

## Utilization of Spinal Cord Stimulation in Patients with Failed Back Surgery Syndrome

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### Purpose

- To examine complications and health care costs associated with spinal cord stimulation (SCS) as it compares to lumbar reoperation to treat failed back surgery syndrome (FBSS).

### Methods

- Retrospective analysis of 10 years of health insurance claims data 2000–2009 (using MarketScan database)

### Results

- 16,455 FBSS patients
- Only 2.4% received SCS implantation**
- 111 SCS patients with 2 years of continuous post-operation data were matched to 111 patients with lumbar reoperation using propensity scoring.

### Advantages of SCS:

- Fewer complications** immediately and at 30 and 90 days post-operation
- Shorter initial service related hospitalization** (index hospitalization)
- Slightly lower average treatment costs** over 2 years, not statistically significant

### Author Conclusions

- SCS is “associated with decreased complications and improved outcomes.”
- “SCS remains underused” for the treatment of FBSS despite proven superior efficacy.

Total Population	SCS (n=395) **	Spinal Reoperation (n=16,060) **	P-Value *Statistically Significant
<b>Complications</b> (90 days post-op)	<b>6.5%</b>	<b>14.4%</b>	<0.0001 *
Propensity Matched	SCS (n=111)	Spinal Reoperation (n=111)	P-Value *Statistically Significant
<b>Length of Hospitalization</b> (index)	<b>2 days (±1)</b>	<b>3 days (±2)</b>	<0.0001 *
<b>Average Total Cost of Treatment</b> (2 years)	<b>\$80,669</b> (±\$68,575)	<b>\$82,586</b> (±\$66,154)	0.8772

\*\*Population sizes confirmed to be acceptable based on statistical random sampling methods (bootstrapping).

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# Clinical Summary

Utilization of SCS in Patients with Failed Back Surgery Syndrome

## Discussion Points

- SCS results in fewer complications, shorter index hospitalizations and has slightly lower treatment costs (not statistically significant) when compared to lumbar reoperation for FBSS.
- SCS may be underused to treat FBSS: for every 1 patient who received SCS, 40 patients had lumbar reoperation surgery.

**Indications for Use.** The Boston Scientific Neuromodulation Spinal Cord Stimulator (SCS) Systems are indicated as an aid in the management of chronic intractable pain of the trunk and/or limbs, including unilateral or bilateral pain associated with the following: failed back surgery syndrome, intractable low back pain, and leg pain.

**Contraindications, warnings, precautions, side effects.** The SCS Systems are contraindicated for patients who: are unable to operate the SCS System, have failed trial stimulation by failing to receive effective pain relief, are poor surgical risks, or are pregnant. Refer to the Instructions for Use provided with the SCS System or ControlYourPain.com for potential adverse effects, warnings, and precautions prior to using this product.

**Caution:** Federal (U.S.) law restricts this device to sale by or on the order of a physician.

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