

**Table S1** Pearls & pitfalls of far lateral microdiscectomy

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Pearls

Correct incision location is important, adjusting for size of patient and operative level.

Oblique trajectory towards disc is required (10–20 degrees)

For L5/S1 this is the most technically difficult level. We recommend to start with L4/5 approach and direct inferiorly to enable retractor to clear iliac crest

At L5/S1 the intertransverse membrane is often poorly developed

Pars vessel always encountered. Branches in this area. Usually first encountered just superficial to nerve root. The nerve root is close and always deeper, so use bipolar electrocautery to control it, not monopolar

It is safest to approach the root from below. If you follow the bone from the transverse process onto the side of the vertebral body, it leads you to the disc, and as long as you are heading medially at this point, you will encounter the disc before the nerve root

Can usually stay lateral to pars and vertebral canal. You do not need to go into the canal. You should not need to remove ligamentum flavum as a general rule

Haptic feedback vital. Ball hook very useful instrument

If unsure of the anatomy, use a ball hook to feel the pedicle above and below and the nerve in between

Good visualisation is vital. We highly recommend the operating microscope, both for the magnification, and excellent illumination

Pitfalls

Poor incision makes access difficult, impairs view

Mistaking lamina for transverse process. Can happen easily in obese patients

If too low at L5/S1, crest impairs retraction and can't visualize disc

Being too lateral—miss edge of disc, end up in psoas and lumbar plexus

Being too medial—end up in canal. Potential risk of dural tear

Not using a microscope—poor vision. Assistant's feedback limited

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The table describes the procedural steps to be mindful of when performing far lateral microdiscectomies.