

What Are Ultrasound-Guided Injections?

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Ultrasound-guided injections utilize advanced imaging technology to precisely deliver medications into joints, tendons, bursas, and other musculoskeletal tissues.

This technique enhances accuracy and effectiveness while improving safety. At Desert Spine and Sports Physicians, our musculoskeletal experts utilize ultrasound guidance to deliver a wide variety of precision injections to optimize patient care.



Types of Ultrasound-Guided Injections

We use ultrasound guidance for injections treating numerous orthopedic conditions related to arthritis, injury, overuse, and inflammation, such as:

- Steroid injections to reduce inflammation
- PRP therapy to stimulate tissue healing
- Viscosupplementation to treat osteoarthritis
- Joint injections into the hip, shoulder, knee, elbow, hand and foot
- Tendon injections for rotator cuff tendonitis, tennis elbow, and more
- Bursa injections for anti-inflammation

Benefits of Ultrasound-Guided Injections

Ultrasound-guided injections offer many advantages over conventional blind injections or those using X-ray fluoroscopy. Targeting your source of pain under real-time ultrasound visualization ensures we're able to deliver medication exactly where it's needed for superior therapeutic effects.

- **Precise Needle Placement:** Direct, real-time ultrasound visualization of soft tissues allows exact needle tip positioning into damaged structures before injecting, enhancing medication delivery accuracy and improving outcomes.
- **Lack of Radiation Exposure:** Unlike fluoroscopic guidance, which exposes patients to small amounts of ionizing radiation, ultrasound provides imaging without radiation exposure.
- **Identification of Surrounding Structures:** Detailed sonographic imaging shows nerves, arteries, veins, and other tissues to avoid inadvertently injecting which improves safety.
- **Better Patient Outcomes:** Studies confirm ultrasound-guided injections significantly increase favorable patient response rates across conditions like shoulder tendonitis, knee arthritis, and plantar fasciitis compared to blind injections.
- **Fewer Complications:** Enhanced accuracy and direct observation of adjacent structures mean lower risks of complications like fat atrophy, tendon rupture, joint infection, and tissue necrosis.

What Happens During an Ultrasound-Guided Injection?

An ultrasound-guided injection is a simple, safe procedure. No specific preparation is needed in advance. Here's what you can expect on the day of your precision injection at Desert Spine and Sports Physicians:

1. Before the injection, we start by applying a sonographic gel to the target area.
2. The physician then methodically guides the ultrasound transducer probe over the surface while studying the visualized interior anatomy on the ultrasound monitor, allowing for direct real-time observation of the affected joint, tendon, bursa, or other tissue.
3. After sterilizing and numbing the skin, the physician will then insert the injection needle while watching the screen.
4. When proper needle tip positioning is confirmed, the medication solution is slowly injected as the distribution is observed sonographically within the damaged structures.

Most patients report little (if any) discomfort for superficial injections, while deeper joint injections may have some temporary but mild aching or pressure.

What Do You Do After an Ultrasound-Guided Injection? Rest/Recovery

After receiving an ultrasound-guided injection, the goal will be to minimize the recurrence of inflammation. We recommend resting the injected area for a few days. Depending on your situation, if there is any continued pain or swelling — ice, compression, elevation, and over-the-counter pain medications can be helpful. Most patients see progressive improvements within a week or two, allowing a gradual return to normal function.

While ultrasound-guided precision injections, such as joint, tendon and bursa injections, are usually well-tolerated, some patients may experience mild side effects, including:

- Temporary discomfort
- Mild swelling
- Bruising

Infection is a rare complication, and the patient should immediately contact the office or go to the emergency room if there is fever, severe pain, significant swelling, and/or redness after an injection.

Conclusion

Ultrasound-guided injection techniques offer tremendous advantages over blind injections in safety and efficacy. Direct real-time visualization of soft tissue structures allows precise and targeted delivery of medications while avoiding injury to surrounding nerves and vessels. The ability to see the medication delivery helps us ensure patients receive the pain relief they need.

At Desert Spine and Sports Physicians, we are dedicated to diagnosing spine and musculoskeletal pain and treating those injuries with non-surgical treatments that focus on the whole person. We treat each patient with the utmost care, personalizing their treatment plan to relieve pain and enhance their healing so they can live fully functional lives. With our comprehensive, compassionate, and innovative medical care, we help patients of all ages stay as active as possible.

If you are struggling with joint arthritis, tendon injury, bursitis, or other musculoskeletal pain, consider consulting Arizona's pain management experts about advanced ultrasound-guided injections today. Precise targeting promotes healing — we will carefully evaluate the best options tailored specifically for your condition and needs.

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