

# Minimally invasive posterior approach to the lumbar spine

Contrasting to open surgery, [minimally invasive posterior approach to the lumbar spine](#) have a major advantage of limiting iatrogenic trauma to surrounding structures, thereby reducing postoperative pain, facilitating patient recovery and shortening hospital stay.

Paraspinal approaches allow access to the transverse processes and facets of the lumbar spine, and have been utilized in a variety of surgical procedures used in the management of various spinal pathologies. This includes discectomy for disc herniation, decompression for spinal canal stenosis, insertion of pedicle screws for fractures, lumbar interbody fusions, and treatment of intradural lesions such as tumors <sup>1) 2) 3) 4) 5) 6) 7) 8) 9) 10) 11)</sup>.

## Percutaneous Endoscopic Lumbar Discectomy

### MIS Lumbar Fusion

1)

Gandhi RH, German JW. Minimally invasive approach for the treatment of intradural spinal pathology. *Neurosurgical focus*. 2013;35(2):E5 Epub 2013/08/03. doi: 10.3171/2013.5.FOCUS13163 .

2)

Cheng X, Ni B, Liu Q, Chen J, Guan H. Can intermuscular cleavage planes provide proper transverse screw angle? Comparison of two paraspinal approaches. *Eur Spine J*. 2013;22(1):123–7. doi: 10.1007/s00586-012-2464-z ; PubMed Central PMCID: PMC3540324.

3)

Mannion RJ, Guilfoyle MR, Efendy J, Nowitzke AM, Laing RJ, Wood MJ. Minimally invasive lumbar decompression: long-term outcome, morbidity, and the learning curve from the first 50 cases. *Journal of spinal disorders & techniques*. 2012;25(1):47–51. Epub 2011/05/18. doi: 10.1097/BSD.0b013e31820baa1e.

4)

Jiang XZ, Tian W, Liu B, Li Q, Zhang GL, Hu L, et al. Comparison of a paraspinal approach with a percutaneous approach in the treatment of thoracolumbar burst fractures with posterior ligamentous complex injury: a prospective randomized controlled trial. *The Journal of international medical research*. 2012;40(4):1343–56. Epub 2012/09/14.

5)

Mannion RJ, Nowitzke AM, Efendy J, Wood MJ. Safety and efficacy of intradural extramedullary spinal tumor removal using a minimally invasive approach. *Neurosurgery*. 2011;68(1 Suppl Operative):208–16; discussion 16. Epub 2011/01/06. doi: 10.1227/NEU.0b013e318207b3c7

6)

Jiang R, Wu H, Wang JC, Li WX, Wang Y. Paraspinal approach for thoracolumbar fracture. *Chinese journal of traumatology = Zhonghua chuang shang za zhi / Chinese Medical Association*. 2011;14(1):3–6. Epub 2011/02/01.

7)

Voyadzis JM, Gala VC, Sandhu FA, Fessler RG. Minimally invasive approach for far lateral disc herniations: results from 20 patients. *Minimally invasive neurosurgery: MIN*. 2010;53(3):122–6. Epub 2010/09/03. doi: 10.1055/s-0030-1249102

8)

Kunert P, Kowalczyk P, Marchel A. Minimally invasive microscopically assisted lumbar discectomy using the METRx X-Tube system. *Neurologia i neurochirurgia polska*. 2010;44(6):554–9. Epub 2011/01/13.

9)

Fujibayashi S, Neo M, Takemoto M, Ota M, Nakamura T. Paraspinal-approach transforaminal lumbar interbody fusion for the treatment of lumbar foraminal stenosis. *J Neurosurg Spine*. 2010;13(4):500–8.

Epub 2010/10/05. doi: 10.3171/2010.4.SPINE09691

10)  
Fan SW, Hu ZJ, Fang XQ, Zhao FD, Huang Y, Yu HJ. Comparison of paraspinal muscle injury in one-level lumbar posterior inter-body fusion: modified minimally invasive and traditional open approaches. Orthopaedic surgery. 2010;2(3):194-200. Epub 2010/08/01. doi: 10.1111/j.1757-7861.2010.00086.x  
11)

Ota M, Neo M, Fujibayashi S, Takemoto M, Nakamura T. Advantages of the paraspinal muscle splitting approach in comparison with conventional midline approach for s1 pedicle screw placement. Spine (Phila Pa 1976). 2010;35(11):E452-7. Epub 2010/05/18. doi: 10.1097/BRS.0b013e3181ce0696.

From:  
<https://neurosurgerywiki.com/wiki/> - **Neurosurgery Wiki**

Permanent link:  
[https://neurosurgerywiki.com/wiki/doku.php?id=minimally\\_invasive\\_posterior\\_approach\\_to\\_the\\_lumbar\\_spine](https://neurosurgerywiki.com/wiki/doku.php?id=minimally_invasive_posterior_approach_to_the_lumbar_spine)

Last update: **2024/06/07 02:55**

