Advantages of Ultrasound Image-Guided Injections for Pain Treatment
Advancements in ultrasound imaging present new opportunities for improving the care of patients with musculoskeletal pain. At Affinity Orthopedics and Sports Medicine Center, we are now using ultrasound to treat a wide range of musculoskeletal disorders.

**Ultrasound Use for Diagnostic Purposes**
Ultrasound uses sound waves to provide real-time, high-resolution images of musculoskeletal soft tissue. Common applications of diagnostic musculoskeletal ultrasound include:

- Identification of tendon or ligament tears, inflamed bursa, compressed nerves, and joint fluid.
- Evaluation of painful pops and snaps. By evaluating patients dynamically while they demonstrate their symptoms, your doctor can identify sources of motion-induced pain.
- Ultrasound guided diagnostic injections can be an effective tool for diagnosing problems in patients with difficult-to-evaluate conditions. For example, to determine whether the rotator cuff is the source of a patient’s shoulder pain, the practitioner can use ultrasound to precisely inject anesthetic into the subacromial bursa and assess the patient’s response. This diagnostic injection can help determine the source of pain.
- Ultrasound offers several advantages over other available imaging tools, such as live x-ray imaging (fluoroscopy), CT and MRI. For example, ultrasound does not use radiation and is therefore safe during pregnancy. Ultrasound is also a cost-effective imaging technique.

**Ultrasound Use for Therapeutic Purposes**
Ultrasound allows your doctor to precisely and safely deliver therapies to the affected tissue. During ultrasound image-guided injections, practitioners can directly visualize the needle passing to the target. Direct visualization ensures accurate injectate placement and offers a greater margin of safety. Smaller needles may also be used, improving patient comfort and potentially reducing risk.

Applications for ultrasound image-guided injections include:

- Needle placement into joints for aspiration or injection.
- Injection into tendon sheaths or bursae.
- Aspiration and injection of ganglion cysts.
- Diagnostic or therapeutic nerve blocks, including carpal tunnel syndrome.

*Information from MayoClinic.com

Dr. Alex Garcia, AMG Orthopedics and Sports Medicine, performs an ultrasound image-guided injection on a patient experiencing hip pain.