

Ultrasound Guidance for Injections

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**Injection
Clinic**

Injections are an important treatment option that physicians use to treat various conditions. In Sports Medicine, there are many chronic injuries such as tendinopathies and osteoarthritis that respond well to injections. Common injections include corticosteroid (“cortisone”) and viscosupplementation (“lubricant”) as well as newer injections such as platelet-rich plasma (PRP) and stem cells.

For decades, injections have been done by a physician by the landmark-guided or “blind” method. This procedure involves palpating the patient’s body part (e.g., knee) carefully so that the surface anatomy can be approximated (“feel the landmarks”). Then the needle is injected through the skin to the intended target. This method was the best method that physicians have had and resulted in a good degree of accuracy with proper training and experience.

Over the past few years, a newer method of doing injections has been developed to increase accuracy. Ultrasound (US) is a machine that images deeply into a person’s body to visualize the body parts beneath the skin. For example, for a knee injection, a physician can use ultrasound to visualize the joint space of the knee (“inside the knee”) and can see the needle passing directly into the knee joint. As a result, the injected medicine or treatment reaches the intended target more accurately. This procedure is called an “ultrasound-guided injection”

Research has been done over the past few years to validate the accuracy and efficacy of doing ultrasound guided injections. Research has shown that US-guided injections have a greater accuracy (hit the intended target better) compared to “blind” injections. Research has also shown US-guided injections to be more effective in treating conditions compared to “blind” injections (mainly because the medicine that is being injected is more likely to reach the intended target). In addition, there is also research suggesting that US-guided injections are

more cost-effective, mainly because more people responded to the US-guided injections, their improvement was greater and lasted longer than those who received “blind” injections, and they used health care services less often after US-guided injections compared to “blind” injections.

Using ultrasound does not lead to any side effects other than what is typical for receiving an injection. US does not involve any radiation and is not harmful to the body. Patients and physicians should also consider that if an injection is NOT accurate, then there are potential complications from missing the target (e.g., increased pain, damage to surrounding tissue such as skin and subcutaneous tissue, tendon rupture, injury to blood vessels or nerves) and higher risk that the injection will not work.

Summary: Ultrasound-guided injections have been shown to be more accurate and effective compared to “blind” injections. US-guided injections should be considered when an injection is needed, especially when the accuracy of the injection is important to the success of the treatment.

Reference: Finnoff et al, American Medical Society for Sports Medicine Position Statement: Interventional Musculoskeletal Ultrasound in Sports Medicine (Clin J Sport Med 2015;25:6–22)



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