segmental ROM was significantly increased up to postoperative 5 years. The mean disc height of index level increased significantly after surgery, gradually decreasing until the last follow-up, but remained higher than preoperative assessment. Heterotopic ossification was detected in 104 segments at final follow-up. The clinical success rate at the last follow-up was 83.5%.

**Conclusions:** This study demonstrated successful clinical and radiological outcomes in long-term follow-up. Lumbar TDR not only maintains ROM but also restores disc height, being an alternative to treat lumbar degenerative disc disease.

### Recent publications

1. Lee, Chul-Woo, and Kang-Jun Yoon. "Technical Considerations in Endoscopic Lumbar Decompression." *World neurosurgery* vol. 145 (2021): 663-669. doi:10.1016/j.wneu.2020.07.065
2. Lee, Chul-Woo et al. "Comparative Analysis between Three Different Lumbar Decompression Techniques (Microscopic, Tubular, and Endoscopic) in Lumbar Canal and Lateral Recess Stenosis: Preliminary Report." *BioMed research international* vol. 2019 6078469. 24 Mar. 2019, doi:10.1155/2019/6078469
3. Lee, Chul-Woo et al. "Percutaneous Endoscopic Laminotomy with Flavectomy by Uniportal, Unilateral Approach for the Lumbar Canal or Lateral Recess Stenosis." *World neurosurgery* vol. 113 (2018): e129-e137. doi:10.1016/j.wneu.2018.01.195.

### Biography

Kang-Jun Yoon is the Chief of Surgery and Executive Director of St. Peter's Hospital, South Korea and have more than 30 years of experience in the medical field since 1984. He has performed more than 20,000 Number of operations. His major areas of surgery include Spine/spinal cord operation/surgery (total disc replacement, lateral interbody fusion, microvascular decompression, filum terminale surgery, endoscopic thoracic sympathectomy, single-port foraminotomy, etc.). He is involved in many academic society activities and attended many Conferences & presentations.

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