

# Clinical Outcome of Percutaneous Laser Disc Decompression in Patients with Lumbar Disc Herniation: A Pilot Study in a Low-Resource Facility

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## Abstract

**Statement of the Problem:** Herniation is broadly defined as a localized or focal displacement of disc material beyond the limits of the intervertebral disc space. The disc material may be nucleus, cartilage, fragmented apophyseal bone, annular tissue, or any combination thereof. Laser surgery is one of the treatment modalities for treating patients with lumbar disc herniation. This study aims to examine the effect of laser disc decompression in patients with lumbar disc herniation. **Methodology & Theoretical Orientation:** This study was conducted on 58 patients who underwent Percutaneous Laser Disc Decompression (PLDD) (optical fiber inserted through an 18G needle, 8 joules, and 8 watts). Eligible patients were treated with PLDD according to the treatment protocol. They were monitored before and after treatment using the comparing Verbal Analog Scale (no pain, mild pain, moderate pain, severe pain), the Visual Analog Scale (VAS) Pain Score (0 (no pain) to 10 (most pain)) before and after the surgery, and by completing a questionnaire. In all statistical tests, p values under 0.05 were considered significant. **Findings:** The mean age of participants was  $63.19 \pm 13.48$  years.

Regarding gender, 34 patients (58.6%) were male, and 24 patients (41.4%) were female. mean VAS score before surgery was  $8.73 \pm 1.29$  and mean VAS score after surgery was  $5.22 \pm 2.71$ , and the pain was significantly reduced ( $P < 0.001$ ). **Conclusion & Significance:** According to the post-PLDD pain reduction in our population, PLDD can be considered an appropriate method for treating lumbar disc herniation in carefully selected patients.

## Biography

Dr. Sajjad Saghebdoost is a medical doctor who graduated from Mashhad University of Medical Sciences, Iran. He has a postgraduate degree in healthcare MBA and he is currently an MPH candidate at Shiraz University of Medical Sciences, Iran. He was awarded a position as a neurosurgery research assistant at Razavi Hospital, Mashhad, Iran and he is a member of Iran's National Elite Foundation. Since his graduation from medical school, Dr. Saghebdoost has been involved in different studies in endovascular neurosurgery, spine surgery and functional neurosurgery.