

Percutaneous laser disc decompression

see also [percutaneous endoscopic lumbar discectomy](#)

Insertion of a needle into the disc, and introduction of a laser fiber-optic cable through the needle to allow a laser to burn a hole in the center of the disc ^{1) 2)} (with or without endoscopic visualization).

Percutaneous laser disc decompression for lumbar disc herniation

[Percutaneous laser disc decompression for lumbar disc herniation.](#)

Percutaneous laser disc decompression (PLDD) has been regarded as an effective alternative for the treatment of cervical soft disc herniations. Repeated X-Ray scanning is essential when performing this technique.

Roberto et al. presented a new method for the treatment of cervical disc herniation using ultrasound to guide the needle entry to the cervical disc, to avoid excess radiation exposure during the surgical procedure. They evaluated the efficacy of this cervical approach. They retrospectively reviewed the clinical data of 14 cases who underwent a PLDD under ultrasound (US) guidance for the treatment of contained cervical disc herniation using a 1470 Nm diode laser. The lower cervical discs (C5-C6 and C6-C7) were the most affected sites, accounting for 78.6% of surgical discs. A significant NRS reduction between baseline and 1 month ($p = 0.0002$) and between baseline and 12 months ($p = 0.0007$) was observed.

The results support the conclusion that US-guided PLDD with fluoroscopic validation is a minimally invasive technique for patients affected by herniated cervical discs, but a proper choice of patients is critical. This approach should not be performed except after adequate training under close supervision of surgeons experienced in this procedure and in the interventional US ³⁾.

The 2014 North American Spine Society Coverage Committee ⁴⁾ position statement:

“Laser spine surgery in the cervical or lumbar spine is NOT indicated at this time. Due to lack of high quality clinical trials concerning laser spine surgery with the cervical or lumbar spine, it cannot be endorsed as an adjunct to open, minimally invasive, or percutaneous surgical techniques.”

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Yonezawa T, Onomura T, Kosaka R, et al. The System and Procedures of Percutaneous Intradiscal Laser Nucleotomy. *Spine*. 1990; 15: 1175–1185

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Choy DSJ, Ascher PW, Saddekni S, et al. Percutaneous laser disc decompression: A new therapeutic modality. *Spine*. 1992; 17:949–956

³⁾

Roberto G, Susanna T, Marcelo G, Giuseppe LML, Felice O. Ultrasound-Guided percutaneous laser disc

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decompression (PLDD) with fluoroscopic validation for the treatment of cervical disc herniation:
Technical note. Pain Med. 2022 Dec 5;pnac188. doi: 10.1093/pm/pnac188. Epub ahead of print. PMID:
36469340.

⁴⁾
North American Spine Society Coverage Committee. Laser Spine Surgery. Burr Ridge, IL 2014.
<https://www.spine.org>

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