Ultrasound-Guided Sacroiliac Joint Injection Technique

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Sacroiliitis is an inflammatory process frequently involving one or both sides of the sacroiliac (SI) joints. It is one of the major clinical features of spondyloarthropathies.1 Treatments for sacroiliitis include taking nonsteroidal anti-inflammatory drugs and the application of physical modalities. However, in severe painful cases, local treatment of the SI joint through intraarticular corticosteroid injection can provide fast and considerable clinical improvements.1

Because of the complex anatomical structure of the SI joint, injection to this joint using blind palpation technique often results in low accuracy.2 As a result, it is important to use image guidance to perform successful SI joint injection. Ultrasound-guided injection of the SI joints has been demonstrated to have a high success rate of up to 90%.3 A study has shown that the accuracy of ultrasound-guided SI joint injection increases with the number of injection procedures performed.1

Curvilinear transducer is recommended in this injection technique because it can cover a wider cross-section of the scanned area as compared with a linear transducer.4 Similar to the caudal epidural injection technique, the patient is placed in a prone position to receive this injection.

![Figure 1](image1.png)

**FIGURE 1** After the sacral cornu is identified, the transducer is moved in a lateral direction until the lateral edge of the sacrum is observed. The transducer is then moved in a cephalad direction until the sacroiliac joint is identified.

![Figure 2](image2.png)

**FIGURE 2** The cleft between the bony contours of the sacrum and ilium represents the lower one third of the sacroiliac joint.

treatment. The transducer is placed in a transverse orientation to identify the sacral hiatus first. After identifying the sacral cornu, the transducer is moved in a lateral direction until the lateral edge of the sacrum is observed (Fig. 1). With the transducer maintained in the transverse orientation, it is then moved in a cephalad or upward direction until the bony contour of the ileum is identified. The cleft between the bony contours of the sacrum and ileum represents the posterior aspect of the SI joint (Fig. 2). By tilting the transducer in a caudal direction, the lower one third of the SI joint is identified.

Because of its synovial component, the lower one third of the SI joint is the portion of the entire SI joint in which the injection should be performed. The medial to lateral approach is preferred for the ultrasound-guided SI joint injection (Fig. 3). It has been reported that even if the injectant is not administered accurately into the SI joint, ultrasound guidance can at least ensure periarticular deposition of the injectant to the lower one third portion of the SI joint. Periarticular deposition of the steroid is believed to be effective as well in alleviating the pain induced by sacroiliitis.

REFERENCES