Dorsal root ganglion stimulation (DRG) for chronic pain may be associated with paresthesia with reduced coverage area, intensity, and frequency compared with tonic spinal cord stimulation (SCS), according to a study published in *Neuromodulation*.

Although SCS has proven effective in the management of chronic intractable trunk and lower limb pain, DRG stimulation — which allows targeting of specific sensory afferent fibers and corresponding somatotopic areas — may offer additional benefits, including lower required amplitude and reduced possibility for overstimulation or understimulation because of movement.

A total of 75 participants (n=34 receiving SCS; n=41 receiving DRG) from the ACCURATE study (ClinicalTrials.gov identifier: NCT01923285) were selected for retrospective subanalysis of paresthesia coverage of affected areas. The ACCURATE study, a prospective randomized controlled trial, was conducted to compare the safety and efficacy of SCS vs DRG in patients with complex regional pain syndrome I or II.
At baseline, participants were asked to indicate the location of their pain on a lower limb and torso map. Three months after implantation of a stimulation device (SCS or DRG), they were asked to mark the same maps to indicate areas of paresthesia coverage. The intensity of paresthesia was rated using a 0 to 10 numeric rating scale. Maps were scanned, digitized, and superimposed on a 1398 square grid to quantify the body area initially affected by pain and by stimulation-induced paresthesia at the 3-month follow-up.

At 3 months, 92.7% and 76.5% of patients receiving DRG and SCS, respectively, reported ≥50% pain reduction. Participants who were implanted with a DRG vs SCS device indicated a lower percentage of paresthesia-covered painful areas (13% vs 28%, respectively; \( P < .05 \)). Of participants reporting ≥50% pain reduction at 3 months, a greater percentage of those receiving DRG vs SCS reported an absence of paresthesia (32% vs 9%, respectively; \( P < .05 \)). Participants receiving DRG vs SCS indicated stimulation-associated paresthesia over lower percentages of total body area, both in supine (3.4% vs 12.4%, respectively; \( P < .05 \)) and upright (3.1% vs 9.1%, respectively; \( P < .05 \)) positions, as well as paresthesia of lower intensity (2.12 vs 3.91, respectively; \( P < .01 \)) and frequency over the course of the month prior to the 3-month follow-up (34.1% vs 59.1%, respectively; \( P < .01 \)).

Patients with DRG vs SCS implants had lower unrequired paresthesia (ie, paresthesia in nonpainful areas; 20% vs 210% of total painful area, respectively; \( P < .01 \)).

“The results of this study show that DRG stimulation can effectively relieve pain while producing paresthesia, on average, that is less frequent, less intense, and with a smaller footprint on the body as compared to SCS,” concluded the authors.