Effects of Peripheral Nerve Stimulators in Peri-Operative and Chronic 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.

METHODS

- A retrospective analysis of 185 patients treated with PNS at Penn State Hershey Medical Center (2021–2024) was conducted.
- 105 Peri-operative and 80 chronic pain patients.
- Outcomes were assessed using NRS scores, PGIC metrics, and medication usage patterns over treatment durations ranging from 1 to 107 days.

RESULTS

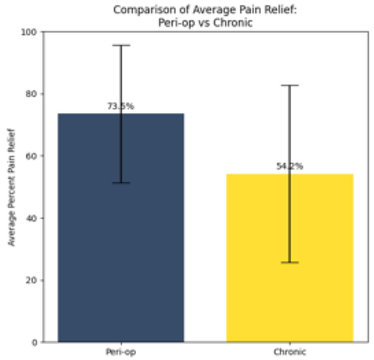

Figure 1: Peri-Op (n=105) vs Chronic (n=80), p<0.001

DISCUSSION

- Early intervention in perioperative settings may prevent acute pain from progressing to chronic pain.
- Future research should refine patient selection criteria and explore long-term outcomes.
- Future studies should target a possible higher success rate with 2 nerve intervention when possible.

PennState Health

Peri-operative PNS placement

reduced 60 day post-op pain by

16.8% (p<0.001).

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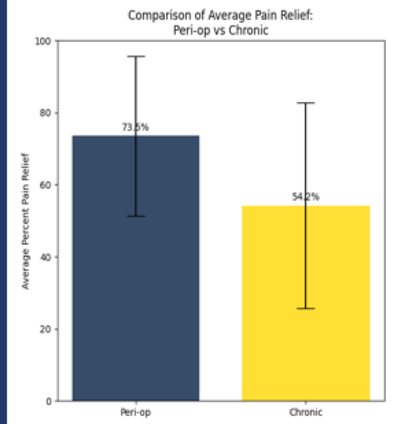

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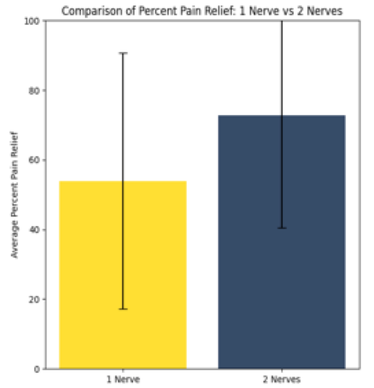

Figure 2: 1 Nerve Intervention (n=39), 2 Nerve Intervention n=(76). P-value = 0.0273