

Anterior-To-Psoas Lumbar Interbody Fusion with ELSA[®]-ATP Expandable Lumbar Interbody Spacer

CASE STUDY SERIES



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Patient History

A 77-year-old male presented with recurring back pain with some radiation to the left leg. Pain was aggravated with walking and standing, and improved with forward flexion and laying down.

The patient completed physical therapy and multiple epidural steroid injections, without lasting pain relief. He had a laminectomy at L4-L5 performed four years earlier.

Physical Exam

The patient had full strength in both legs and walked with a slightly stooped posture. His sensory and reflex exams were both normal.



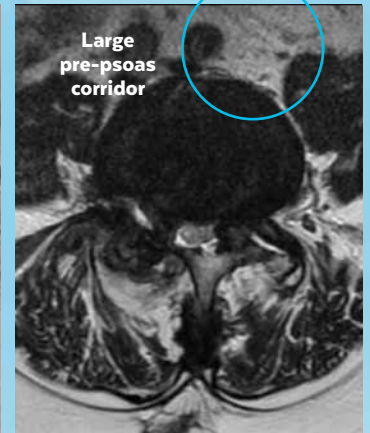
**PREOPERATIVE AP
RADIOGRAPH**



**PREOPERATIVE LATERAL
RADIOGRAPH**



**PREOPERATIVE
SAGITTAL MRI**



**PREOPERATIVE
L4-L5 AXIAL MRI**

Surgical Treatment

The patient was diagnosed with degenerative disc disease at L4-L5, spondylolisthesis at L4-L5, and lumbar stenosis. Given the patient's combination of severe lumbar foraminal stenosis resulting in neurogenic claudication and his angular disc space collapse with axial back pain, a single-level lumbar fusion was recommended.

In order to avoid his prior laminectomy defect, restore disc height, and place a large interbody spacer, the lateral surgical approach was chosen; specifically the anterior-to-psoas (ATP) approach. This surgical method avoids the iliac crest and lessens the manipulation of the psoas muscle to decrease the chance of femoral nerve injury.

The ELSA®-ATP 10° lordotic expandable spacer and CREO MIS® percutaneous pedicle screw and rod fixation system were used.



**3-MONTH POSTOPERATIVE
AP RADIOGRAPH**



**3-MONTH POSTOPERATIVE
LATERAL RADIOGRAPH**

Results

The patient had immediate improvement in back pain and radicular pain after surgery, and was discharged home on postoperative day one.

At 3-month follow-up, the patient reported over 90% improvement in both back and leg pain compared to before surgery. He had no perioperative complications.

SUMMARY

	Pre-Op	Post-Op
Lumbar Lordosis	30°	39°
Segmental Lordosis (L4-L5)	10°	19°
Pelvic Incidence	62°	62°
Anterior disc height	6mm	16mm
Posterior disc height	2mm	6mm

Procedural Benefits

- The ATP approach was not hindered by the left iliac crest, as seen in the postoperative X-rays.
- The ATP approach allowed minimal psoas manipulation while still allowing a direct lateral placement of the interbody spacer.
- The relatively small starting height of the expandable spacer granted added disc height and indirect decompression without endplate disruption.