## Clinical History

37 year old female with gradual onset of dorsal and radial wrist pain.

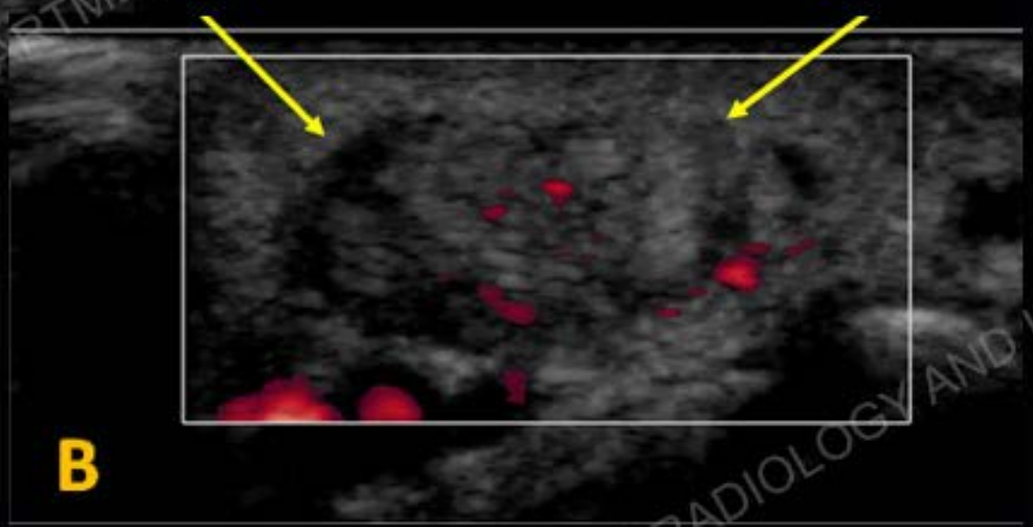
Pain developed in the post-partum period.

Physical therapy and a wrist brace were prescribed at a local medical clinic but offered little relief.

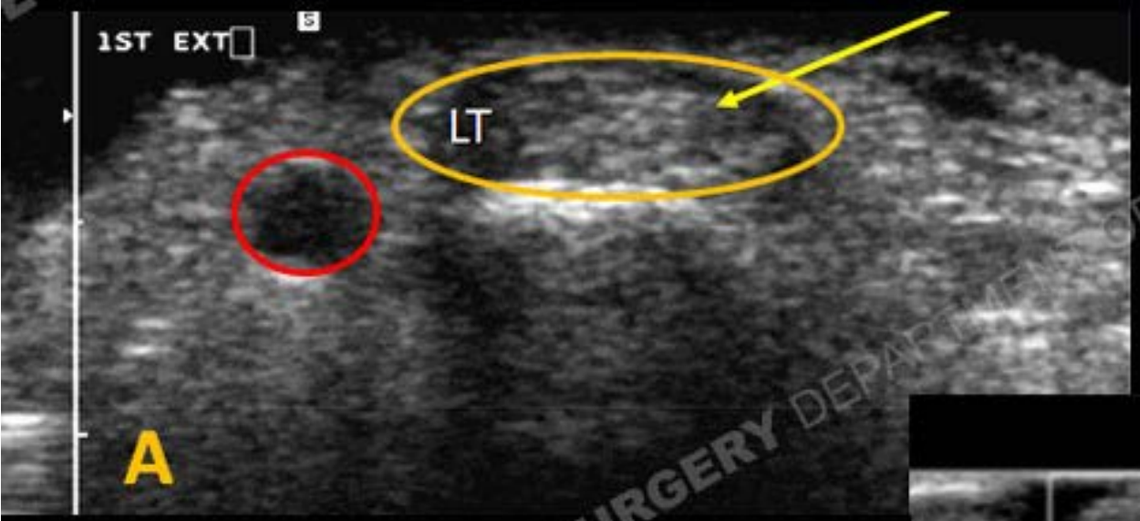
The patient then saw a hand specialist in consultation and ultrasound examination was requested with a presumed diagnosis of 1st dorsal compartment tenosynovitis.

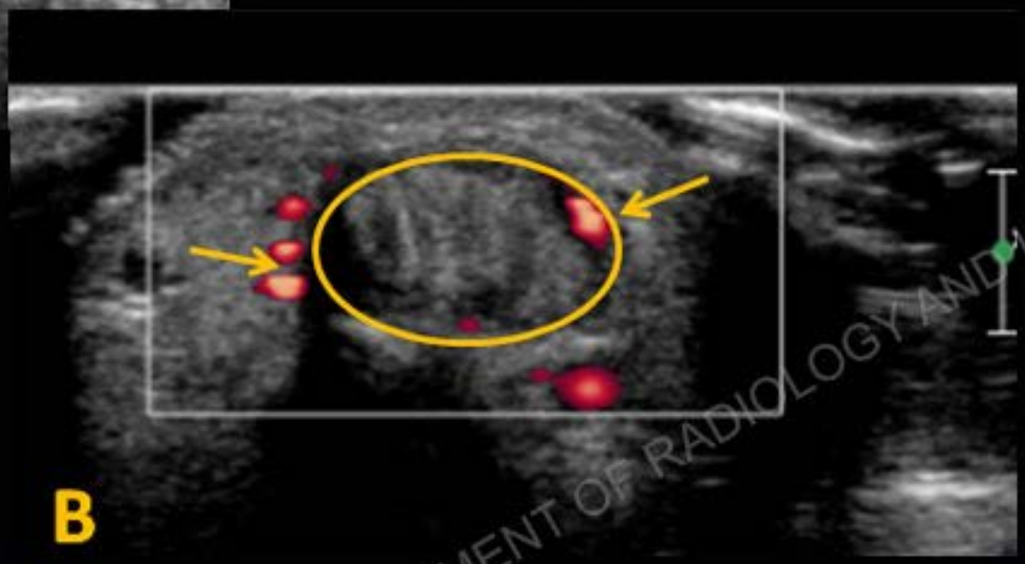
## Anatomy

The two tendons of the first dorsal compartment of the wrist are the abductor pollicis longus and the extensor pollicis brevis tendons, which are surrounded by a tendon sheath.


Ultrasound imaging of the wrist was performed and demonstrated a thickened and inhomogeneous appearance of the abductor pollicis longus and extensor policis brevis tendons at the area of maximal discomfort with tendon sheath fluid (arrows, A) . Power Doppler imaging also demonstrated abnormal peri-tendinous blood flow consistent with active inflammation (B). The findings are consistent with 1st dorsal compartment (DeQuervain's) tenosynovitis.



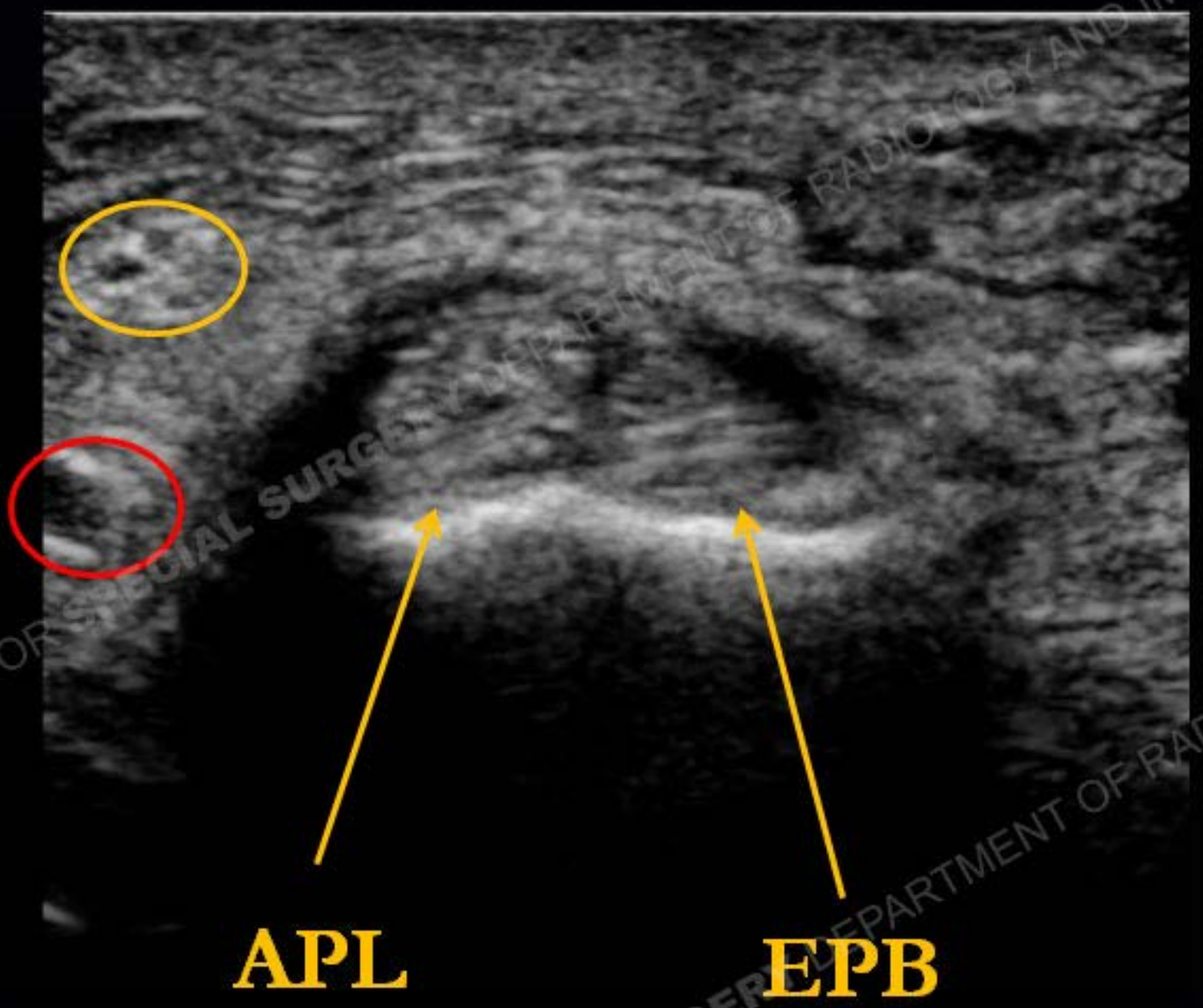

A. Normal comparison ultrasound of the 1st dorsal compartment tendons (arrows) on an asymptomatic patient. Radial artery- red circle.

B. Abnormal thickened tendons and peri-tendinous Power Doppler flow reflecting tenosynovitis. Notice the diminished echogenicity of the tendons compared to the normal (A).

## Clinical History

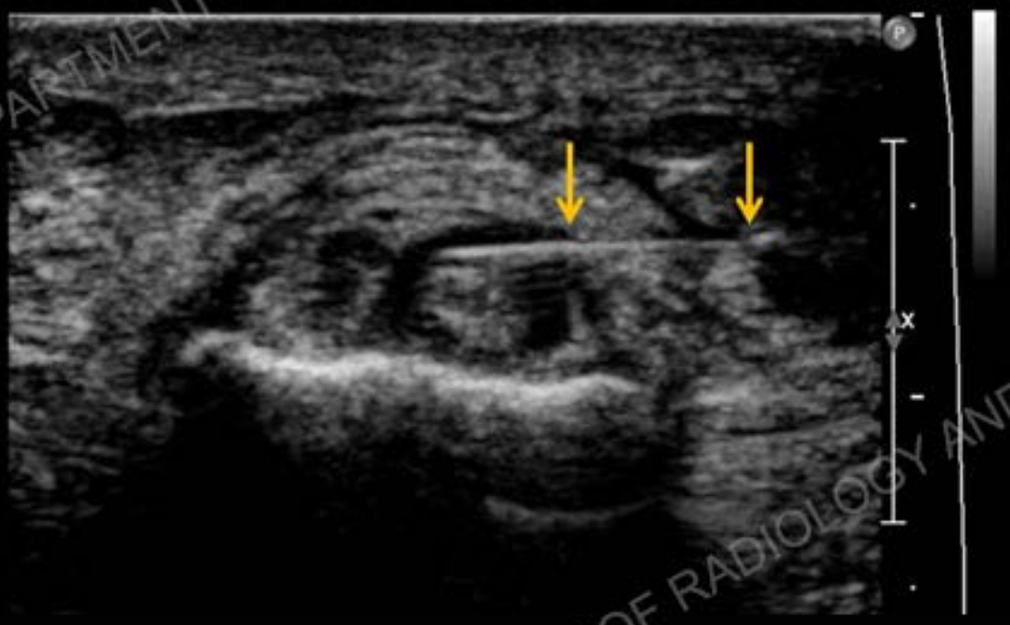
As the patient’s symptoms and sonographic findings were consistent with DeQuervain’s tenosynovitis, cortisone injection into the tendon sheath was requested.

This was performed with sonographic guidance to insure accurate placement of the cortisone.



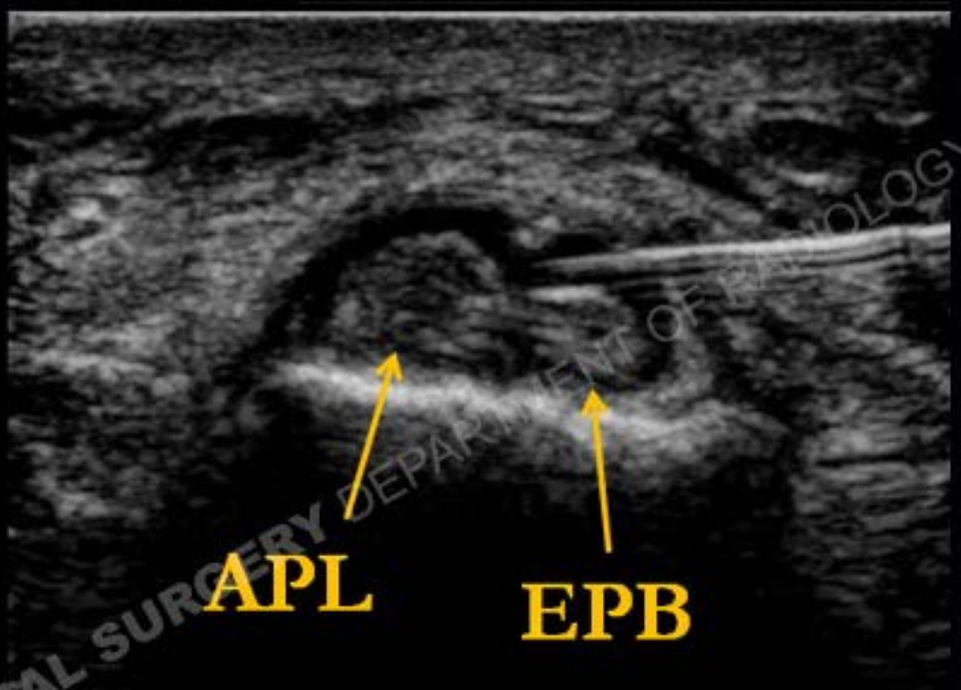

1st dorsal compartment tendons- abductor pollicis longus (APL) and extensor pollicis brevis (EPL). Radial artery (red circle) and radial nerve branch (yellow circle)

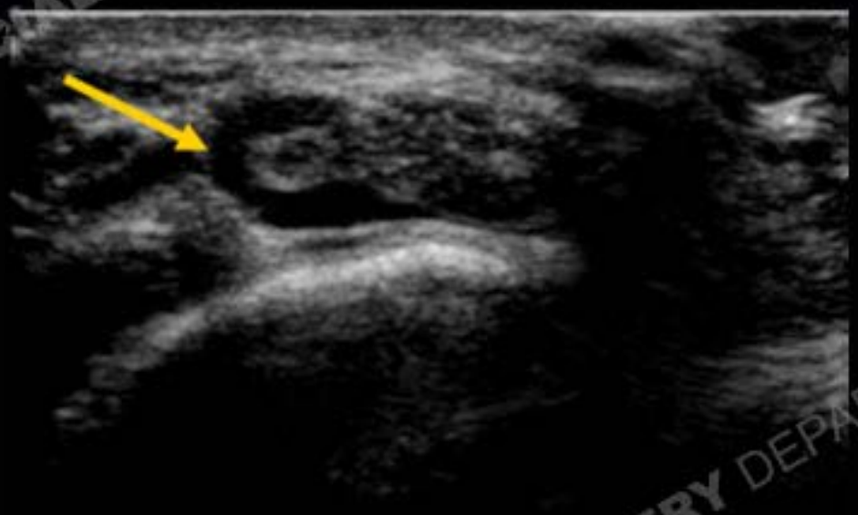
Approach for injection



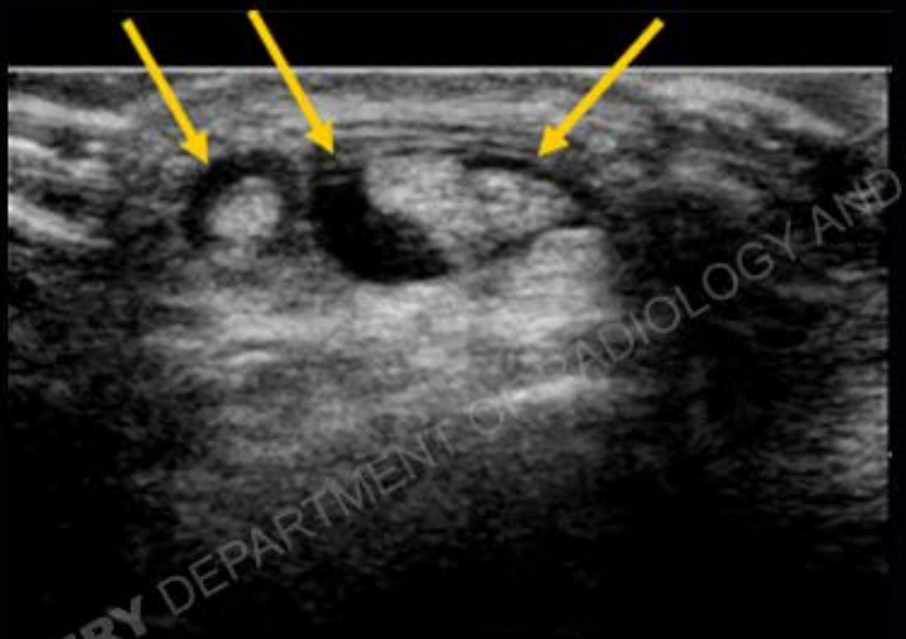
Needle (arrows) entering the tendon sheath

Continuous ultrasound imaging confirms that the injection surrounds both tendons and avoids cortisone deposition outside the tendon sheath





Fluid surrounding both tendons following injection (arrows)



## Diagnosis: DeQuervain’s tenosynovitis

Painful inflammation of the abductor pollicis longus and extensor pollicis brevis tendons.

Most common in women and often in the 30-50 year age group

Tendon tears are relatively uncommon.

Associated with repetitive activities such as racquet sports, golf, manual labor and frequently lifting and holding a newborn child (as in the case presented).

May also be associated with conditions such as rheumatoid arthritis.

Treatment options include NSAIDs, physical therapy, reduction in the activities causing pain, and cortisone injections.

Cortisone injections should be done with ultrasound guidance to confirm accuracy.

Severe cases without response to more conservative measures may require surgery.