

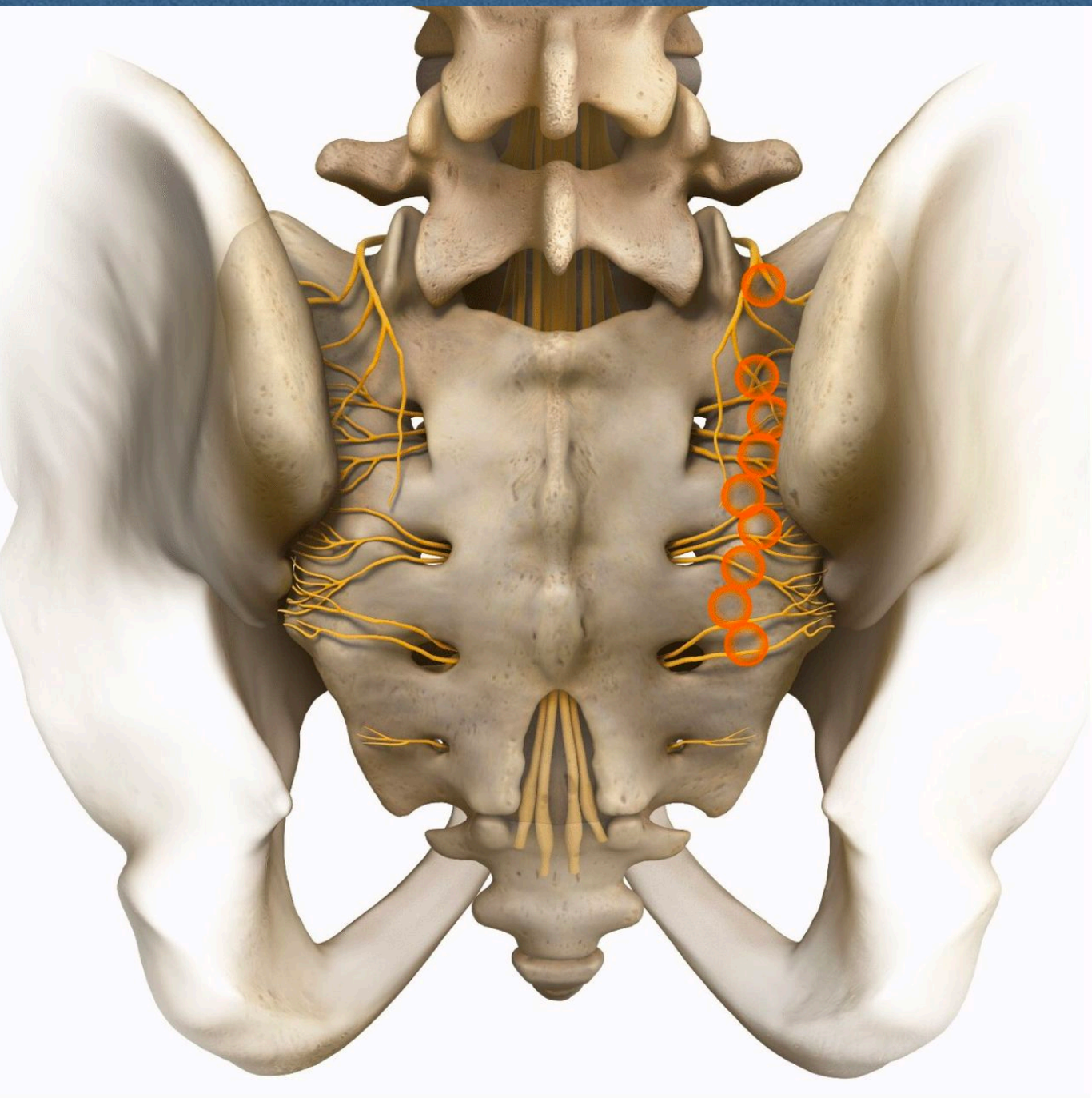
INTRODUCTION

Lower back pain is one of the most common musculoskeletal pains in the world. Among the lower back pain generators, sacroiliac joint (SIJ) pain accounts for about 13 to 30% of most lower back pains. Most first line treatments for this prevalent chronic problem are conservative such as, pharmaceutical, manual therapy and exercise therapy. However, when conservative therapies are unsuccessful in treating the SIJ pain, invasive techniques such as, steroid injections, radiofrequency ablation (RFA), or surgery may be utilized. Recently, a novel technique called RFA has been widely used as a treatment of SIJ pain. The basis of the RFA procedure works under the premise that high frequency electrical currents are passed through an insulated needle. The electrical field at the tip of the needle causes molecule movement and in turn produces thermal energy. Subsequently, this thermal energy creates a small lesion in the affected nerve and effectively disrupts the pain signal. Furthermore, the lesions created with this procedure are targeted at the S1, S2, S3 dorsal rami and L5 dorsal ramus. There are several randomized controlled trials and observational studies conducted, which affirm positive findings of this procedure. Therefore, further research into this procedure has a potential to improve the treatment of SIJ pain.

METHOD

A comprehensive scientific literature search was conducted through specialized databases such as MEDLINE, EMBASE, CINAHL, PubMed, MedlinePlus, PsycINFO, and Cochrane Library. The search terms used to retrieve the relevant literature in each of these databases were “efficacy radiofrequency ablation” OR “sacroiliac joint pain” OR "sacroiliac complex pain”.

This literature review examining the **efficacy of RFA for SIJ pain** shows **positive outcomes**. Those treated with RFA experienced **significant short-term and long-term pain reduction** and **functional improvement**.



RESULTS/EVIDENCE TABLE

Study	Treatment Groups	Key Findings
Systematic Review	Continuous Cooled RFA vs. Placebo	Both RCTs showed significant pain reductions in the RFA group compared to control.
Narrative Review	16 articles on RFA	13 out of 16 articles reported >50% relief of index pain at 6 months .
Randomized Prospective Design	Intraarticular Methylprednisolone vs. RFA	Both groups showed pain reduction at 1 month. RFA group had slightly greater decrease in NRS scores . At 6 months, IA group's pain reduction waned while RFA group sustained lower NRS scores. RFA group showed superior functional improvement and perceived effectiveness .
Comparative Effectiveness Study	RFA vs Standard Medical Management (medication, injections, integrative therapies)	RFA group had significantly greater reduction in pain (mean score of 3.8 on NRS) compared to standard medical management (mean score of 5.9 on NRS). RFA group also showed favorable results in disability index and quality of life.
Prospective Cohort Study	RFA	Patients experienced short-term and long-term pain relief. NRS pain scores decreased from baseline of 7.7 to 2.8 at one month and 3.1 at six months post-procedure . Pain relief was sustained at twelve and eighteen months. (NRS scores: 3.4 at twelve months, 4.0 at eighteen months)

DISCUSSION

RFA demonstrates consistent and significant pain reduction for SIJ pain, prolonged pain relief, and improved quality of life. Variability in selection criteria, nerve targets, and technical approaches across studies present challenges in drawing definitive conclusions. Standardizing RFA protocols is crucial for achieving more consistent results and enabling accurate comparisons between studies.