

# A multicenter Trial of Percutaneous Neuromodulation Therapy for Low Back Pain Patients with a Subacute Duration of Lower Extremity Pain

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## **Introduction:**

We performed a prospective multicenter trial of percutaneous neuromodulation therapy (PNT) for low back pain patients (LBP) with a subacute duration of radiating pain. PNT is a more standardized method of delivering percutaneous electrical stimulation, previously validated for chronic LBP patients in randomized, controlled crossover trials [JAMA 1999; 281:818-23].

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## **Methods:**

Our study involved a multicenter study with 83 enrolled patients. Patients were recruited from clinical practice or advertisement, with inclusion criteria of: 1) buttock and/or leg pain duration of 1-6 months, and 2) pain intensity of at least 4/10 on a visual analog scale (VAS). PNT was administered once a week for at least 4 weeks, and consisted of 30-minute sessions with the patient prone, receiving electrical stimulation through 5 percutaneous electrode pairs deployed 3 centimeters into the lumbar paraspinal tissues. Outcome measures included VAS scores for pain, sleep and activity, as well as an Oswestry Disability Questionnaire.

## **Results:**

At 5-week follow-up, leg/buttock pain scores improved from  $6.6 \pm 1.7$  to  $4.0 \pm 2.6$  ( $p < 0.001$ ), activity levels improved from  $6.0 \pm 2.2$  to  $3.6 \pm 2.2$  ( $p < 0.001$ ), sleep scores improved from  $4.8 \pm 3.0$  to  $3.1 \pm 2.5$  ( $p < 0.001$ ), and Oswestry scores improved from  $43 \pm 15$  to  $33 \pm 16$  ( $p < 0.001$ ). 63% of patients had  $\geq 30\%$  improvement in leg/buttock pain scores.

## **Conclusion:**

PNT appears promising for treating LBP patients with a subacute duration of radiating pain.

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