

# DRG Stimulation is an Effective Treatment for Patients with Causalgia of the Lower Extremities.

Authors: <sup>1</sup>Robert Heros MD, <sup>2</sup>David Schultz, MD., <sup>3</sup>Jan Vesper, M.D., PhD, <sup>4</sup>Udoka Okaro, PhD, <sup>5</sup>Denis Patterson, DO, <sup>6</sup>Jason Pope, MD, DABPM, FIPP.

Spinal Diagnostics, Tualatin, OR, USA, <sup>1</sup> Nura Pain Clinic, Minneapolis, MN, USA, <sup>2</sup> Heinrich-Heine-Universität Düsseldorf, Denmark, <sup>4</sup> Abbott Lab, TX, USA, <sup>5</sup> Nevada Advanced Pain Specialists, NV, USA, and <sup>6</sup> Evolve Restorative Center, CA, USA.

## INTRODUCTION

Chronic pain is one of the most common health issues posing a significant economic strain on society. Amid the current opioid crisis, there is a need to explore alternative but effective non-drug pain therapies. Causalgia, known as complex regional pain syndrome type II (CRPS II) arises after an injury or trauma to a peripheral nerve.<sup>1</sup> Dorsal Root Ganglion Stimulation (DRG-S) is more effective than spinal cord stimulation in treating CRPS of lower extremities due, in part, to its targeted coverage to challenging focal pain areas.<sup>2</sup> The goal of the sub-analysis of data from the prospective, multi-center, REALITY study (NCT03876054) is to assess the effectiveness of DRG-S in treating Causalgia of the lower extremities - knee and ankle/foot pain patients.

## METHODS

Subjects enrolled in the REALITY study (NCT03876054) who received DRG-S treatment for knee (KS) or ankle/foot (AFS) were identified. Baseline and 6m follow-up data were collected for change in pain intensity (0-10 numeric rating scale-NRS), physical function, fatigue, and pain interference (PROMIS-29 questionnaire). Data was compared within groups (Knee vs. Ankle/foot).

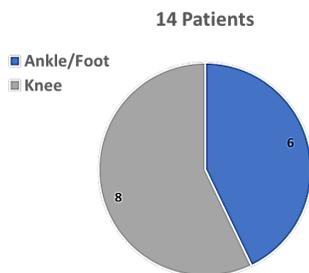
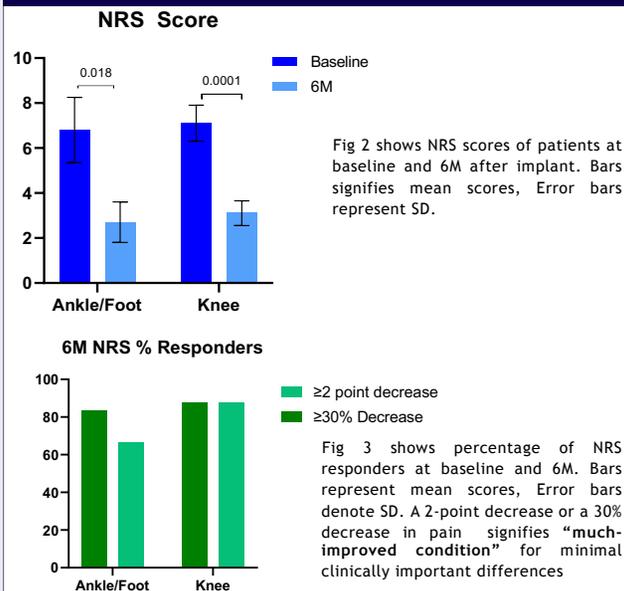


Fig 1 shows the ratio of Ankle/Foot subjects (AFS) vs. Knee pain subjects (KS) who received DRG-S.

## RESULT



Mean (SD) baseline pain intensity decreased from 6.8 (±2.9) to 2.7 (±1.6) in AFS and 7.1 (±1.8) to 3.1 (±1.1) in KS. >66.7% of AFS and 75% of KS reported a 50% decrease in pain signifying "substantial improvement" for minimal clinically important differences. >66.7% reported ≥2-point decrease in pain scores indicating "much-improved condition" for minimal clinically important differences for both cohorts.

Physical function improved with a 67% increase in both groups as well as a decrease in fatigue and pain interference. 75% of subjects were satisfied with DRG-S for KP and 66.7% for AFP.

## DISCUSSION

DRG-S is effective in reducing Ankle/Foot pain and Knee pain from CRPS II. More than 71.4% (10/14) subjects reported 50% decrease in pain.

PROMIS-29 scores indicate patients observed improved psychosocial effects such as less anxiety, decrease in depression and fatigue alongside improved physical function and sleep.

## CONCLUSION

In summary, at 6 months, DRG-S subjects reported improvements in pain and physical function. Our preliminary results indicated DRG-S is an effective therapy for patients with lower extremities causalgia knee or ankle/foot.

## REFERENCES

- Guthmiller KB, Dey S, Varacallo M. Complex Regional Pain Syndrome. 2021 Jul 15. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2021 Jan-. PMID: 28613470.
- Deer, T. R. et al. Dorsal root ganglion stimulation yielded higher treatment success rate for complex regional pain syndrome and causalgia at 3 and 12 months: a randomized comparative trial. Pain 158, 669-681, doi:10.1097/j.pain.0000000000000814 (2017).



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