

Inside Story HIGHLIGHTS

From the Pacific Radiology Referrer Newsletter



Pacific Radiology



Ultrasound-guided Musculoskeletal Injections

Ultrasound is particularly suited to guidance of musculoskeletal injections. The target regions are usually relatively superficial, the needle route is easily assessed with ultrasound and the needle can be observed in real time from the skin surface to the target site.

Injections include: local anaesthetic alone for diagnostic purposes; local anaesthetic (lignocaine/bupivacaine) and steroid (kenacort/triamcinalone) for diagnosis and therapy; and more recently local anaesthetic (lignocaine) and autologous blood for treatment of tendinosis.

Local anaesthetic/steroid injections are into bursae, around tendons or into joints. Direct injection of steroid into tendons is avoided due to the risk of causing subsequent tendon rupture. Ultrasound guidance allows for safe positioning of needle tip prior to injection.

Autologous blood injections were initially described for treatment of refractory tennis elbow/common extensor origin tendinosis¹.



Ian Best

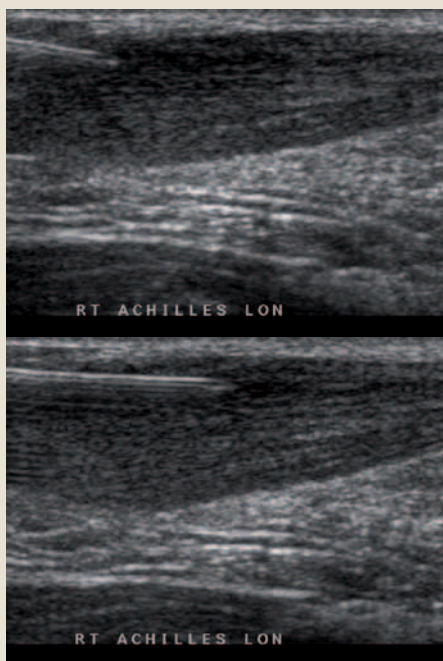
Their application has been extended to the common flexor origin at the elbow, gluteus minimus/medius tendons, the hamstring origin, quadriceps and patellar tendons, Achilles tendon and plantar fascia. Clinical outcomes are encouraging and research results are awaited. Sports Medicine Physicians and some Orthopaedic Surgeons are current advocates. The tendon origin is bathed with local anaesthetic, fenestrated/needled and then injected with 1-2ml of autologous blood. A series of up to three injections over a number of months may be required.

Following informed consent, procedures are performed with sterile technique using 22 gauge to 25 gauge needles. The injections are generally well tolerated and the risk profile is low. The main contraindication is coagulopathy. Diabetic patients may experience blood sugar lability in the days after a steroid injection.

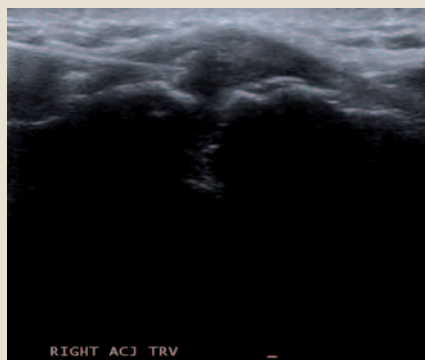
Commonly performed ultrasound guided MSK injections include:

- > Subacromial/subdeltoid bursal injection for shoulder impingement (LA + steroid)
- > Aspiration of calcific rotator cuff tendinosis
- > Acromioclavicular joint injection for pain/arthropathy (LA + steroid)
- > Autologous blood injections for tennis elbow, patellar tendinosis and Achilles tendinosis

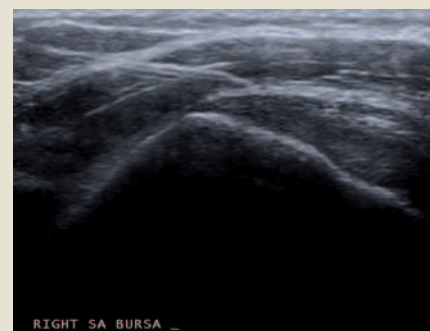
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Right achilles tendinopathy injection



Right acromioclavicular joint injection



Right subacromial/subdeltoid bursal injection

Tendon sheath injections and small joint injections in the hands and feet are also performed under ultrasound guidance.

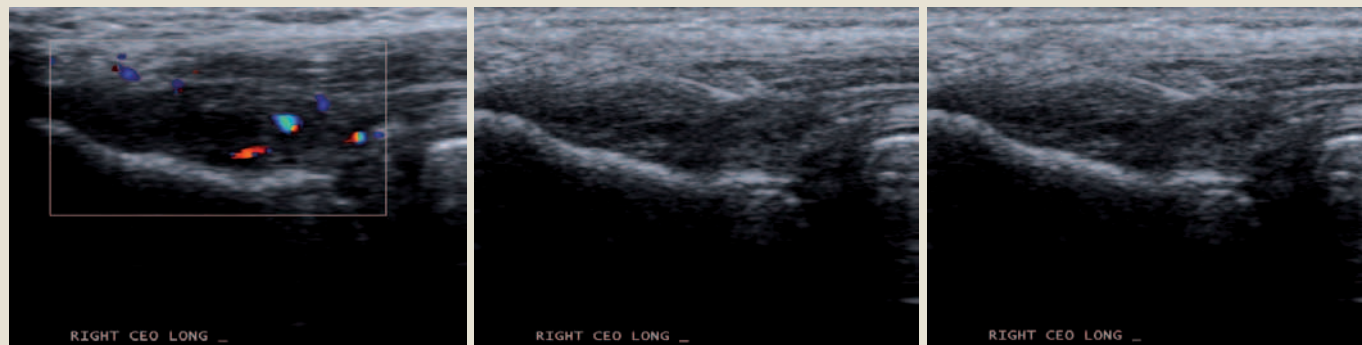
While shoulder and hip joint injections can be done under ultrasound guidance our local preference is to access these joints using fluoroscopy/x-ray. Common indications include frozen shoulder/adhesive capsulitis, hip joint osteoarthritis and differentiating between back and hip pain.

As always, we are happy to discuss any of these procedures with you.

~ *Ian Best*

References

1. Connell DA, Ali KA, Ahmad M et al. Ultrasound-guided autologous blood injection for tennis elbow. *Skeletal Radiology* 2006, 35: 371-377.



Neovascular tendinopathic right common extensor origin with injection

