

Streamlining Spinal Cord Stimulation Therapy Via Personalized Automation of Programming

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BACKGROUND

Treatment of chronic pain using contemporary Spinal Cord Stimulation (SCS) devices now routinely involves the personalized delivery of therapy via application of highly customized neurostimulative settings and approaches per the specific preference and clinical response of each patient. As such, there is a large compendium of published studies that report positive clinical outcomes in patients with access to multiple SCS-based chronic pain treatment options within a single device.¹⁻⁵ Individualized automation of SCS programming (i.e., preset, automatic modulation of neurostimulative programming according to one's schedule/activities/other) is yet another, more recently-introduced customizable feature provided on commercially-available SCS-systems that some patients use. Here, we present outcomes of Fast-Acting Sub-Perception Therapy (FAST) implemented with an automated neural dosing regimen (FAST AutoDose) as part of a multicenter observational case series.

METHODS

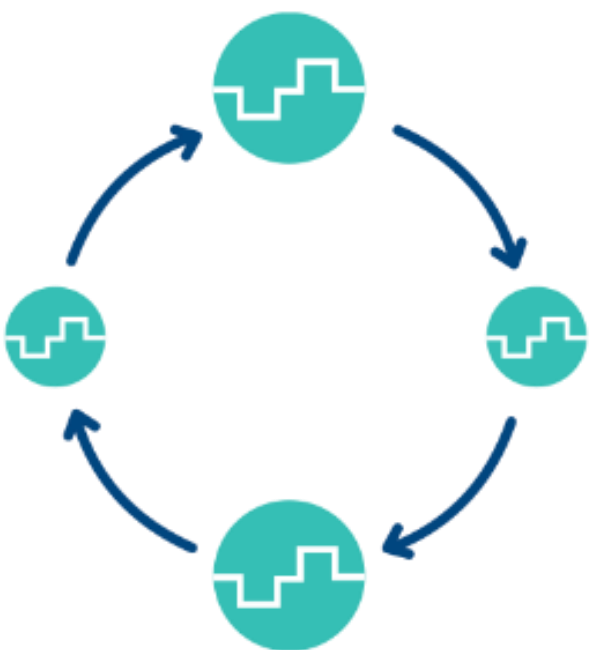
Study Design	Multicenter, Consecutive, Observational, Case-Series. Data collected by site personnel only.
Study Device	Spinal Cord Stimulation (SCS) System (WaveWriter Alpha, WaveWriter, Precision Spectra, Boston Scientific): •Engage multiple mechanisms of action •Paresthesia-Guided Stimulation Field Targeting, Fast-Acting Sub-Perception Therapy (FAST) •Customized Field Shape Programming (Contour) •3D Neural Targeting Algorithm with Multiple Independent Current Control (MICC)
Cohort	77 patients diagnosed with chronic pain

RESULTS

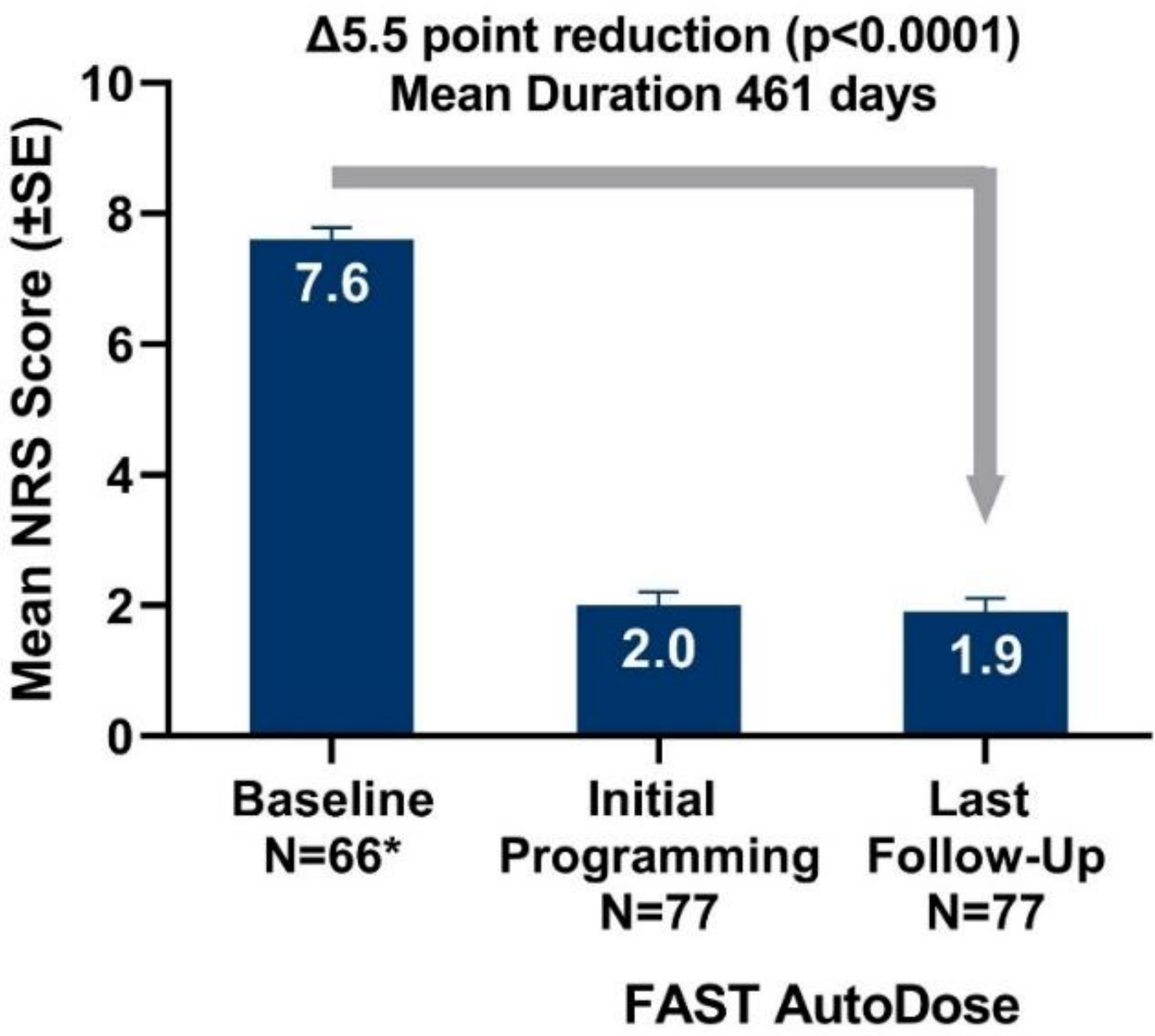
Baseline Characteristics (n = 77)

Gender - Males (%)	49% (38/77)
Age [Mean (SD)]	67.6 (13.2) years n = 76
Pain Location (%)	Low Back Pain (81%)
Baseline NRS [Mean (SD)]	7.6 (1.5) n = 66

FAST AutoDose automates neural dosing by delivering a proactive stimulation bolus within specified intervals to potentially reduce habituation and provide significant and durable pain relief.



Durable Pain Relief with FAST AutoDose (n = 77)



- Mean duration from Initial Programming of FAST AutoDose to Last Follow-up Visit with FAST AutoDose is 131 Days (range: 14 to 480)
- 88% responder rate (≥50% pain relief)

- A mean 5.5-point improvement from Baseline was achieved with FAST AutoDose (p<0.0001)

*11 subjects had missing baseline NRS scores in their medical record

CONCLUSIONS

- Results from this observational multicenter, case-series demonstrates that FAST AutoDose provides significant and durable improvement in overall pain.
 - ❑5.5-point improvement in overall NRS pain score (7.6 →1.9, n = 77)
 - ❑88% responder rate (≥50% pain relief)
 - ❑FAST AutoDose therapy demonstrates sustained pain relief with a mean duration of 461 days
- By delivering automated neural dosing personalized to each patient's perception threshold, FAST AutoDose simplified therapy and provided significant and durable paresthesia-free pain relief

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DISCLOSURES

Study Sponsored by Boston Scientific. Dr. Ferro has a consulting agreement with Boston Scientific. Kacey Auten, Yu Pei, and Edward Goldberg are employees of Boston Scientific.