

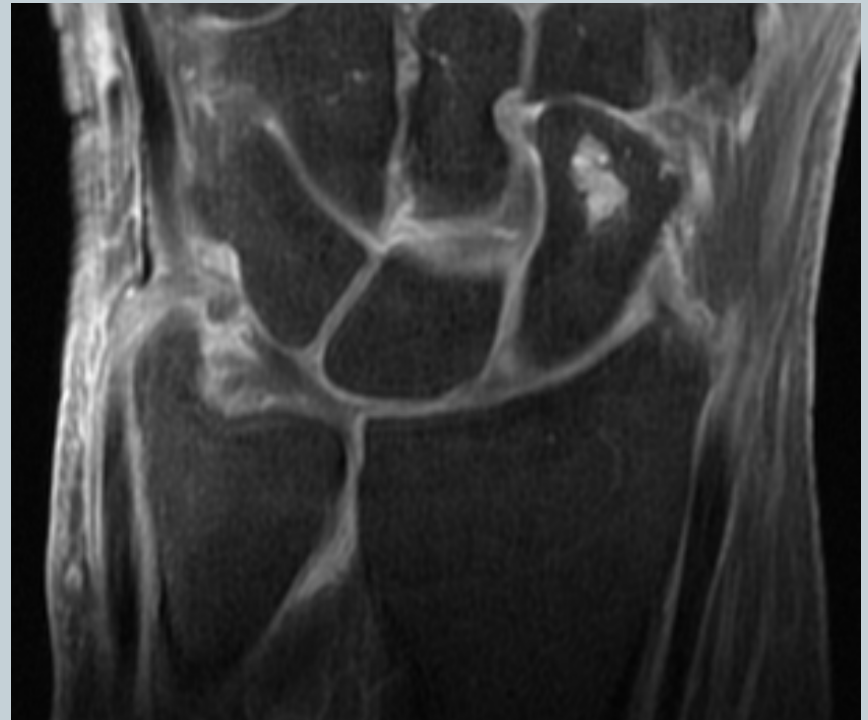
MSK Case Conference



ASHWANI GORE, MD

9/20/17

57 yo F with 5 months of right ulna-sided wrist pain.



Diagnosis



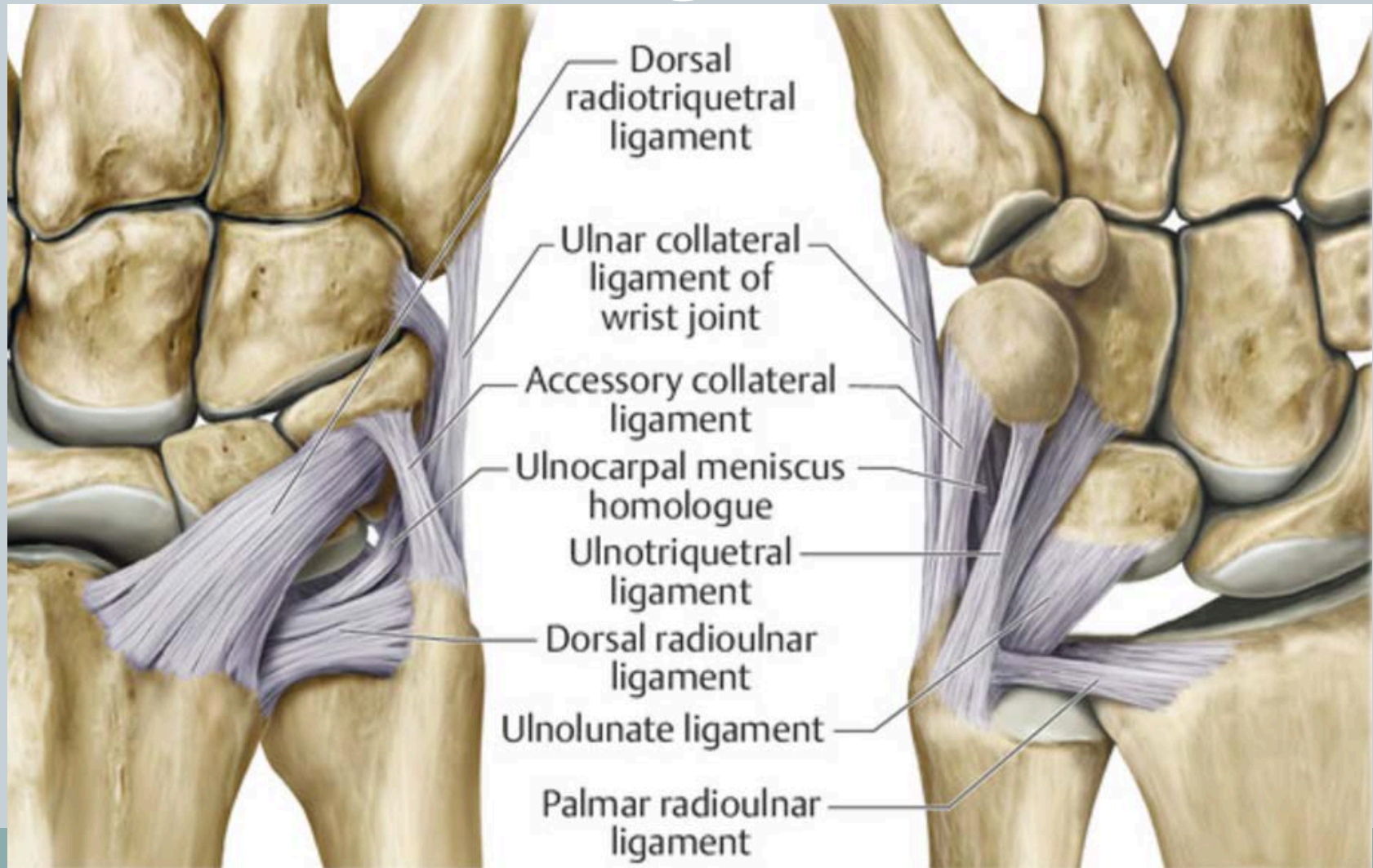
Palmer Class 1B TFCC injury

Triangular Fibrocartilage Complex (TFCC)



- **Consists of 6 components**
 - Articular disc (Triangular fibrocartilage)
 - Meniscal homologue
 - Ulnocarpal ligaments
 - Ulnar collateral ligament
 - Triangular ligament
 - Radioulnar ligament (volar & dorsal)
- **Only the peripheral 15-20% of TFCC has a blood supply**

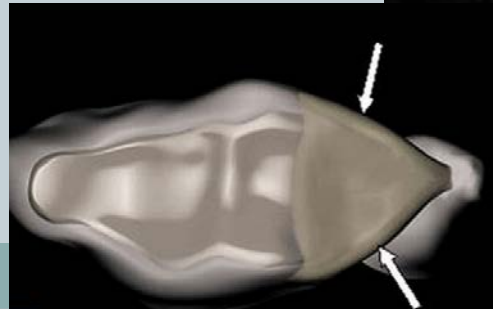
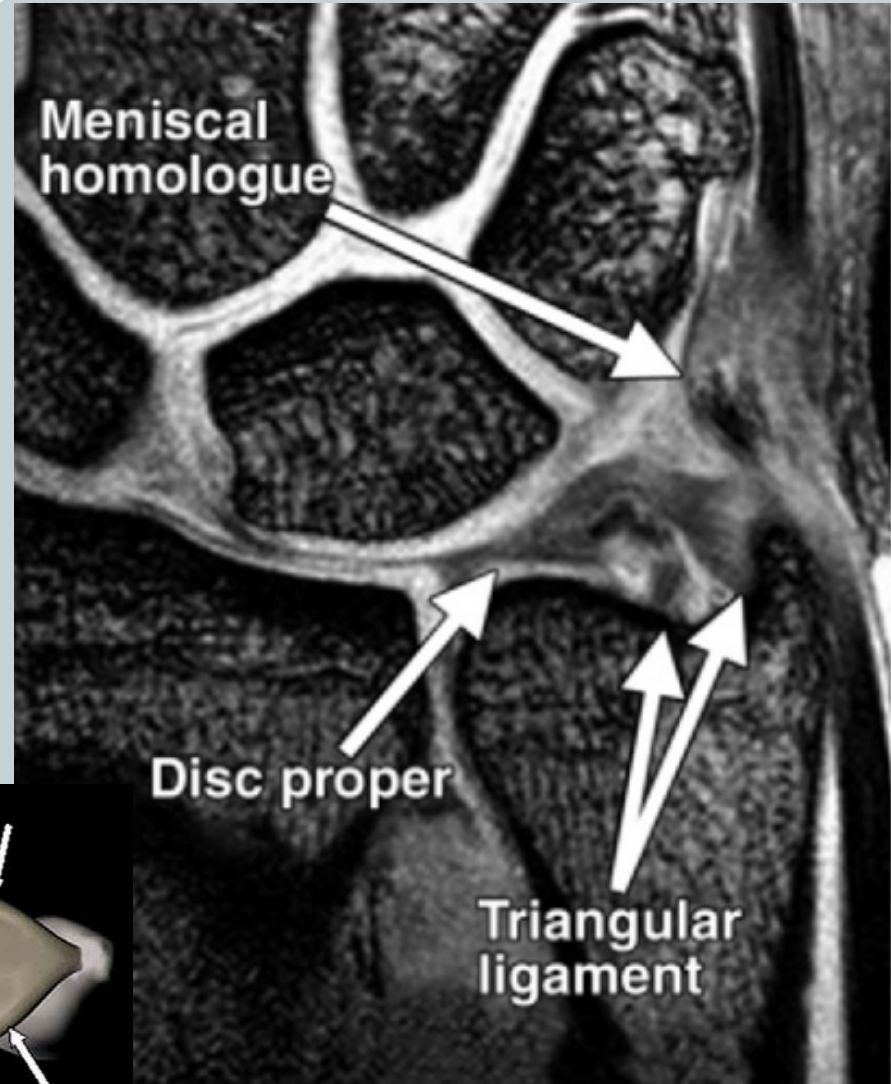
Anatomy



Anatomy



- **Disc:** Triangular shape; biconcave; thicker ulnar component
- **Meniscal homologue:** Fibrocartilage forms part of ulnar collateral ligament complex. Adheres to ulnar joint capsule

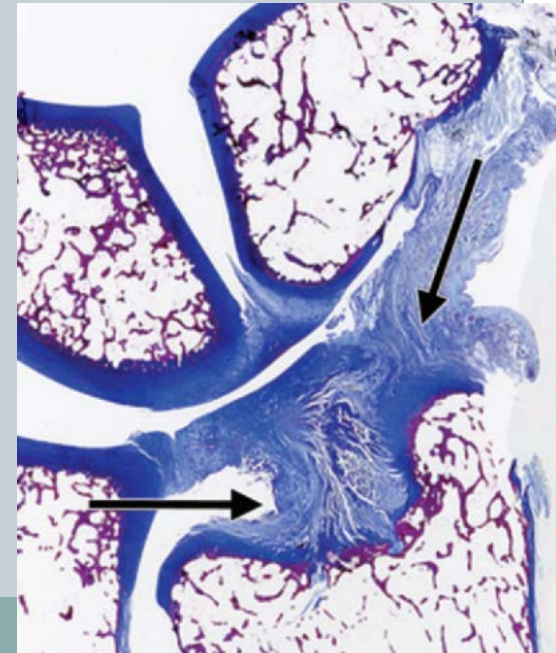
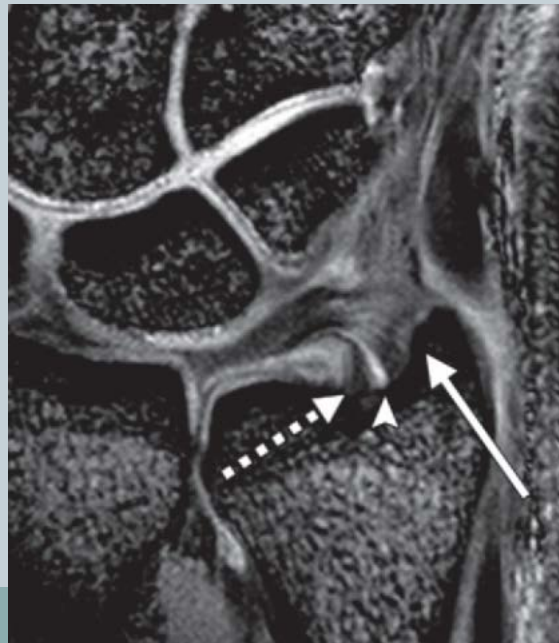


Triangular Ligament



- Extends from articular disk to the tip of the ulnar fovea and styloid.
- Striated pattern of increased signal from collagen fibers with vascular connective tissue

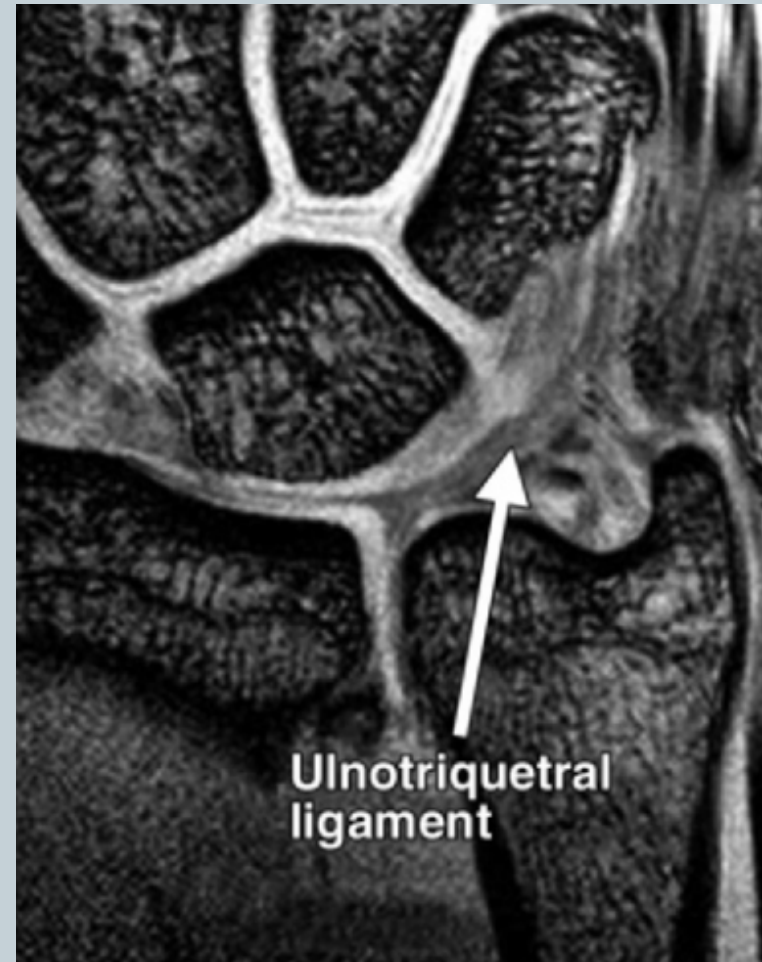
Prox. Lamina
Lig. subcruentum
Dist. Lamina



Ulnocarpal Ligaments



- Ulnolunate –originates from volar radioulnar ligament and attaches to volar surface of lunate.
- Ulnotriquetral – originates from volar radioulnar ligament and the radial aspect of the volar ulnar styloid

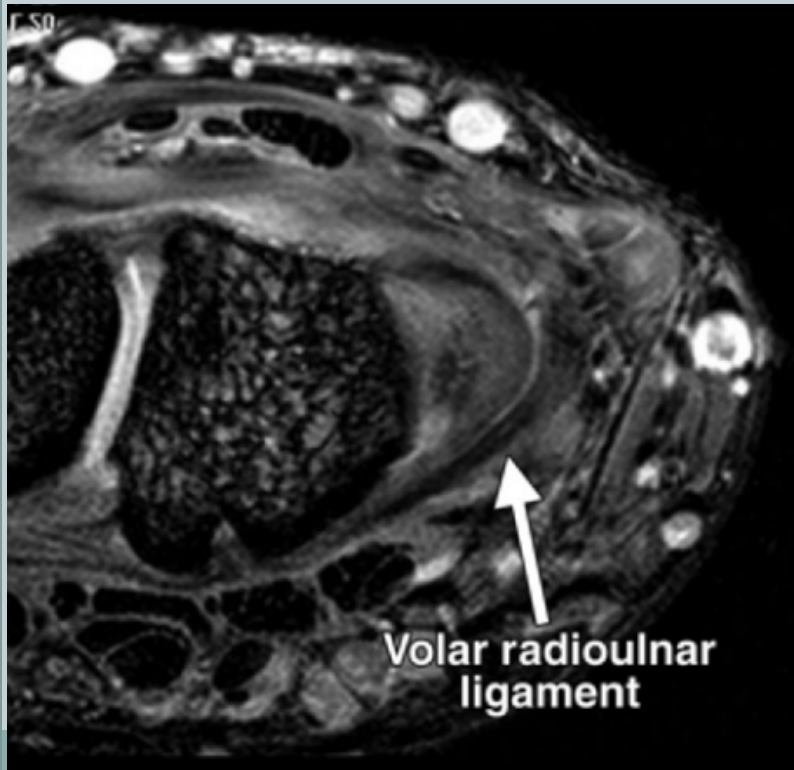


Radioulnar Ligaments



- Volar margin of TFCC

- Dorsal margin of TFCC



Palmer Classification for TFCC Lesions



- **Traumatic Lesions**

- Class IA: Central perforation
- Class IB: Ulnar avulsion with/without disruption of the ulnar styloid process
- Class IC: Distal avulsion
- Class ID: Radial avulsion with/without osseous lesion of the radius

- **Degenerative Lesions**

- Class IIA: Superficial degenerative lesion
- Class IIB: Degenerative tear with cartilage lesion of the lunate or the ulna
- Class IIC: Degenerative disc perforation with cartilage lesion of the lunate or the ulna
- Class IID: Degenerative disc perforation with cartilage lesion of the lunate or the ulna and lunotriquetral instability
- Class IIE: Degenerative disc perforation with cartilage lesion of the lunate or the ulna, lunotriquetral instability and ulnocarpal arthrosis

Nonoperative vs Operative Management



- **Conservative Treatment**

- Rest
- Avoid stressful movement
- Rehabilitation
- Splints/brace
- NSAIDs



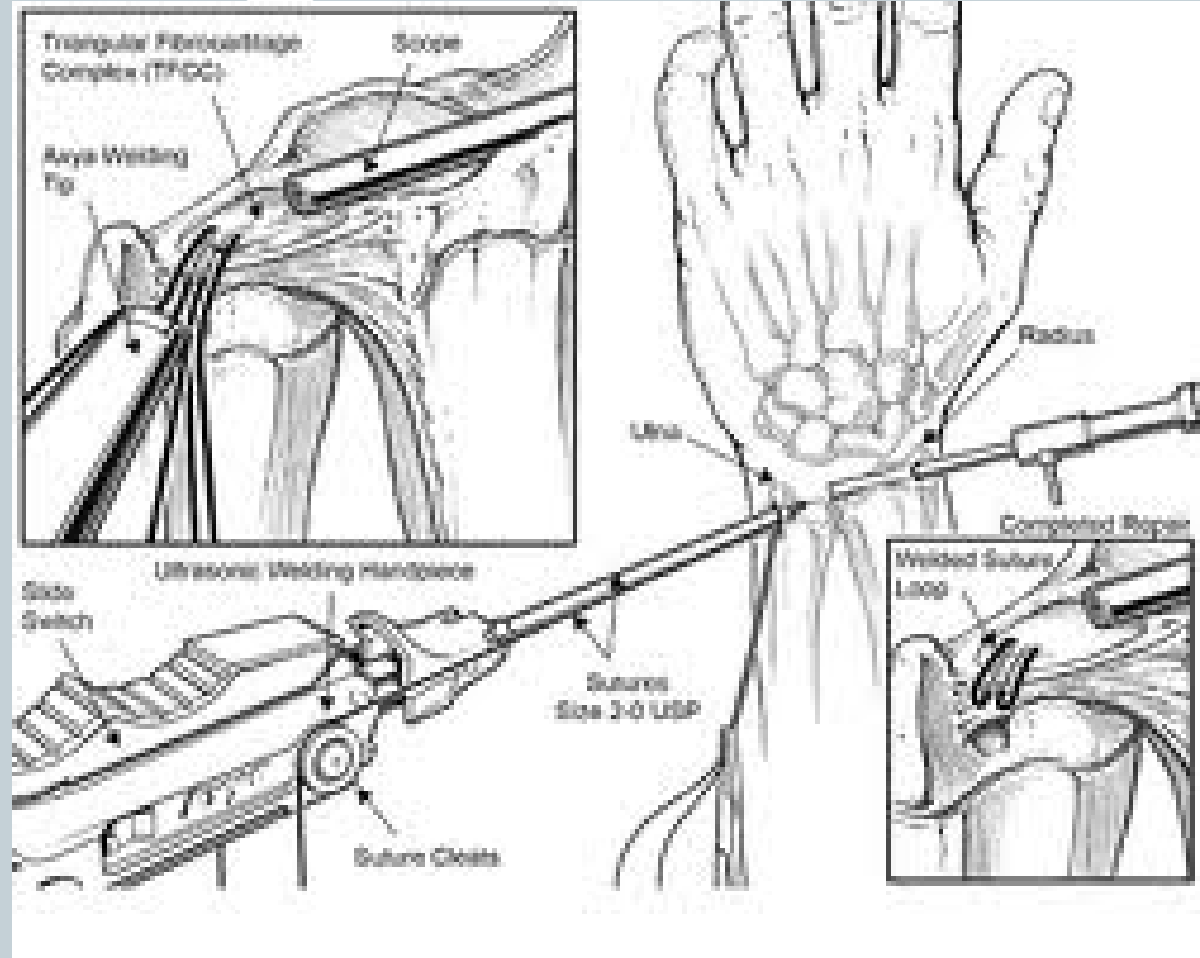
- **Surgical intervention is suggested if symptoms not alleviated within 4-6 weeks depending on lesion.**

Which Surgical Procedure?



- **3 options**
 - Open Dissection
 - Arthroscopy
 - Direct Repair

- **Deciding factors**
 - Central Tear?
 - Peripheral Tear?
 - Ulnar variance?



Deciding Factors



- **Central tears – Debrided (poor vascularity precludes healing). Removal of central 1/3 of cartilage does not significantly alter load.**
 - Arthroscopy
 - Open dissection
- **Peripheral tears – Direct repair**
 - TFCC examined by arthroscopy, incision made over ulnocarpal joint. The avulse portion of TFCC will be debrided, ulnar fovea is roughened, and the torn border of the TFCC is then sutured down to the fovea.

References



- <https://orthobullets.com/hand/6047/tfcc-injury>
- Zanetti M, Linkous DL, Gilula LA, Hodler J. Characteristics of triangular fibrocartilage defects in symptomatic and contralateral asymptomatic wrists. *Radiology* 2000; 216:840-845.
- Oneson SR, Scales LM, Timins ME et-al. MR imaging interpretation of the Palmer classification of triangular fibrocartilage complex lesions. *Radiographics*. 1996;16 (1): 97-106.
- <http://radsourc.us/triangular-fibrocartilage-tear/>
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