X STOP Interspinous Process Decompression Versus Laminectomy for Treatment of Lumbar Spinal Stenosis: Economic Analysis

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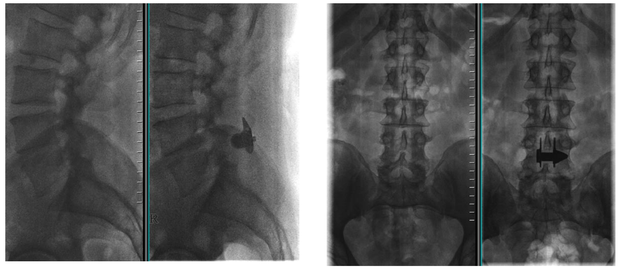
INTRODUCTION:

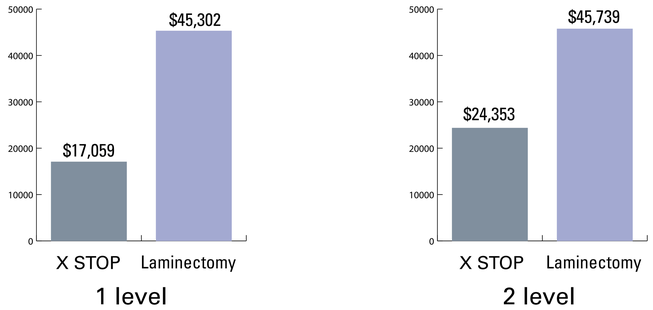
- The goal of our study was to compare the hospital costs of Interspinous Process Decompression (IPD) with X STOP device to those of laminectomy for the treatment of patients with lumbar spinal stenosis (LSS).



METHODS:

- 29 patients with LSS treated surgically were matched for age, length of follow-up and preoperative Oswestry scores. 18/29 had X STOP implantation and 11/29 had laminectomy. The index hospital costs for two groups were compared.

Average Hospital Costs X STOP vs. Laminectomy



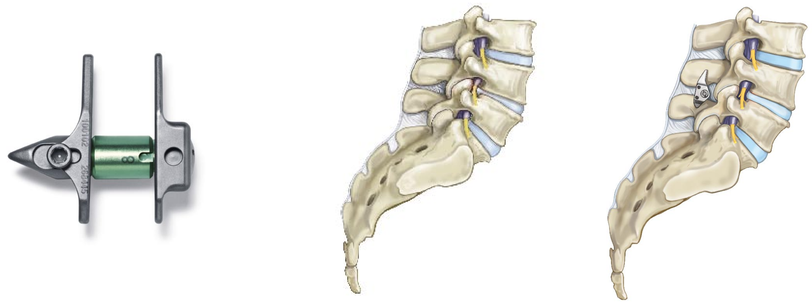
RESULTS:

- 12/18 patients in the X-stop group were treated at one level and 6/18 at two levels. 4/11 patients in the laminectomy cohort were treated at one level and 7/11 at two levels. The average follow-up was 51 months in both groups. The Oswestry improvement was 29 points in the X STOP group and 10 in the laminectomy group.

  Average hospital costs for 1 level X STOP and laminectomy group were $17,059 and $45,302 respectively. Average hospital costs for 2 level X STOP and laminectomy groups were $24,353 and $45,739 respectively. The main savings in the X STOP group were in OR costs (shorter operative time), hospital charges (X STOP is an outpatient procedure) and anesthesia charges (X STOP is placed under local/ MAC anesthesia). The cost of the X STOP implant ($5500) and higher radiology charges due to use of fluoroscopy during X STOP placement were significantly less than those savings.

DISCUSSION:

- The total hospital costs associated with laminectomy, an inpatient procedure, are at least 2 times higher than the cost of treatment with the X STOP, an outpatient procedure. 1-level X STOP IPD is about $28,000 less expensive than laminectomy. 2-level X STOP IPD is about $21,000 less expensive than laminectomy. IPD with X STOP is significantly more cost effective than laminectomy for the surgical treatment of LSS.

SUMMARY:

- IPD with X STOP device for the treatment of LSS is clinically at least as effective as standard laminectomy at 4 years post-operatively and provides substantial direct cost savings compared to decompressive surgery.