

# The Leeds Teaching Hospitals Trust experience of high frequency spinal cord stimulation in treating individuals with chronic pain: a retrospective evaluation

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## Disclosures:

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## 1. Introduction

a. Spinal cord stimulation (SCS) is used to help treat chronic neuropathic pain.

b. Technological advancements have seen the development of paraesthesia-free SCS, including 10 kHz SCS.

c. Prospective research shows 10 kHz SCS is effective and safe.

**Aim:** This was a retrospective evaluation undertaken in the Leeds Teaching Hospitals NHS Trust that aimed to assess the efficacy and complications associated with 10 kHz SCS in failed back surgery syndrome (FBSS) and chronic visceral pain.

## 3. Results

a.

	Average pain (VAS, cm)	Worst pain (VAS, cm)	QoL (EQ-5D-3L)
Baseline	7.39 (1.50)	8.85 (1.16)	-0.05 (0.37)
Follow-up	* 5.00 (2.26)	* 6.94 (2.28)	* 0.27 (0.44)
Mean (SD) change	-2.39 (2.26)	-1.91 (2.19)	0.33 (0.44)

b. Remission (0-3cm average pain VAS) occurred in 23% (74 of 315) of patients.  $\geq 50\%$  reduction in average pain occurred in 27% (83 of 305) of patients.

c. 36 patients (of 275, 13%) underwent a revision. IPG or anchor site pain was the most common reason for revision (n = 24).

40 (of 333, 12%) patients had an explant. Insufficient pain relief was the most common reason for explant (n = 34), followed by infection (n = 5) and requiring an MRI (n = 1). IPG site pain was cited as a secondary influential factor for explantation in five cases.

## 2. Materials and methods

Patients with FBSS or chronic visceral pain with fully implanted 10 kHz SCS (n = 333)

Patients who attended a follow-up visit (n = 321)

Patients with currently implanted system (n = 275)

### Measures:

- Baseline and follow-up scores for average pain, worst pain and quality of life (QoL).
- The occurrence of and reasons for surgical revisions and explants.

### Data analysis:

- Paired t-tests/Wilcoxon signed-rank tests explored change between baseline and follow-up.
- Counts and percentages were generated for remission, response, surgical revision and explant rates.
- Intention-to-treat was used for remission and response rates.

## 4. Discussions

a. This retrospective evaluation showed that 10 kHz SCS was effective at reducing pain and improving QoL in FBSS and chronic visceral pain.

b. The assessment of surgical revisions and explants suggests this treatment is safe in these pain conditions.

## 5. Conclusions

By using real-world data in a retrospective evaluation from a teaching hospital, it is hoped findings will broaden insight into the clinical practice of 10 kHz SCS in FBSS and chronic visceral pain.