

BACKGROUND

- Neck pain has an incidence of 10.4% to 21.3% per year and is the fourth leading cause of disability.
- One of the most common etiologies is cervical facet joint pain, accounting for about 60% of cases.
- Limited treatment options exist, if conservative measures are inadequate.

OBJECTIVE

To report pain and disability outcomes with the use of cervical medial branch nerves temporary peripheral nerve stimulation

METHODS

- Single-center retrospective case series of 7 subjects
- Eligibility criteria included age >18 years old and chronic axial neck pain refractory to conservative measures
- Patients with and without previous cervical spine surgery were included
- Cervical medial branch nerves temporary (SPR) 60-day PNS were placed under fluoroscopy
- Device settings titrated to effect for each patient
- Pain was assessed before and after treatment using the numeric rating scale (NRS) and the Oswestry disability index (ODI)
- Minimal clinical important difference (MCID) and descriptive statistics were utilized for pain and disability scores
- MCID was defined as >1.7-point reduction in NRS and >10-point reduction in ODI
- A p value of <0.05 was defined as statistically significant

RESULTS

- Average patient age was 72.4 years old with patients reporting axial neck pain for greater than 12 months.
- Most common diagnosis was cervical spondylosis without myelopathy or radiculopathy.
- Three of the seven patients had a history of cervical spine surgery.
- Mean NRS at baseline was 5.5 ± 1.7 with a mean ODI of 40.6 ± 13.2 .
- After 60 days of treatment, mean NRS was 3.3 ± 2.5 with a mean ODI of 27.2 ± 9.8 .
- There was both a statistically significant ($p < 0.05$) and minimal clinical important difference (MCID) in pain and disability from baseline to 60-day follow-up.
- There were no serious adverse events. One subject had skin irritation from the dressing which resolved with dressing changes. One subject was unable to complete the therapy period due to an unrelated upper extremity infection and subsequent premature lead removal.

	NRS at Baseline	NRS at 60-day Follow-up	% Pain Relief at 60-day Follow-up	ODI at Baseline	ODI at 60-day Follow up
Previous Surgery	5.8	4.4	20%	38.4	40.8
Surgery naïve	5.2	2.2	60%	42.8	13.6

CONCLUSION

- This retrospective single-center case series demonstrated statistically significant and MCID improvement in pain and function from baseline up to 60-day follow-up following temporary cervical medial branch PNS therapy.
- Our findings suggest that this may be a promising adjunctive therapy in very carefully selected patients with refractory chronic axial neck pain from a facet joint etiology.
- Further longitudinal studies needed with a prospective analysis beyond 60-day therapy.

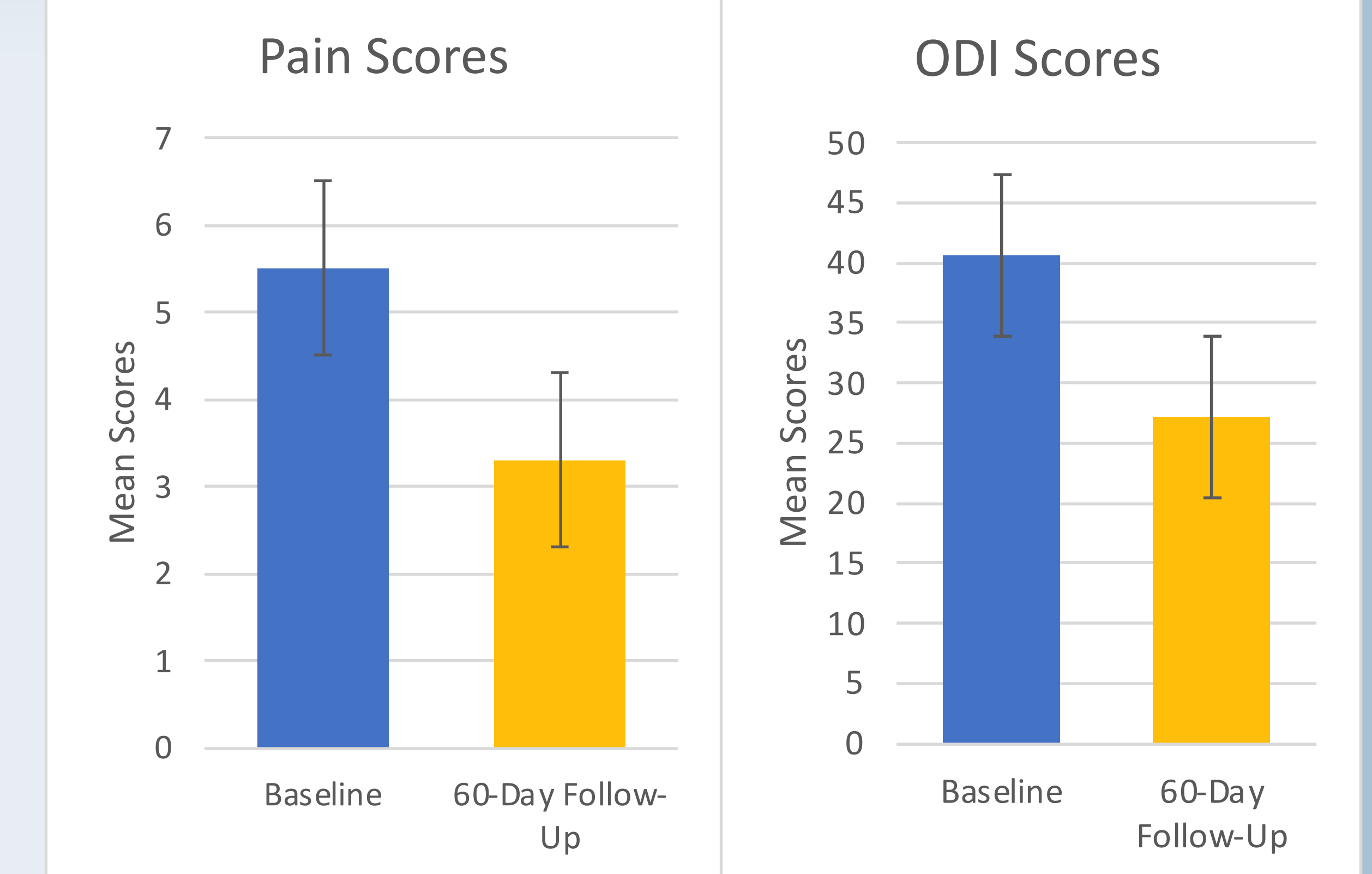


Figure 1. Bar chart summarizing patient outcomes.

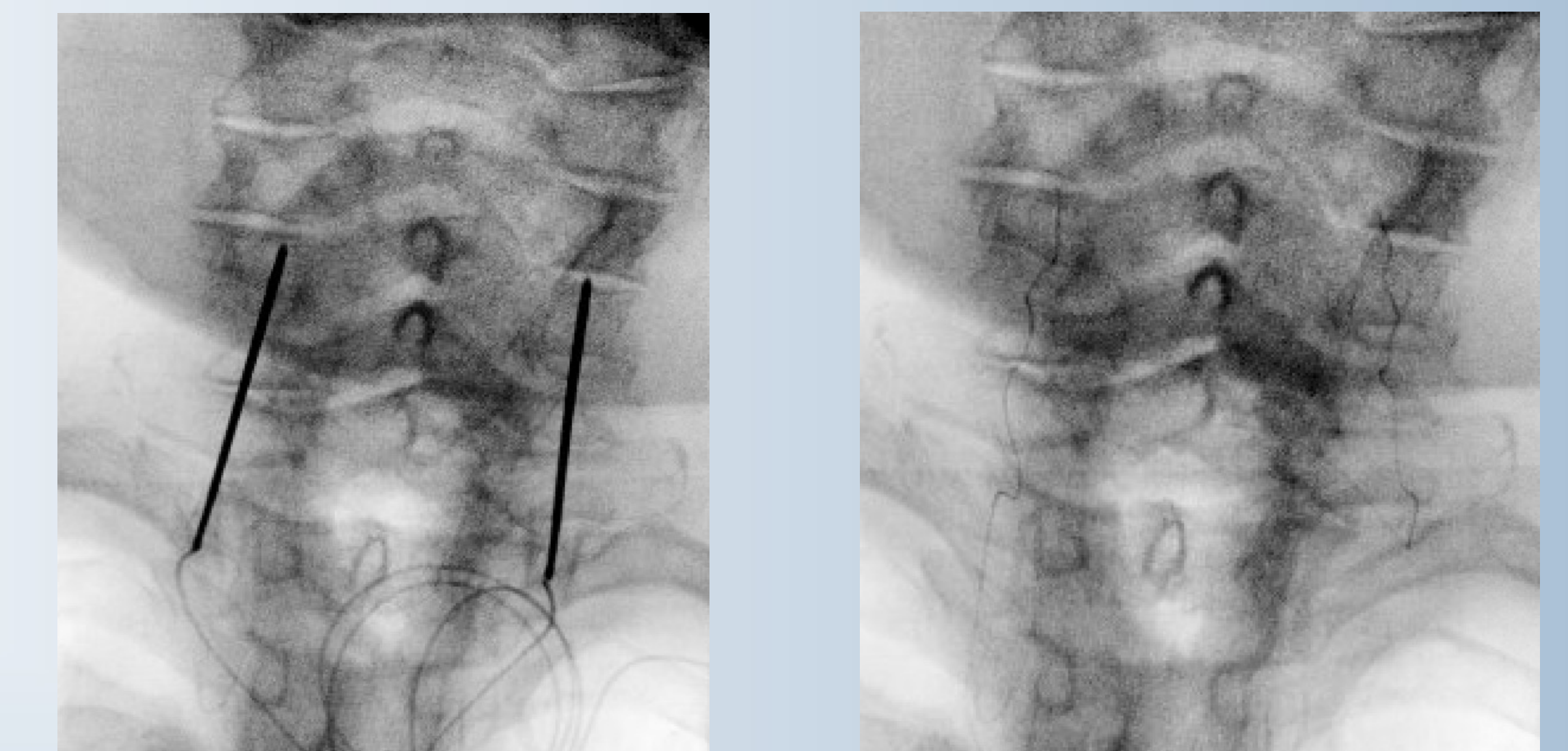


Figure 2. Fluoroscopy images during and after lead placement.