

# Journal Review

## Ultrasound can improve the accuracy of intra-articular injections and aspirations.

*Ultrasound is proving itself to be an effective tool guiding intervention due to its accuracy and sensitivity. Conventional blind interventional procedures may be particularly problematic when a small and/or deep target has to be reached or when an injection has to be carried out into a dry joint. Particular care must be taken to avoid direct needle contact with nerves, tendons, articular cartilage and blood vessels. Both the efficacy and the side effects of intra-articular injections depend upon the correct placement of the tip of the needle inside or around the lesion.*

### Ultrasound-guidance for hip injections is as accurate as fluoroscopy and CT.

Pourbagher MA, et al. Accuracy and outcome of sonographically guided intra articular sodium hyaluronate injections in patients with osteoarthritis of the hip. *J Ultrasound Med.* 2005 Oct;24(10):1391-5.

A hip osteoarthritis study evaluated the accuracy and outcome of ultrasound guided intra-articular hyaluronic acid injections. Proper intra-articular placement was verified with computed tomography before the hyaluronic acid injection. Ultrasound-guided intra-articular injection of hyaluronic acid for patients with hip osteoarthritis is easy to perform and is a safe, economical, and well-tolerated form of treatment. In contrast to fluoroscopic or computed tomographic guidance, the sonographic technique exposes neither the patient nor the physician to radiation.

### Ultrasound-guided injections provide greater improvement in pain relief than blind injections.

Naredo E, et al. A randomized comparative study of short term response to blind injection versus sonographic-guided injection of local corticosteroids in patients with painful shoulder *Journal of Rheumatology* 2004;31:308-14

Patients with painful shoulder were prospectively evaluated for their short term response to randomized blind injection versus ultrasound-guided injection of local corticosteroid. Six weeks after injection, the visual analog scale for pain and the Shoulder Function Assessment score showed a significantly greater improvement in the group receiving the ultrasound guided injection as compared with the group injected with the traditional blind technique. The researchers recommended that based upon their findings ultrasound-guided corticosteroid injections should be indicated, at least, in patients with poor response to previous blind injection to ensure accurate medication placement in order to improve therapeutic effectiveness.

### Ultrasound can detect volumes of effusion as small as 7.4 ml.

Delaunoy I, et al. Sonography detection threshold for knee effusion. *Clin Rheumatol.* 2003 Dec;22(6):391-2. Epub 2003 Oct 21.

In some cases, effusion is difficult or even impossible to identify within the traditional physical exam. Ultrasound proved its effectiveness in localizing even small amounts of effusion. A study determined the threshold for detecting knee effusion by ultrasound was 7.4 ml.

### Ultrasound-guided hip aspirations are effective.

Sofka CM, et al. Ultrasound-guided adult hip injections. *J Vasc Interv Radiol.* 2005 Aug;16(8):1121-3.

These authors believe that ultrasound is utilized as a primary method of image guidance for performing hip aspirations. Retrospective review of an ultrasound database revealed 358 adult hip aspirations/injections were performed at the authors' institution with no reported cases of inadvertent vascular or femoral nerve puncture. The absence of radiation and relatively short procedure time for ultrasound-guided hip injections are favorable factors to both the authors' referring clinician population as well as the patients.

### Ultrasound-guidance effective for viscosupplementation in the hip.

Migliore A, et al. Open pilot study of ultrasound-guided intra-articular injection of hylan G-F 20 (Synvisc) in the treatment of symptomatic hip osteoarthritis. *Clin Rheumatol.* 2005 Jun;24(3):285-9.

A prospective, open, uncontrolled pilot study investigated the safety and effectiveness of intra-articular injection under ultrasound control of hylan G-F 20 for the treatment of OA of the hip. The encouraging results demonstrate the potential of ultrasound-guided intra-articular injections of a viscosupplement into the hip joint.

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