

# How To Improve Results with Steroid Injection for Shoulder Pain

Do steroid injections help with shoulder pain or not? This question has been debated and studied for quite some time. There is some evidence that certain soft tissue disorders respond well to steroid injections. There is also some proof that injecting the correct site makes a difference in results. The outcome of this study supports the importance of accurate needle placement and injection for best results.

The researchers compared two treatment groups of shoulder pain patients. One group received steroid injections under the guidance of real-time ultrasonography imaging. The physician administering injections to the second group used visual landmarks to deliver the steroid to the shoulder. This second approach is referred to as a *landmark blind* injection.

There were 30 patients in each group. All were screened and evaluated carefully by one physician before being accepted into the study. They were matched by age, gender, which shoulder was affected, and duration of symptoms. No one was allowed in the study who had bone tumors, osteoporosis, shoulder arthritis, diabetes, or who had previously been treated for shoulder pain with steroid injections or Physical Therapy. Only those with tendon problems, impingement, bursitis, partial rupture of the biceps tendon, or rotator cuff lesions were injected.

Everyone was tested before the injection with one follow-up re-testing six weeks after the injection. Measures compared included level of pain, motion, activity, and function. Patients were asked to describe any adverse responses they might have experienced following the injection. A home exercise program was prescribed to improve joint motion but no one was seen by a Physical Therapist for a formal post-injection program.

Both groups got better after injection. There was less pain and improved motion, which in turn, led to better function. But more patients in the ultrasound group improved compared with the landmark blind group. And the ultrasound group had significantly more motion compared with the landmark group. There were also fewer reactions to the medication in the ultrasound group. Adverse events included skin peeling and postinjection pain at the injection site. Other reactions can include relaxation of muscle spasm, redness of the skin at the injection site, and sometimes a general reaction because of systemic absorption into the body system.

The authors recommend using ultrasound guided steroid injections for shoulder pain. It is relatively easy to perform and less expensive than other imaging methods (e.g., fluoroscopy, CT scans). Placement of the needle head is accurate even when there is fluid in the tendon *sheath* (lining around the tendon). The patients are not exposed to radiation with ultrasound. And it gives the physician a visual idea of exactly what's going on inside the joint.

Anyone who has had one blind landmark injection without results might benefit from an ultrasonography-guided injection the second time around. And anytime the first steroid injection doesn't yield a reduction in pain and improved motion and function, it should be considered that there could be other problems going on at the same time. There may be a second (different) problem that hasn't responded to the steroid injection. For example, tendon tears and chronic degenerative conditions don't respond to steroid medications when there's no inflammatory component to the problem.

For best results, delivery of the steroid medication must be to the proper site. To assure most effective use of steroid injections, ultrasonography is advised.

Reference:

Faik Ucuncu, MD, et al. A Comparison of the Effectiveness of Landmark-Guided Injections and Ultrasonography Guided Injections for Shoulder Pain. In *Clinical Journal of Pain*. November/December 2009. Vol. 25. No. 9. Pp. 786-789.