Diagnostic Ultrasound of the Wrist & Hand

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The Dorsal Compartments
Dorsal Wrist

6 Compartments
Proximal Intersection
I (APL & EPB) cross II (ECRB & ECRL) approximately hands width above wrist

Distal Intersection
III (EPL) crosses II after turning around Lister’s Tubercle
1ST Dorsal Compartment

- APL more volar and the larger of the two often made of a number of slips
- Note position of radial artery
De Quervain’s tenosynovitis
Short axis injection

Note reverberation artefact
Long axis injection
2nd Dorsal Compartment
3rd Dorsal Compartment
4th & 5th Dorsal Compartment

Dynamic movement of fingers can help distinguish tendons.
Tenosynovitis of Extensor Digitorum at Wrist Joint (4th Dorsal Compartment)
6th Dorsal Compartment

ECU – just posterior to ulna styloid
Practical Dorsal Wrist Compartments
Wrist & Finger Joints
Scapholunate Joint

Scaphoid

Lunate

II

IV
Scapholunate Joint

Clear SL Ligament. The ligament is seen clearly as there is an overlying ganglion – cyst which has increased US transmission.
Radiocarpal & midcarpal joints
Finger Tendons & Ligaments
Pulley Injuries - Anatomy

Main pulleys

Tendon

Finger bones
Trigger finger A1
Trigger finger A1
Pulley Injuries – Normal A4
Pulley Injuries – A2, 3, 4

RIGHT MIDDLE FINGER PIPJ

A2
A3
A4

Middle Phalanx
Proximal Phalanx
Pulley Injuries – Abnormal A2 (PP)
Volar Plate Injuries - MCPJ
Volar plate injury & avulsion
Volar plate
Rupture extensor mechanism
UCL – Partial deep tear (Some intact fibres seen)
Practical Wrist & Fingers
Practical CT
Lumps and Bumps - GTTS
Lipoma Thenar Eminence