

Use of cooled radiofrequency lateral branch neurotomy for the treatment of sacroiliac joint-mediated low back pain: A large case series

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Background: The sacroiliac joint (SIJ) complex has been identified as a common source of chronic low back pain. Radiofrequency (RF) neurotomy has been investigated in recent years as a minimally invasive treatment option for SIJ-mediated low back pain. A number of RF neurotomy methodologies have been investigated, including the use of cooled RF.

Objective: To retrospectively evaluate the use of cooled RF lateral branch neurotomy (LBN) to treat chronic SIJ-mediated low back pain in a large European study population. **Study Design.** The electronic records of 126 patients with chronic low back pain who underwent treatment with cooled RF LBN were identified. Subjects were selected for treatment based on physical examination and positive response ($\geq 50\%$ pain relief) to an intra-articular SIJ block. Cooled RF LBN involved lesioning the L5 dorsal ramus and lateral to the S1, S2, and S3 posterior sacral foraminal apertures. Visual analog scale (VAS) pain scores, quality of life, medication usage, and satisfaction were collected before the procedure, at 3–4 weeks postprocedure ($N = 97$), and once again between 4 and 20 months postprocedure ($N = 105$).

Results: When stratified by time to final follow-up (4–6, 6–12, and >12 months, respectively): 86%, 71%, and 48% of subjects experienced $\geq 50\%$ reduction in VAS pain scores, 96%, 93%, and 85% reported their quality of life as much improved or improved, and 100%, 62%, and 67% of opioid users stopped or decreased use of opioids.

Conclusions: The current results show promising, durable improvements in pain, quality of life, and medication usage in a large European study population, with benefits persisting in some subjects at 20 months after treatment. These results are consistent with previous study findings on the use of cooled RF to treat SIJ-mediated low back pain.

Key Words: Chronic Pain; Sacroiliac Joint; Cooled Radiofrequency; Intra-articular SIJ Block; L5 Dorsal Ramus (L5DR); Low Back Pain; S1-S3 Dorsal Rami

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