Wrist instability:
MR findings without clinical significance

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Outline

• Triangular fibrocartilage complex (TFCC)
• Lunotriquetral ligament (LTL)
• Scapholunate ligament (SLL)
• Extensor tendons

TFCC anatomy

Normal TFCC using a microscopy coil

Triangular ligament

Degenerative change of TFCC

GRE
PDWI
Central perforation of disc

TFCC signal intensity changes

One abnormal signal within TFCC

Ulnar variance vs TFCC

Ulnar variance vs TFCC

TFCC thickness and angle
**Ulnar variance vs TFCC thickness**

Yoshioka et al. JMRI 2007; 26:714-719

**Ulnar variance vs TFCC angle**

Yoshioka et al. JMRI 2007; 26:714-719

**LTL anatomy – 3 regions -**

- V-shaped (20 mm in length)
  - Dorsal zone: Ligamentous, highly important functionally, particularly as a restraint to rotation
  - Volar zone: Ligamentous, the strongest and thickest
  - Proximal zone: Fibrocartilaginous, the weakest, close approximation to the TFCC

**LTL – axial images**

- Dorsal zone (striated)
- Volar zone (striated, thicker)
- Radiolunotriquetral ligament

**Lunotriquetral ligament (signal intensity)**

- Type 1
- Type 2
- Type 3

**Lunotriquetral ligament (shape)**

- Regular triangle (1)
- Broad-based triangle (2)
- Narrow-based triangle (3)
- Asymmetrical triangle (4)
- Bar shape (5)
Ulnar – radial deviated position in MRI

Ulnar-deviated position  Radial-deviated position

Ulnar – neutral - radial deviated position

Ulnar-deviated position  Neutral position  Radial-deviated position

SLL anatomy – 3 regions -
- Horseshoe-shaped or C-shaped (18 mm in length and 2-3 mm in thickness)

SLL – axial images
- Dorsal zone (thick and homogeneous low intensity)
- Volar zone (inhomogeneous striated structure)

SLL shape

SLL variation?
Extensor tendons - supination vs pronation -

Morphological changes of TFCC:
Supination – Pronation (axial)

Morphological changes of TFCC:
Supination – Pronation (coronal)

Diameter of 5th extensor tendon compartment

OA patient with tendon rupture