

The Leeds Teaching Hospitals Trust experience of Burst 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 Burst SCS.

c. Prospective research shows Burst 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 Burst SCS in failed back surgery syndrome (FBSS) and chronic visceral pain.

3. Results

	Average pain (VAS, cm)	Worst pain (VAS, cm)	QoL (EQ-5D-3L)
Baseline	7.08 (1.63)	8.86 (1.45)	0.08 (0.36)
Follow-up	* 4.86 (2.46)	* 6.39 (2.82)	* 0.28 (0.44)
Mean (SD) change	-2.22 (2.65)	-2.47 (2.71)	0.20 (0.43)

b. Remission (0-3cm average pain VAS) occurred in 23% (24 of 106) of patients. $\geq 50\%$ reduction in average pain occurred in 27% (25 of 93) of patients.

c. 17 patients (of 99, 17%) underwent a revision. Battery maintenance (n = 6) and lead migration (n = 6) were the most common reasons for revision.

11 (of 112, 10%) patients had an explant. Insufficient pain relief was the most common reason for explant (n = 8), followed by infection (n = 3) and requiring an MRI (n = 1). IPG site pain was cited as a secondary influential factor for explantation in two cases.

2. Materials and methods

Patients with FBSS or chronic visceral pain with fully implanted BurstDR (n = 112)

Patients who attended a follow-up visit (n = 110)

Patients with currently implanted system (n = 99)

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 Burst 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 Burst SCS in FBSS and chronic visceral pain.