

Effects of Peripheral Nerve Stimulators in Peri-Operative and Chronic Amputation Pain Patients

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INTRO

- Peripheral nerve stimulation (PNS) has evolved from permanently implanted systems to minimally invasive, temporary leads placed under ultrasound guidance.
- It offers a promising alternative for focal pain conditions, including perioperative pain.
- This study evaluates the efficacy of temporary PNS in reducing pain and improving quality of life in both acute and chronic post-amputation (defined as 60 days post-amputation) pain patients.

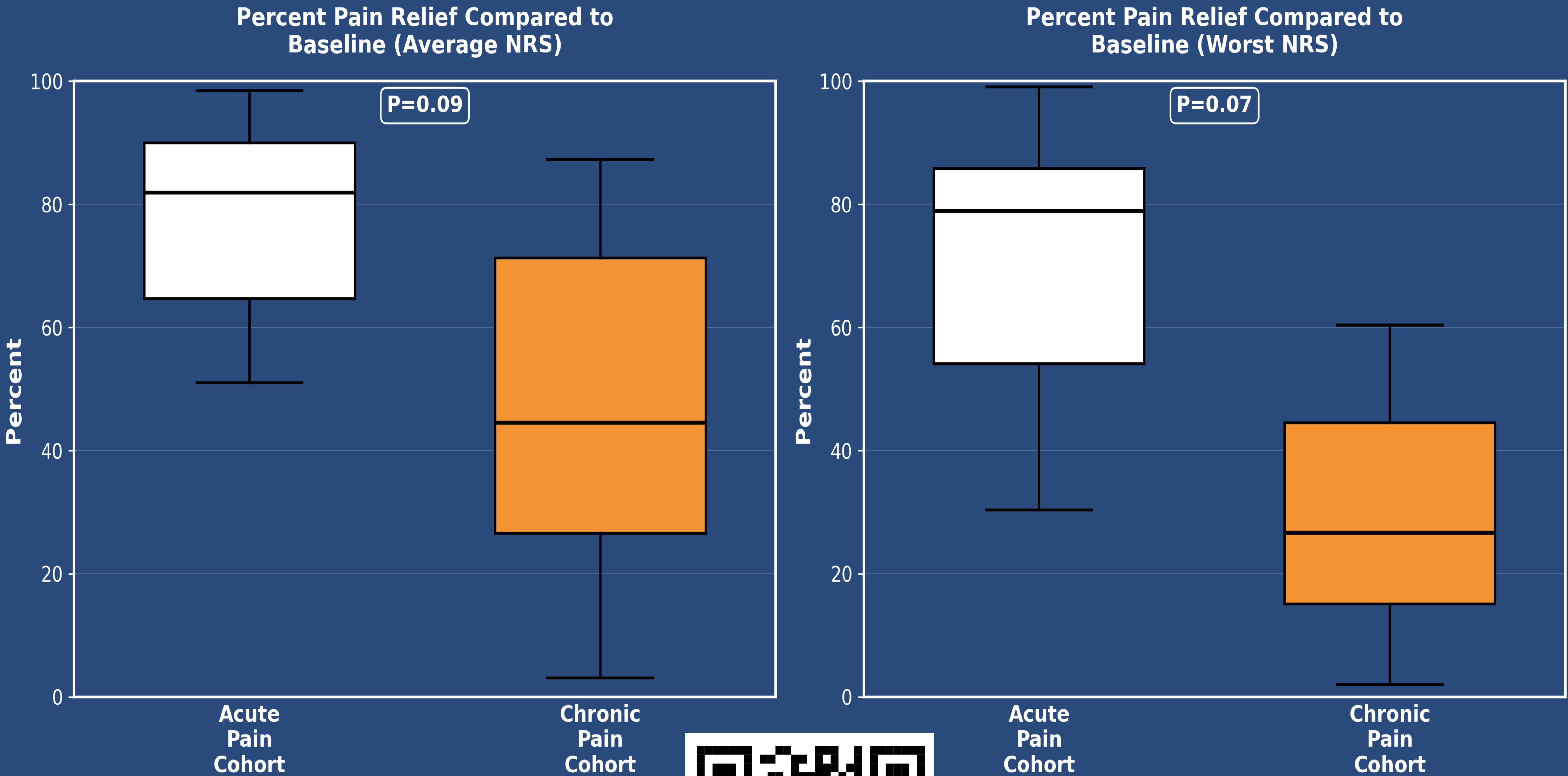
METHODS

- IRB-approved retrospective analysis at Penn State Hershey (2021-2024)
- 67 patients total:** 58 acute, 9 chronic (≥60 days post-amputation)
- Primary outcomes: **Pain scores (NRS), quality of life, physical function, sleep**
- Statistical analysis: Wilcoxon rank sum and chi-squared tests

RESULTS

- PNS was associated with **clinically meaningful improvements in pain and patient-reported outcomes** in patients with lower extremity amputation pain treated **in both the acute and chronic settings**.
- At the end of treatment, the median percentage [quartiles] **improvement** in average pain score compared to baseline was 90% [57.5%, 100%] versus 80% [27.5%, 85.0%] in the acute versus chronic pain cohorts, respectively (P=0.09).

PNS improves pain and quality of life regardless of when you start it, though **EARLY** treatment shows the best trends.



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90%

Pain reduction in acute cohort

80%

Pain reduction in chronic cohort

88%

Of acute patients reported improved Quality of Life

43%

Of chronic pain patients reported improved Quality of Life