

Greater than 5 -year follow-up of outpatient L4-L5 lumbar interspinous fixation for degenerative spinal stenosis using the INSPAN device

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Background: Lumbar spinal stenosis is treated with decompression directly such as laminectomies and indirectly with an interspinous device through distraction and extension block. Interspinous devices (IPD) have also been used as an adjunct to spinal fusion. However, the design for IPD to treat spinal stenosis does not fixate the spine while the design for spinal fusion is designed to fixate the spine. There is a paucity of data on a single device that has been used for both fusion and stenosis. Authors aim to demonstrate the long-term outcomes of interspinous fixation at L4-5 for degenerative spinal stenosis.

Methods: We evaluated patients with spinal stenosis and degenerative disc disease who were treated with open decompression and distraction of the spinous processes at L4-L5 using an interspinous device. All patients complained of lower back pain and neurogenic claudication. This is a retrospective review of prospectively collected data (Level 3) under an IRB approved study cohort. The charts of patient undergoing lumbar decompression with Interspinous Distraction, Fixation using InSpan device (INSPAN LLC) in an outpatient setting were reviewed with over a 5-year follow-up period.

Results: 122 surgical cases of lumbar decompression with interspinous fixation, spanning between the timeframe of September 2011 to October 2016. A total of 56 patients had instrumentation at L4-L5. Total female population was 46%. The median age of the patients included in the population was 50.9±10.7 years with a median BMI of 24.8±11.4 kg/m². Two-year VAS and ODI showed significant improvement from 8.1±1.2 to 1.5±1.1 and 42.9±14.3 to 14.8±5.1. All surgeries were completed in less than one hour. There was a total of 1 revision case with removal of INSPAN and open hemilaminectomy decompression.

Conclusions: Long term results demonstrated improved outcomes in patients who underwent Interspinous distraction decompression in an ambulatory surgery center using the INSPAN IPD at L4-L5 for Degenerative Spinal Stenosis. There was one revision converted to hemilaminectomy. There were no complications or blood transfusions.

Keywords: Interspinous process device; ScrewLES; fusion; InSpan

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