

# Dorsal Root Ganglion Stimulation Reduces Pain and Improves Physical Function for Causalgia Patients.

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## INTRODUCTION

Causalgia, also known as complex regional pain syndrome type II, develops after a peripheral nerve injury or trauma.<sup>1</sup> Causalgia patients have chronic pain that interferes with physical function and lowers their quality of life so treatments are implemented to improve physical function and reduce pain.<sup>2</sup> Dorsal Root Ganglion Stimulation (DRG-S) is an effective treatment for CRPS-II of the lower extremities.<sup>3</sup> The sub-analysis of data from the prospective, multi-center, REALITY study (NCT03876054) is to demonstrate the effectiveness of DRG-S in patients with causalgia.

## METHOD

CRPS II subjects enrolled in the REALITY study (NCT03876054) who received DRG-S treatment were identified and analyzed based on focal pain area and affected nerve- (Abdomen, Ankle/Foot, Chest, Groin, Hip/pelvis, and knee). Patient-reported data for pain intensity (NRS), global health (PROMIS-29), and Patient global impression of change (PGIC) were collected.

31 Patients

■ Abdomen ■ Ankle/Foot ■ Chest ■ Groin ■ Hip/Pelvic ■ Knee

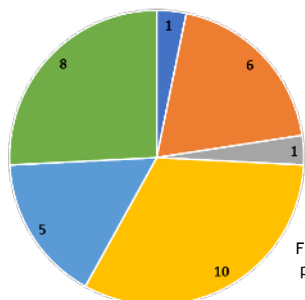


Fig 1 shows the distribution of patients who received DRG-S.

## RESULT

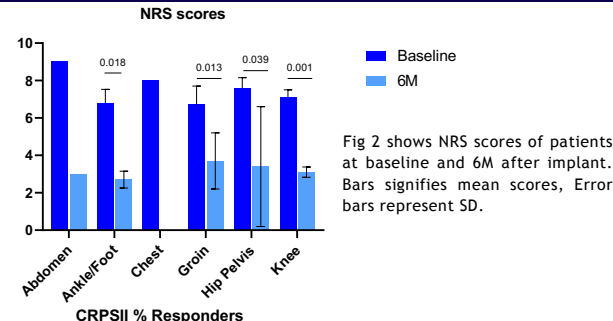


Fig 2 shows NRS scores of patients at baseline and 6M after implant. Bars signifies mean scores, Error bars represent SD.

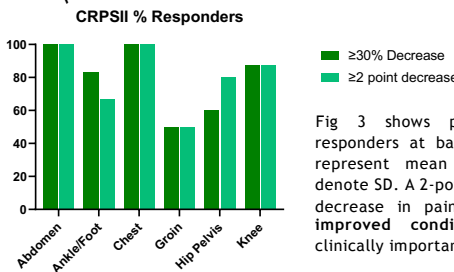


Fig 3 shows percentage of NRS responders at baseline and 6M. Bars represent mean scores, Error bars denote SD. A 2-point decrease or a 30% decrease in pain signifies "much-improved condition" for minimal clinically important differences

Six-month data were available for 31 subjects: 1- Abdomen, 6-Ankle/Foot, 1-Chest, 10-Groin, 5-Hip/Pelvis, and 8-Knee. 22/31 (71.0%) of patients had at least a 2-point decrease or a 30% decrease in pain at 6 months signifying "much-improved condition" for minimal clinically important differences. (Individual cohort scores are shown in Figs 2 and 3 above). The average PCS score improved from  $26.8 \pm 14.0$  at baseline to  $16.0 \pm 14.6$  ( $p = 0.0004$ ). 25/31 (80.7%) of subjects reported improved physical function. 23/31 (75.2%) of subjects were satisfied or very satisfied with DRG-S and would recommend the procedure. Overall, 26/31 (83.9%) would redo the procedure.

## DISCUSSION

DRG-S showed significantly improved conditions for pain scores and reduced catastrophizing thoughts for all patients. Pre-implant NRS pain score was reported as  $7.9 (\pm 1.9)$  and most patients reported high helplessness score on the PCS scale when compared to rumination and magnification. Six months post-implant, NRS pain score reduced to  $3.2 (\pm 2.9)$  with significantly improved PCS score. Helplessness score at 6M decreased significantly.

In majority opatients reported improved physical function and would recommend the procedure

## CONCLUSION

DRG-S is effective in treating causalgia for various extremities.

## REFERENCES

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