

# 10-Year Review of Efficacy and Safety of Spinal Cord Stimulators in Military Veterans

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## Introduction

Spinal cord stimulation (SCS) has been shown to be an effective and safe option to treat patients with intractable pain in the general population. Our study seeks to confirm that United States military veterans are getting effective and safe treatment similar to their non-veteran peers.

## Methods

We reviewed medical records and had the 65 qualifying veterans who underwent SCS from 2008-2020 at the VA Medical Center in New Orleans complete a Pain Outcome Questionnaire (POQ) by phone. Our primary outcome measure was whether veterans would recommend SCS to their peers. Secondary outcome measures were improvements in activities of daily living (ADLs) reported on a scale from 0-10 and ability to decrease opioid pain medications.

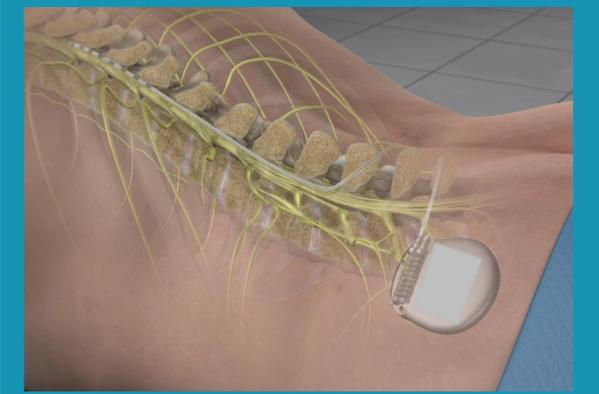
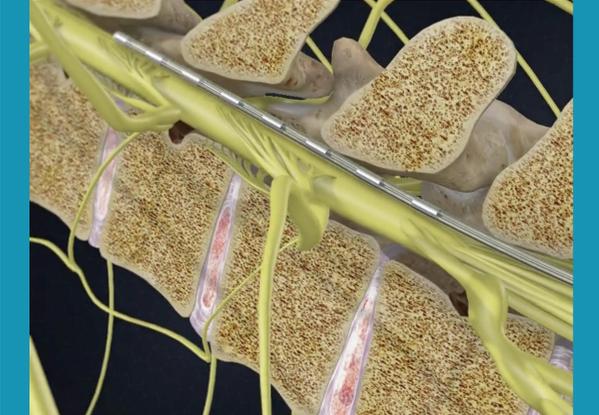


Figure 1: POQ

Figure 1 shows a portion of the Patient Survey and Pain Outcome Questionnaire (POQ) used in the study. The questionnaire includes various questions related to patient demographics, medical history, and pain management. Key sections include:

- Demographics and Medical History:** Questions A through P cover SCS trial/implant date, recommendation to other veterans, diagnosis, age, BMI, current BMI, diabetes status, implant placement, generator details, and previous opioid use.
- Pain and Energy Levels:** Questions Q and R ask about pain levels and overall energy before and after SCS.
- ADL Interference:** Questions S through Z assess pain interference with walking, carrying objects, climbing stairs, using a cane, bathing, dressing, and grooming.
- Psychological and Self-Esteem:** Questions AA and AB evaluate self-esteem/self-worth and physical activity levels.

## Results

### Primary Outcome

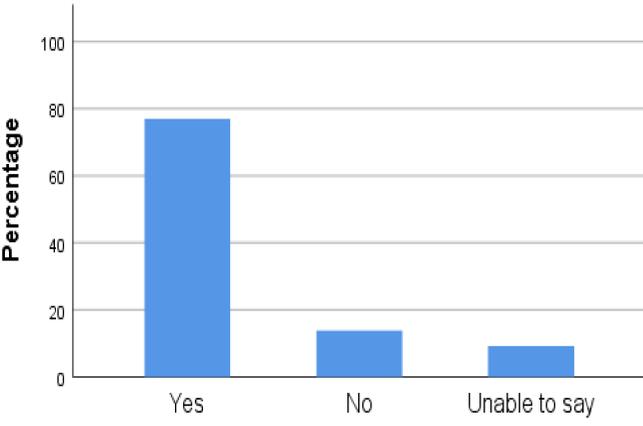


Figure 2: Would You Recommend SCS to other Veterans?

### Secondary Outcomes

There were significant differences in 16 out of 18 ADLs in subjects since undergoing SCS implant (Figure 3). There were significant decreases in opioid usage—average of 52 morphine milliequivalents per day (MMED) prior compared to 31 MMED presently—as well as in body mass index—32 prior versus 31 currently.

### Adverse Effects

3 patients developed skin dehiscence months post-implant; 2 of these were overlying the generator site, and 1 was overlying the anchor site. All were treated with explant, with no neurological sequelae. All patients who had explant were eager to get a new SCS implanted, as SCS was their most successful treatment. There were no permanent neurological deficits or deaths due to SCS.

18 other patients reported a minor complication, most of which were mechanical malfunctions.

## Conclusion

SCS is effective and safe for veterans in this review at the New Orleans VA Medical Center.

### Self-Rating ADLs Before and After SCS

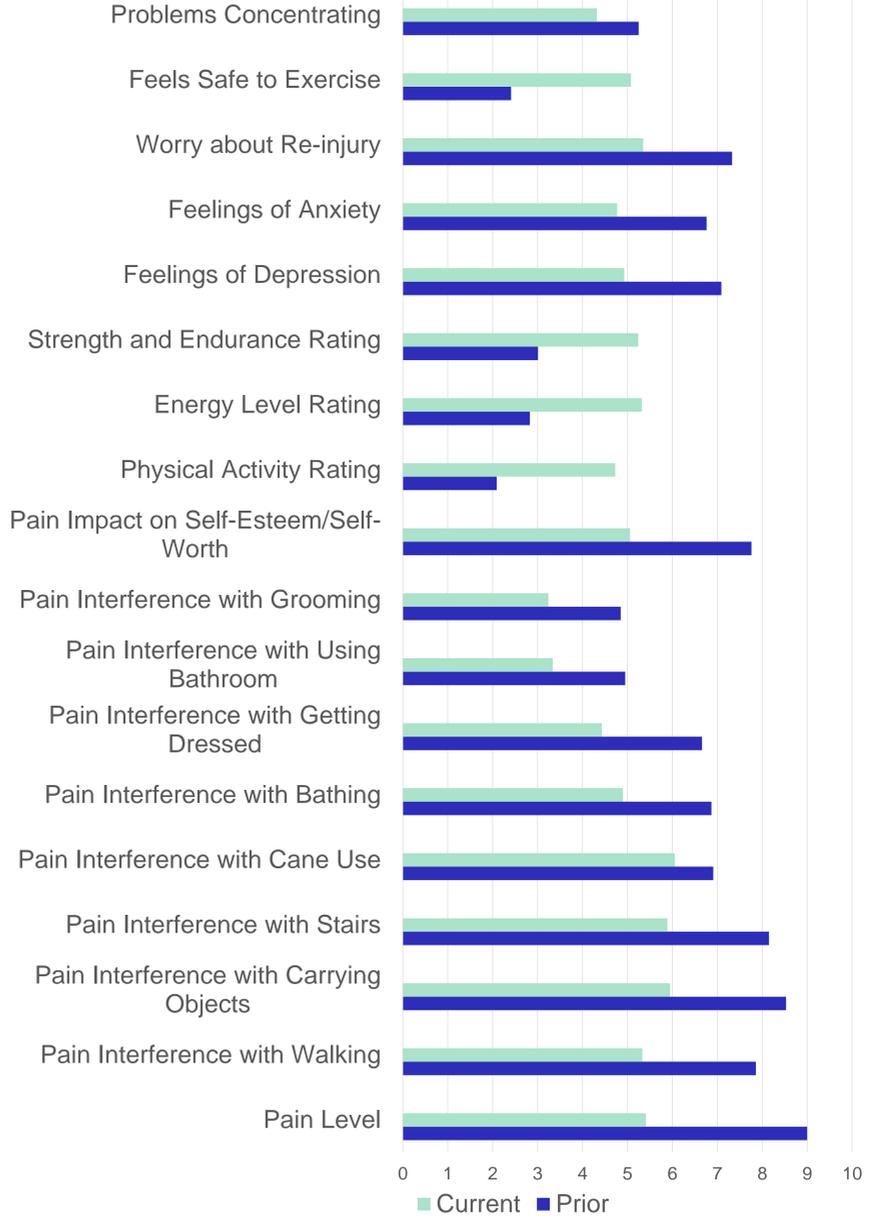


Figure 3: POQ Pain and ADLs Outcomes