



Shoulder Surgery Avoidance Through Multiple Years Following 60-Day PNS Treatment: Outcomes from a Cross-Sectional Follow-Up Survey Study

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BACKGROUND

- Shoulder pain is highly prevalent and can become chronic and disabling.^{1,2}
- Refractory pain can result in major procedures like surgery that are invasive, costly, and pose significant risk to patients.
- Common shoulder surgeries like arthroscopic rotator cuff repair and shoulder arthroplasty carry significant costs, risks, and high rates of postoperative opioid use.³
- The present study evaluated outcomes including surgery avoidance in a shoulder pain population following percutaneous 60-day peripheral nerve stimulation (PNS) treatment.

METHODS

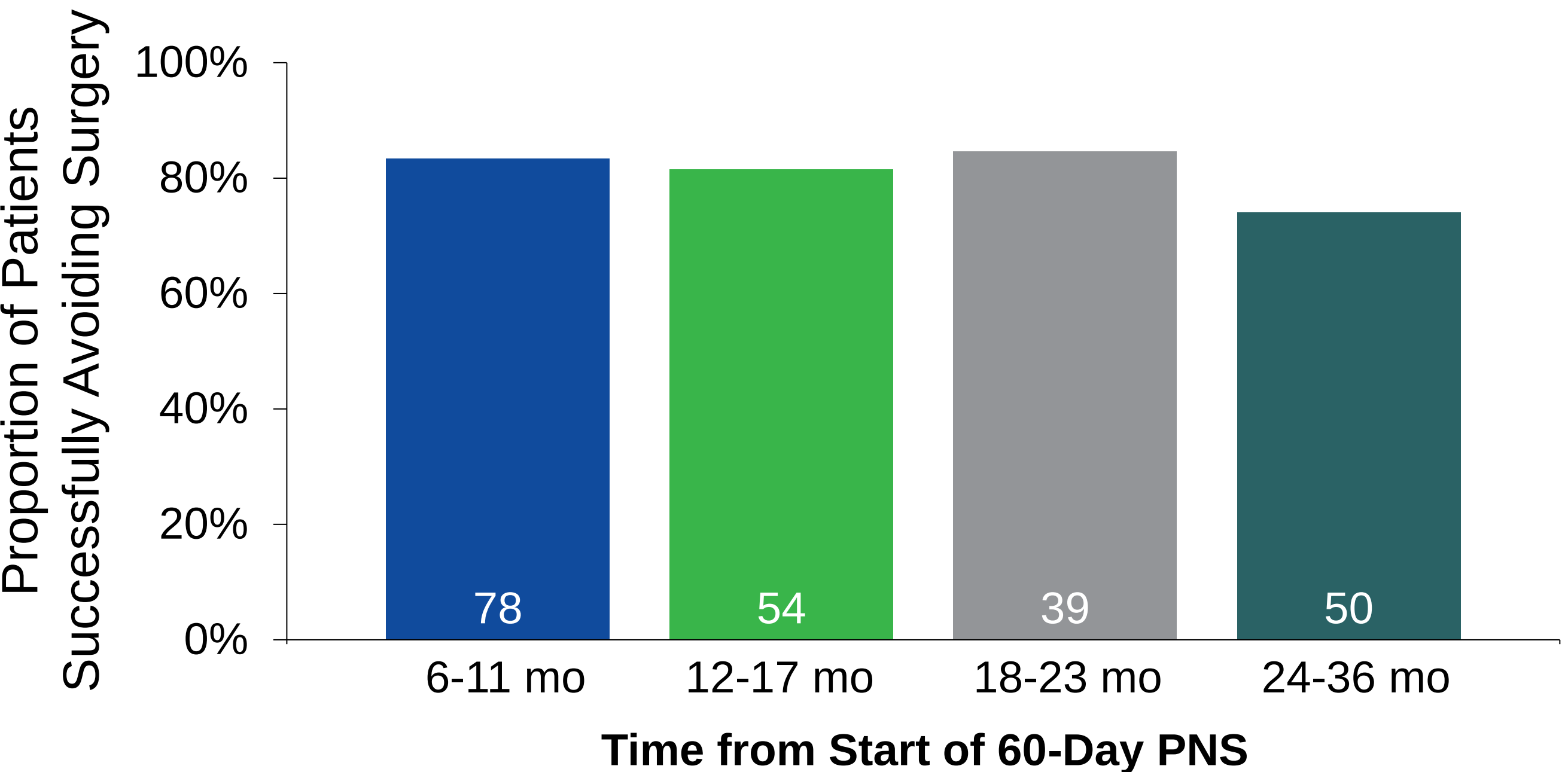
- IRB-approved cross-sectional follow-up survey of patients who:
 - underwent 60-day PNS treatment of shoulder pain
 - were at least 6 months from the start of treatment
 - responded with $\geq 50\%$ pain relief at the end of treatment (EOT)
- Outcomes included patient-reported percent pain relief, average and worst pain scores, and patient global impression of change (PGIC) in quality of life, physical function, and sleep.
- Patients also reported on the use or avoidance of other treatments and interventions for their shoulder pain since the 60-day PNS treatment including any new or changes in medications.
- Data presented as mean $\pm$ SD.

RESULTS & DISCUSSION

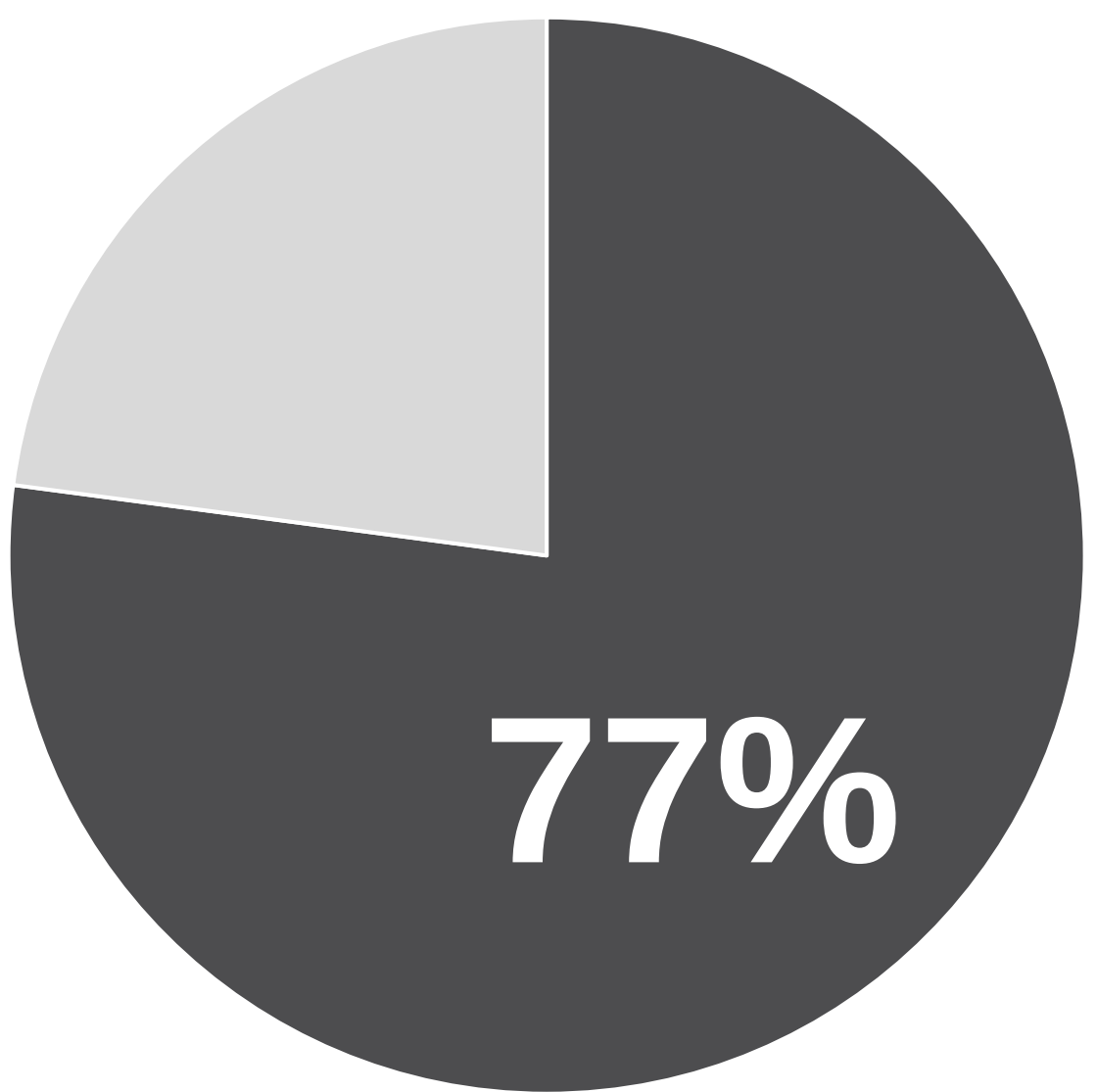
Durable Pain Relief Enabled Shoulder Surgery Avoidance in a Majority of Patients Following 60-Day PNS.

- 221 survey respondents reported that they used 60-day PNS to help delay or avoid shoulder surgery.

81% (179/221) reported successfully avoiding surgery as of follow-up survey completion.



Among those avoiding surgery after 60-day PNS:



- 77%** (138/179) were durable responders with $\geq 50\%$ pain relief at follow-up survey completion
- 64%** mean percent pain relief among durable responders

Patients avoiding surgery were also more successful at reducing or stopping pain medication use.

69%

reported reducing or stopping medication use compared to pre-PNS baseline (115/166), vs. 50% (19/38) among those who advanced to surgery after 60-day PNS.

97%

also reported avoiding permanent neurostimulator implant following 60-day PNS

85%

also reported avoiding RFA or injections following 60-day PNS

Demographics of Surgery Avoidance Survey Cohort (n=221)

Sex	68% F
Age	69.0 $\pm$ 11.8
Baseline Average Pain	6.1 $\pm$ 1.8
Baseline Worst Pain	8.8 $\pm$ 1.5

Months from Start of 60-Day PNS

6-11 Months	78 (35%)
12-17 Months	54 (24%)
18-23 Months	39 (18%)
24-36 Months	50 (23%)

Causes of Shoulder Pain

Injury/Trauma	116 (52%)
Osteoarthritis	116 (52%)
Post-Operative	0 (0%)
Nerve/Neuralgia	1 (0.5%)
Post-Stroke	5 (2%)
Other	14 (6%)
Unknown	24 (11%)

Most Common PNS Targets (1 or 2 nerve targets per patient)

Suprascapular N.	184 (83%)
Axillary N.	134 (61%)
Brachial Plexus	3 (1%)

As a follow-up survey, safety outcomes were not directly assessed in this study.

CONCLUSIONS

- Percutaneous 60-day PNS treatment can provide durable relief and improve outcomes while potentially enabling patients to avoid surgery and its attendant significant healthcare costs.
- Avoiding the cost and invasiveness of shoulder surgeries and the sustained use of opioids that often accompany them is a substantial benefit to patients, payers, and society at large.

REFERENCES

1. Crookes et al., Aus J Gen Pract, 2023; 2. Burbank et al., Am Fam Physician, 2008; 3. Leroux et al., Am J Sports Med, 2019
Support for this study was provided by SPR Therapeutics. The authors are grateful for the contributions of the Patient Support and Clinical Affairs teams at SPR Therapeutics, including Diamond Haynes, Lauren Easley, Rosemary Zang, and Jacqui Lingler. GL and SC are consultants to SPR Therapeutics. NC and JB are employees of SPR Therapeutics and hold stock options in SPR Therapeutics.