

# The Use of Intraoperative Electromyogram During Spinal Cord Stimulator Placement Surgery: A Case Series

Lee Onn Chieng MD; Karthik Madhavan MD; Nathan Bryant Schoen BA; Walter J Jermakowicz MD PhD; Steven Vanni DO,

DC

### Introduction

Spinal Cord Stimulation (SCS) is an efficacious treatment for various chronic pain syndromes culminating predominantly into spinal nerves before reaching higher

pain centers. To improve intra-operative electrode placement several groups have advocated the use of intraoperative neuromonitoring (IONM) for localization of the spinal cord midline. In our study we present the case series of patients undergoing stimulator placement with consistent EMG intraoperative testing, with an emphasis

on examining reoperation rates and complications.

### Methods

Following approval from IRB, we retrospectively collected data on standard demographics, preoperative diagnoses, prior spine surgeries, electrode manufacturer, blood loss, complications, and patient outcome.

#### Results

of patients had prior spine surgery, which was associated with higher rates of reoperation (p=0.019). The mean latency between initial SCS implantation and

revision surgery was 14.6 months with a standard deviation of 17.2 months and its median time was 280 days. There were 13.6% of complication rate. Common

complications that lead to reoperation included migrated electrode or failed

generator.

## Conclusions

Our retrospective chart review of 103 patients indicates that patients receiving SCS implantation in conjunction with EMG monitoring have low complication rates and

rarely return to the OR for electrode repositioning or removal.





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