

Percutaneous Endoscopic Lumbar Discectomy (PELD)

-Transforaminal and Interlaminar approaches-

FUJIO ITO

President of Aichi Spine Institute Guest professor of Fujita Health University

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Introduction

PELD requiring smaller dissections, an overnight stay, and little resection of lamina, yellow ligament, muscle, etc. was introduced several year ago.

PELD is a new type of MISS that uses a local anaesthetic and was developed from percutaneous nucleotomy.

Subject

The selected subjects are those cases with strong sciatica even under conservative treatment for 6 weeks or more and acute cases difficult to move the body due to severe pain, under the condition that MRI has identified moderate or huge herniation. However, those cases where either upward or downward migration in L4/5 or higher is more than about 10 mm, instability from functional X-ray photography, lateral recesses from CT scan are apparent or where osseous proliferation of spondylolysis is assumed to be responsible for pain have to be operated by microscopic discectomy or microendoscopic discectomy as a rule.

Operation Method

Surgical equipment

Carbon fiber transparent surgical table; C-arm image intensifier and monitor; light source and hi-vision camera and monitor; 20° endoscope; 7 mm working cannula; guide-pin, 1.9 - 6.8 mm serial dilator, and 6.5 mm blunt obturator; punch, forceps, and 3 and 5 mm trephines, bipolar radiofrequency electrode, irrigation system etc (Fig. 1).

Anesthetic method

Use a local anaesthetic and a sedative intravenous anesthetic. When a needle runs through pain-sensitive tissues, add 0.5 - 1% lidocaine solution by 2 - 3 cc. Maintain consciousness with anesthesia of patients during operation with propofol (1 - 4 mg/kg/h) and remifentanyl (0.02 - 0.06 µg/kg/min) or fentanyl (50 - 500 µg). Since perineural cicatrix can exist at unexpected locations and the courses of nerves may have been changed, patients are preferred to be conscious enough to respond easily.