

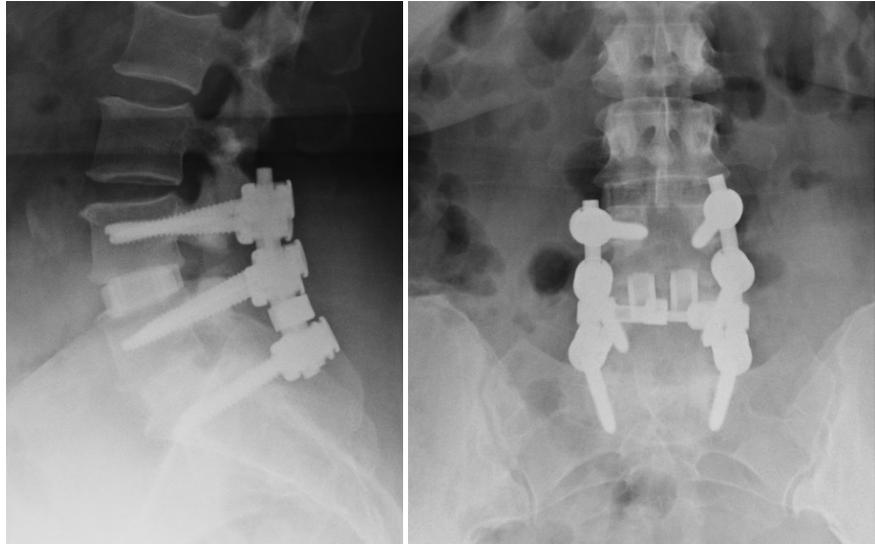


# Treatment of Adjacent Level Disease Using Ceramic Silicon Nitride Implants in a Heavy Smoking, Morbidly Obese Patient

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## SUMMARY

A 48 year old, morbidly obese female patient with prior lumbar fusion at L5-S1 was diagnosed with adjacent level degeneration and stenosis. She underwent a posterior spinal interbody fusion (PLIF) at L4-5 using silicon nitride interbody implants. Complete radiographic fusion was achieved at 3 months postoperative, as determined by surgeon through plain radiographic examination.



Lateral and AP radiographs of L4-5 Valeo™ PL at 3 months postoperative

## DIAGNOSIS & PROCEDURE

Patient had a 3 year history of back and leg pain. She underwent an initial discectomy at L5-S1 and one year later, a decompression and fusion using allograft bone at L5-S1. Two years later after a fall, patient experienced low back pain of 6-7 out of 10 and left leg pain of 8-9 out of 10. She smoked (1 pack per day) and used a variety of medications for pain, including hydrocodone, gabapentin, and meloxicam. Patient was treated conservatively with increased medication dosage, physical therapy, and three lumbar epidural steroid injections, without improvement. MRI showed adjacent level degeneration at L4-5 with central disc bulge and lateral recess stenosis.

Surgical intervention was performed by L4-5 decompression and PLIF. Bilateral ceramic silicon nitride implants were used (**Amedica Valeo™ PL** - 12mm height, 9x25mm footprint, 6° lordosis). During the procedure, the original posterior L5-S1 rods were removed and the patient was reinstrumented with pedicle screw fixation from L4-S1.

## RESULTS

At 6 week follow-up, patient had improvement in leg pain with evidence of bone bridging on plain radiographs. At 3 months, complete radiographic fusion was achieved. By 6 month follow-up, patient experienced good relief of low back pain and MRI scan of the lumbar spine was unremarkable.

## CONCLUSIONS

**This was a complicated case of a heavy smoking, morbidly obese patient with prior L5-S1 lumbar fusion. The silicon nitride Valeo™ PL was used to extend the existing L5-S1 fusion by an additional level. The surgery resulted in excellent radiographic and clinical outcomes. Plain radiographs revealed excellent alignment and complete fusion at just 3 months postoperative.**