

Sacroiliac Joint Dysfunction: Evaluation and Management

Boris A. Zelle, M.D., et al.

The Clinical Journal of Pain 21, no. 5 (October 2005): 446-455

SI Joint Key Points

- A reliable examination technique to identify the sacroiliac joint as a source of low back pain seems to be pain relief following a radiologically guided injection of a local anaesthetic into the sacroiliac joint.
- "The anti-inflammatory effect of injection therapy is not permanent, and the injections do not offer an opportunity to stabilize an incompetent joint."
- Patients who do not respond to non-operative treatment should be considered for operative sacroiliac joint stabilization.

Introduction:

Although the sacroiliac (SI) joint is implicated as the main pain source in 10% to 25% of patients with low back pain, the diagnosis and treatment of SI joint disorders have been poorly defined in the literature. This article reviews the anatomy of the SI joint as well as the etiology, diagnosis, and management of SI joint disorders.

Etiology:

SI joint pain may arise from a number of etiologies, including inflammatory disease, infection, tumor, metabolic disorders, degenerative disease, iatrogenic conditions, referred pain, and trauma. The higher incidence of SI joint disorders in women and the increased prevalence during pregnancy support the concept that ligamentous laxity may be a significant contributor. Bernard and Cassidy (1991) reported that 58% of those with SI joint disorders presented with a history of minor trauma.

Clinical Presentation and Diagnosis:

Because of the complex innervation of the SI joint, pain that originates in the SI joint may refer to various anatomic regions, and diverse pain patterns have been documented. However, Dreyfuss et al. (1996) noted that pain referral above the L5 level was not found in patients with pain arising from the SI joint.

Due to the limited reliability and validity of most clinical SI joint tests, various combinations of clinical tests have been suggested for the diagnosis of SI joint disorders. For example, Cibulka and Koldenhoff (1999) reported 0.82 sensitivity, 0.88 specificity, 0.86 positive predictive value, and 0.84 negative predictive value when a combination of tests was used. Broadhurst and Bond (1998) found that the FABER, POSH, and REAB tests in combination had a high predictive value for SI joint pain.

Intra-articular injection of anesthetic into the SI joint can be considered the diagnostic gold standard for SI joint disorders. Although radiological evaluation of the SI joint has not been found helpful in diagnosing SI joint disorders, imaging (usually by CT, MRI, and scintigraphy) is important to rule out sacroiliitis, fractures, or tumors.

Management:

There is no established standard treatment of SI joint disorders. An osteopathic approach uses joint-specific manipulative techniques in order to restore normal joint function. Physical therapy strategies emphasize lumbopelvic stabilization and correction of SI joint asymmetry and muscle imbalance. Although current literature suggests that most patients with SI joint disorders benefit from manipulation therapy, it remains uncertain whether this treatment approach can prevent pain recurrence.

Radiographically guided anesthetic injections into the SI joint have therapeutic as well as diagnostic value. However, the anti-inflammatory effect is temporary, and the injections do not stabilize the joint. Treatments such as lateral branch blocks and prolotherapy need further clinical trials to establish success rates.

Surgical treatment options include SI joint denervation and arthrodesis. Cohen and Abdi (2003) recommend controlled clinical trials for radiofrequency denervation; they reported a successful outcome at 9 months follow-up in 8 of 9 patients who underwent the procedure. Surgical fixation of the SI joint has been performed with a number of techniques, including percutaneous (and therefore less invasive) procedures. Optimal patient selection is required in order to obtain satisfactory clinical outcomes.

Conclusions:

Although SI joint disorders is a common problem, widely accepted diagnostic and treatment guidelines have not been established in the literature. Most patients respond to nonoperative treatment, and surgical procedures should be considered only if the diagnosis has been firmly established and nonoperative options have been thoroughly addressed. The authors offer a recommended algorithm for the management of SI joint pain.

The iFuse System is intended for sacroiliac joint fusion for conditions including sacroiliac joint disruptions and degenerative sacroiliitis. As with all surgical procedures and permanent implants, there are risks and considerations associated with surgery and use of the iFuse Implant. Please review the iFuse Instructions For Use for a complete discussion of contraindications, warnings, precautions, and risks.