



Ulna sided wrist pain / DRUJ / TFCC injuries

John Harrison

MSc FRCS(Tr&Orth) MFSEM(UK)

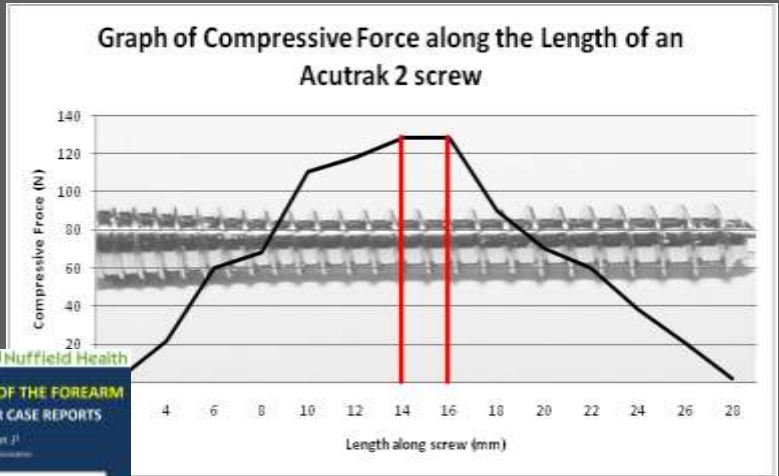
Queen Elizabeth Hospital, Gateshead

3/6/2013

www.gnulc.com

General trauma and elective upper limb

Upper Limb Transitional Fellow Post



ELITE ROWERS WITH CHRONIC EXERTIONAL COMPARTMENT SYNDROME OF THE FOREARM
A TECHNIQUE FOR MINI-OPEN FASCIOTOMY AND FOUR CASE REPORTS
 Thomas P, Astor A, Wilkes G, Jenkins T, Harrison J
 1 - Sports Exercise Science, 2 - Medical School of Sport, 3 - Medical Research Foundation

Introduction: Chronic exertional compartment syndrome (CECS) of the forearm is a debilitating and recurrent condition that affects rowers and other athletes. It is characterized by pain and swelling in the forearm during exercise, which is relieved by rest. The condition is caused by increased pressure within the forearm compartments during exercise, leading to pain and swelling. This paper describes a technique for mini-open fasciotomy and reports four cases of CECS in elite rowers.

Objective: The objective of this study was to describe a technique for mini-open fasciotomy and report four cases of CECS in elite rowers.

Methods: Four elite rowers with CECS of the forearm were treated with mini-open fasciotomy. The technique involves making a small incision in the forearm, releasing the fascia, and irrigating the compartment. The patients were followed up for 12 months.

Results: All four patients were successfully treated with mini-open fasciotomy. The patients were able to return to their previous level of activity without pain or swelling in the forearm.

Conclusion: Mini-open fasciotomy is an effective treatment for CECS of the forearm. It is a minimally invasive procedure that allows for a quick return to activity.

References: [List of references]

Keywords: Chronic exertional compartment syndrome, forearm, mini-open fasciotomy, rowers.

Figure 1: Anatomy of the forearm compartments. A diagram showing the cross-section of the forearm with the compartments labeled: Flexor digitorum profundus, Flexor digitorum superficialis, Flexor carpi ulnaris, and Flexor carpi radialis.

Figure 2: Case Report. A photograph of a patient's forearm showing the site of the mini-open fasciotomy. The patient is shown in a rowing position, demonstrating the symptoms of CECS.

Chronic wrist pain - I love it!



History

- Hand dominance
- Occupation
- Injury?
- Pain
 - Site
 - Activity related
- Clicking
- Swelling
- Pins and needles

Radial sided wrist pain (RSWP)

- De Quervain's
- base thumb arthritis
- scaphoid non-union
- SLAC wrist
- intersection syndrome
- Wartenburg's neuritis



USWP

- DRUJ
- TFC
- ulnar abutment
- LTJ
- PTJ
- ECU tendon

- Ulnar styloid non-union

Examination

Look - landmarks



Examination

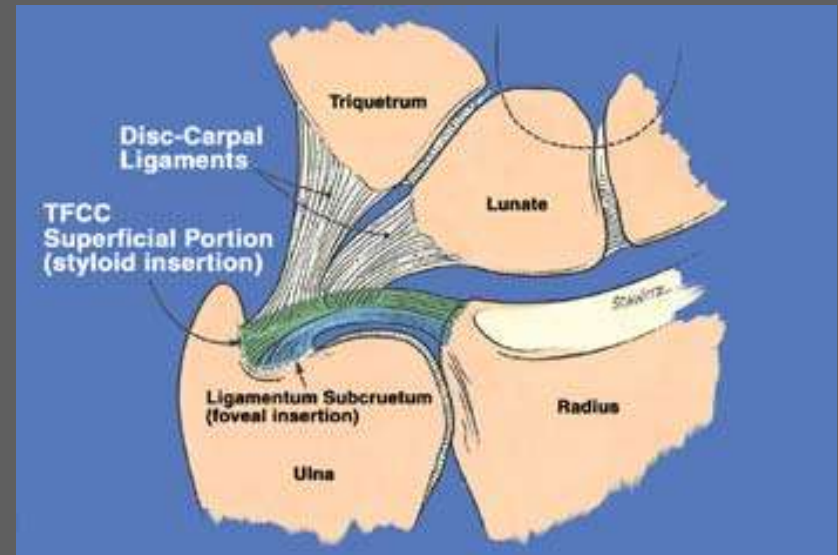
- Feel – localise pain
- Move
- Special tests
 - Finklestein's
 - Kirk-Watson's

 - DRUJ
 - TFC
 - PTqJ
 - LTqJ
- X-Ray!

TFC

Anatomy TFCC

- TFC
- dorsal / volar radioulnar and ulnocarpal ligaments
- Foveal attachment
- meniscus homologue



Tears

- Fall, twisting injury
- Ulnar sided pain
 - Tender proximal to pisotriquetral joint
- Worse supination / ulnar deviation
- click

Diagnosis

- Ulnar deviate hand and compress



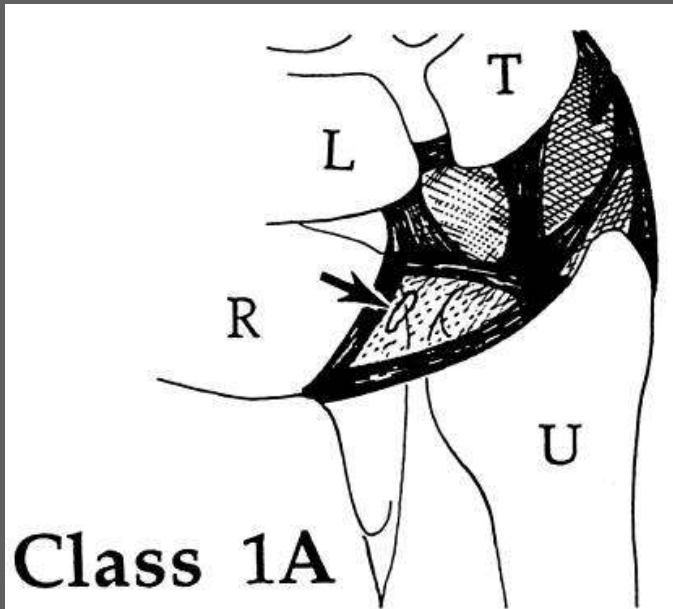
Classification tears - Palmer

- 1 – traumatic
- 2 - Associated with ulnar impaction

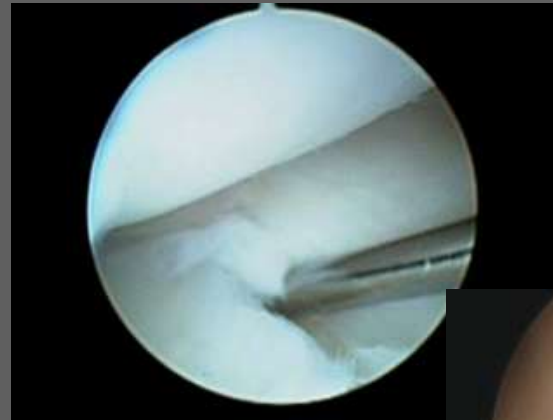
Type	Description
Type 1	Acute traumatic tears
1A	Central TFC perforation
1B	Peripheral ulnar side TFCC tear (\pm ulna styloid fracture)
1C	Distal TFCC disruption (disruption from distal UC ligaments)
1D	Radial TFCC disruption (\pm sigmoid notch fracture)
Type 2	Degenerative
2A	TFCC wear
2B	TFCC wear with lunate and/or ulnar chondromalacia
2C	TFCC perforation with lunate and/or ulnar chondromalacia
2D	TFCC perforation with lunate and/or ulnar chondromalacia with LTIOL perforation
2E	2D + ulnocarpal arthritis

Adapted from Palmer AK Triangular fibrocartilage complex lesions: a classification. J Hand Surg Am 1989 Jul;14(4):594-606

1A

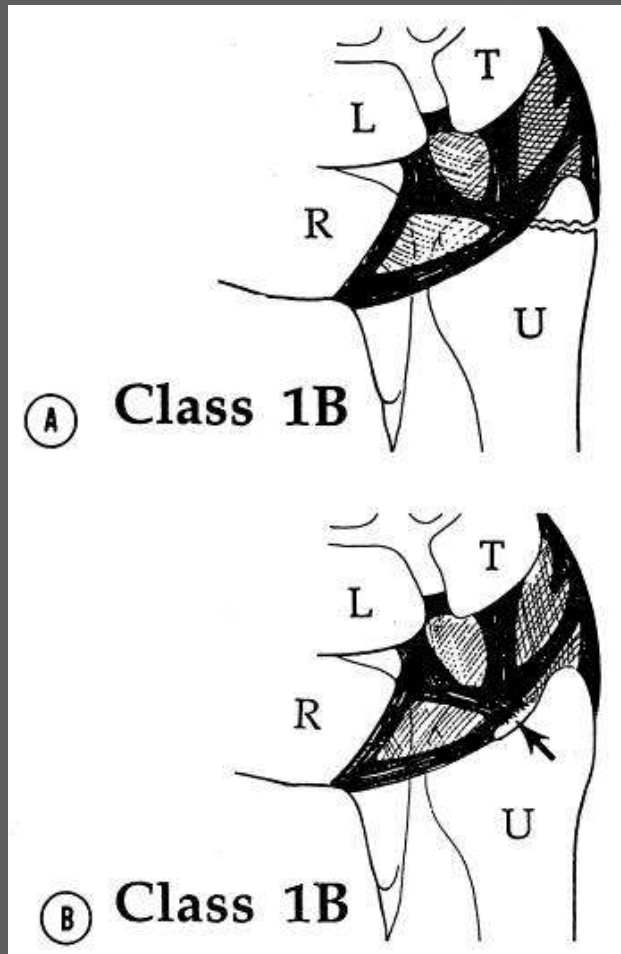


- Avascular portion
- debride

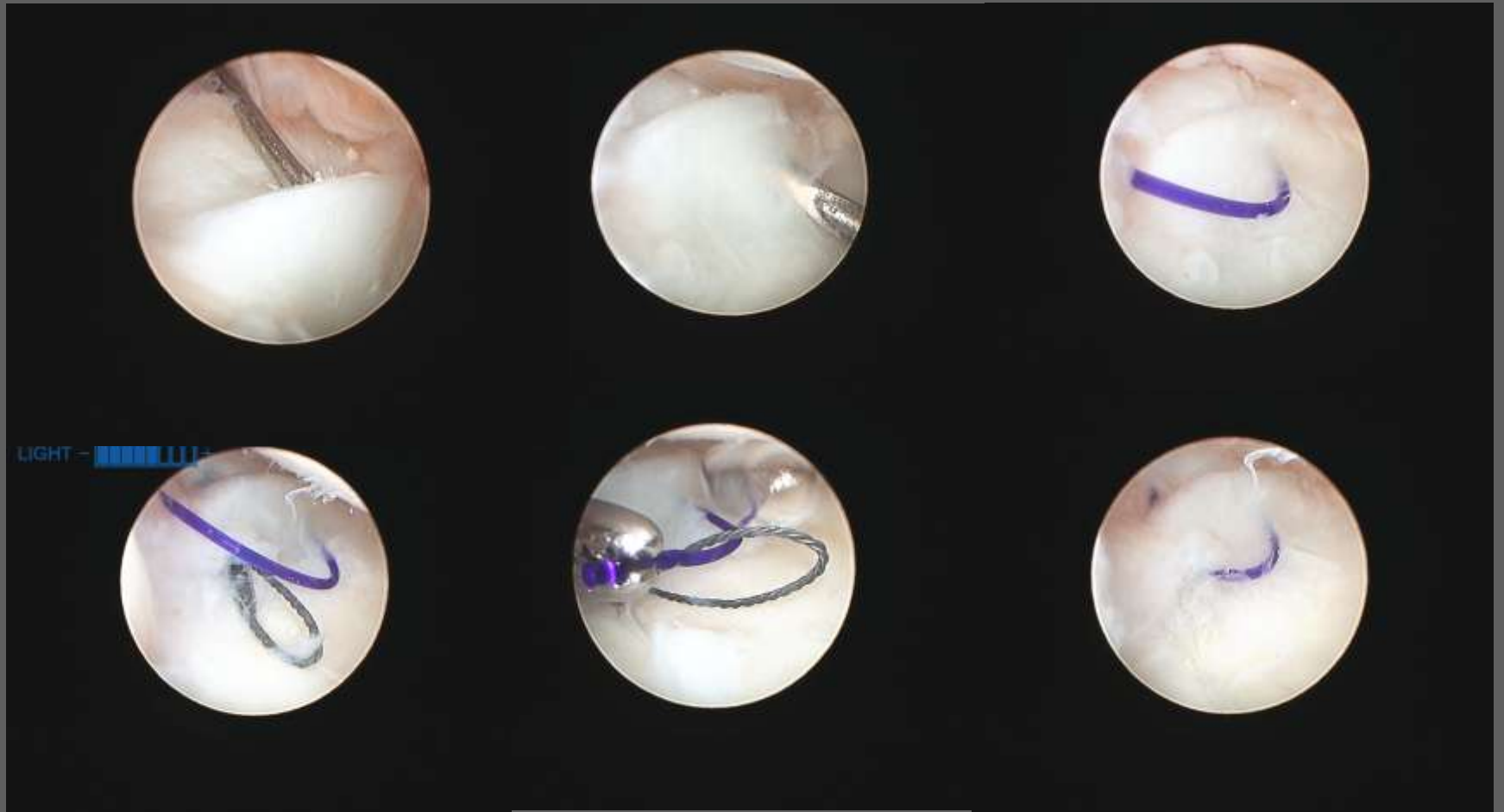


Repair

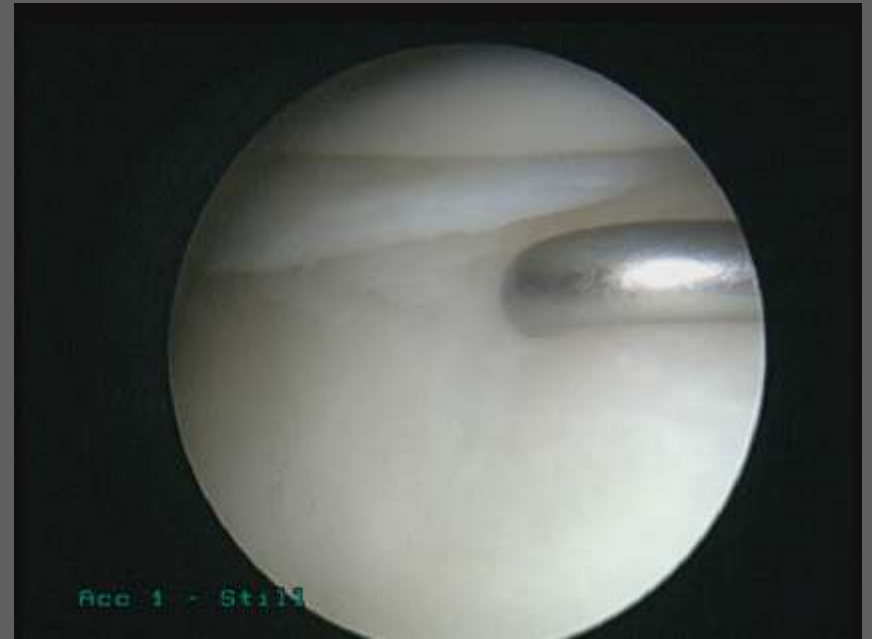
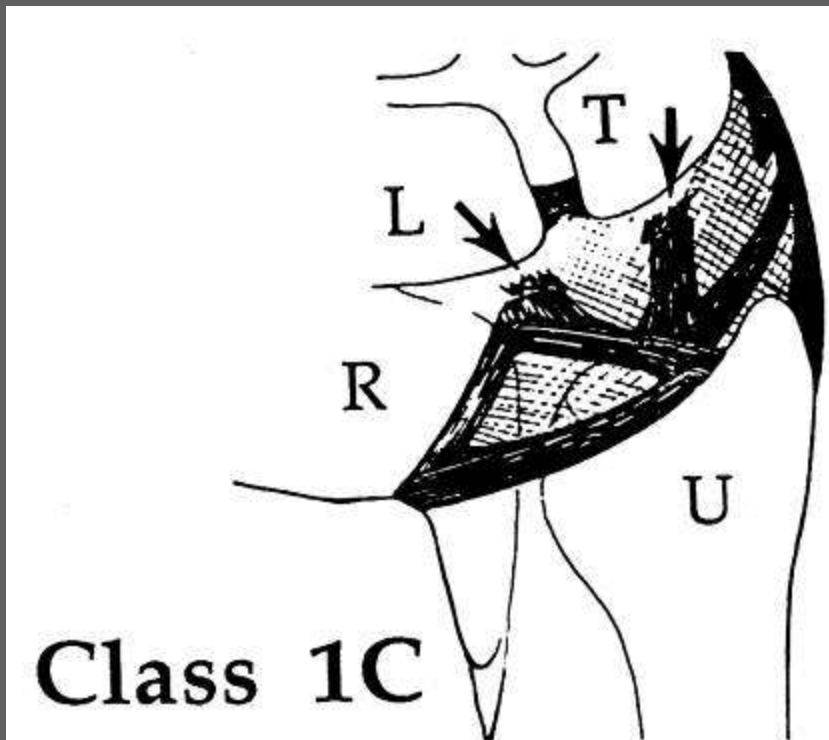
- arthroscopic



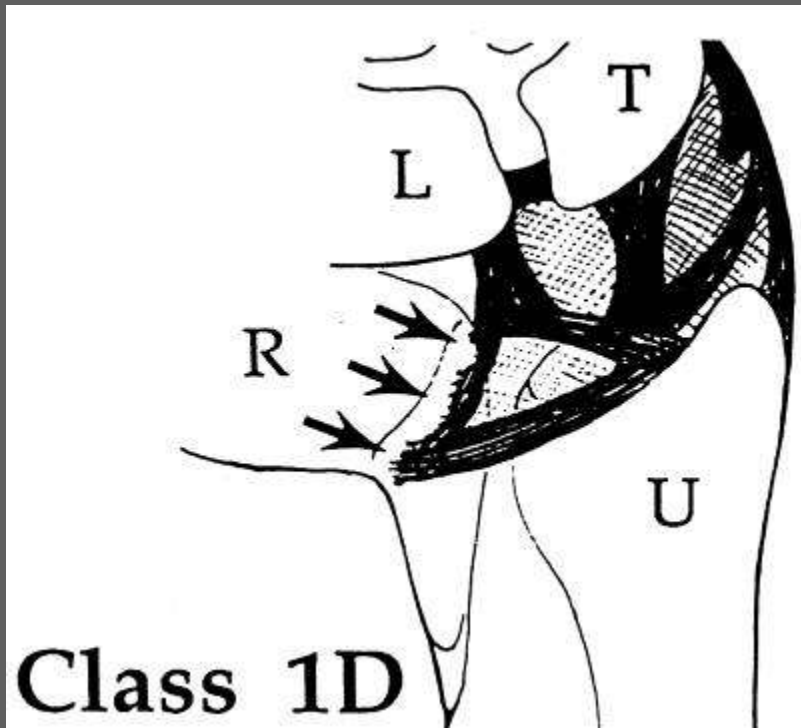
Type 1b tear arthroscopic repair



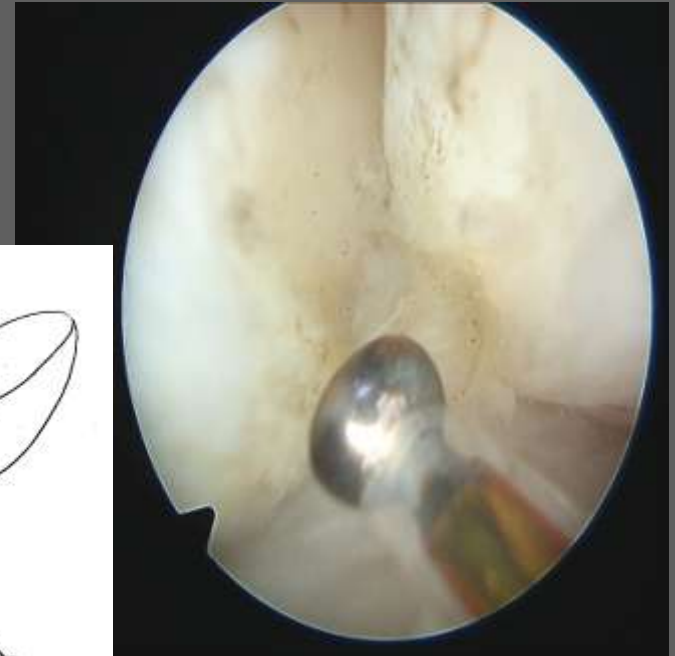
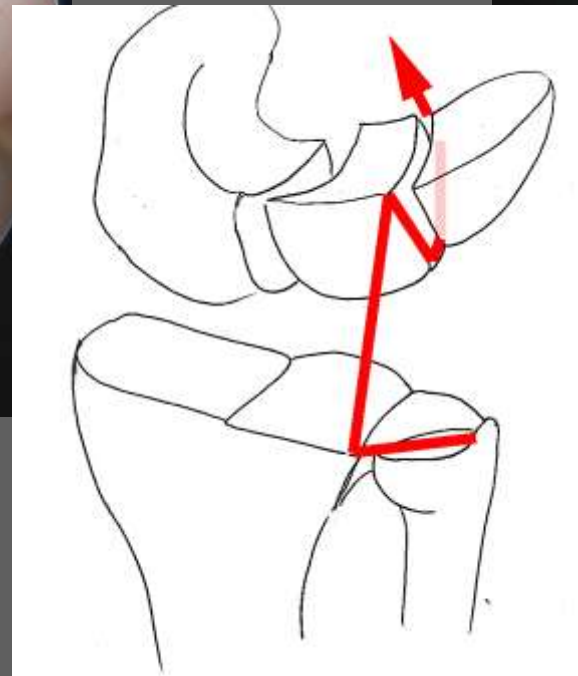
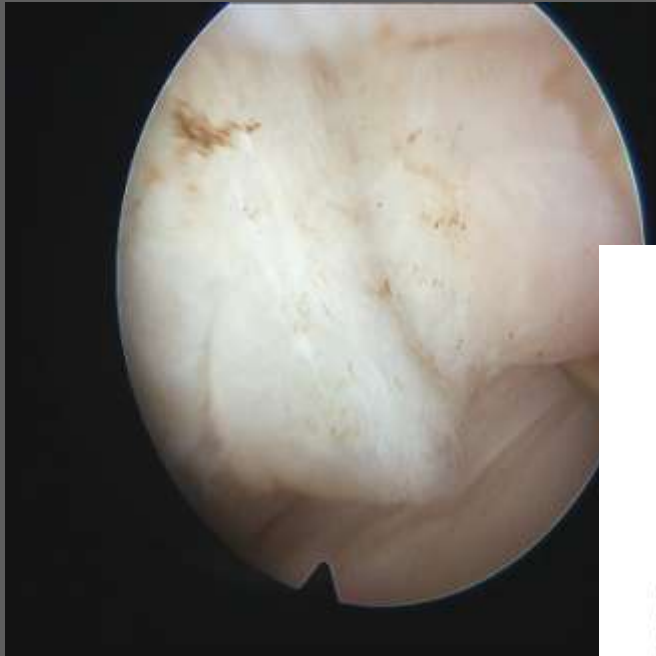
Detachment of volar TFC and ulnocarpal ligaments



Traumatic detachment at radial insertion



Plus lunotriquetral ligament tear



Lunotriquetral fusion



Ulnar abutment



Diagnosis

- Same test as for TFC tear
- Radiographs -
?ulnar plus
- MRI



Treatment

- Ulnar shortening
- Feldon wafer
 - ?arthroscopic



Unstable ECU tendon



6th compartment opened

Subsheath Repair

Distal radioulnar joint

- Ulnar head articulates with sigmoid notch
- 3 shapes (Tolat)
 - important if planning an ulnar shortening



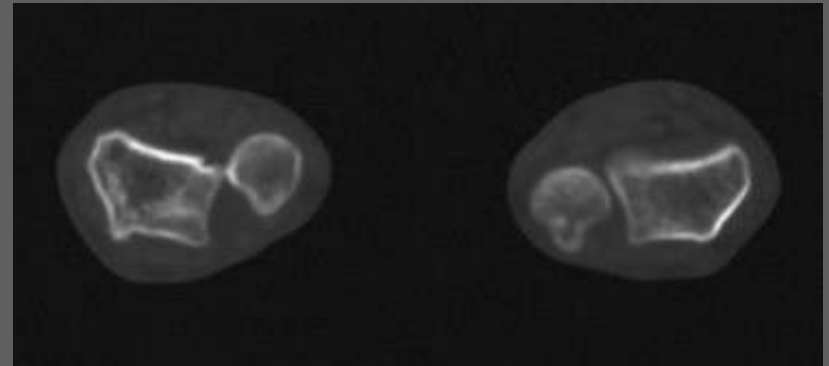
Joints

- main wrist joints – 4
 - radiocarpal
 - midcarpal
 - carpometacarpal
 - DRUJ

Instability

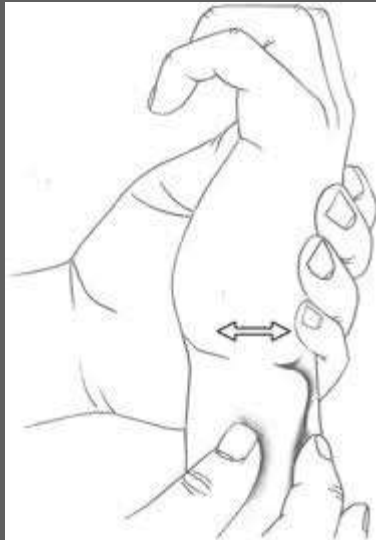
- Stabilisers
 - Radioulnar ligaments
 - TFCC
 - ECU sheath
 - IOM
 - ulnocarpal ligaments
 - LTq ligament

- + bony

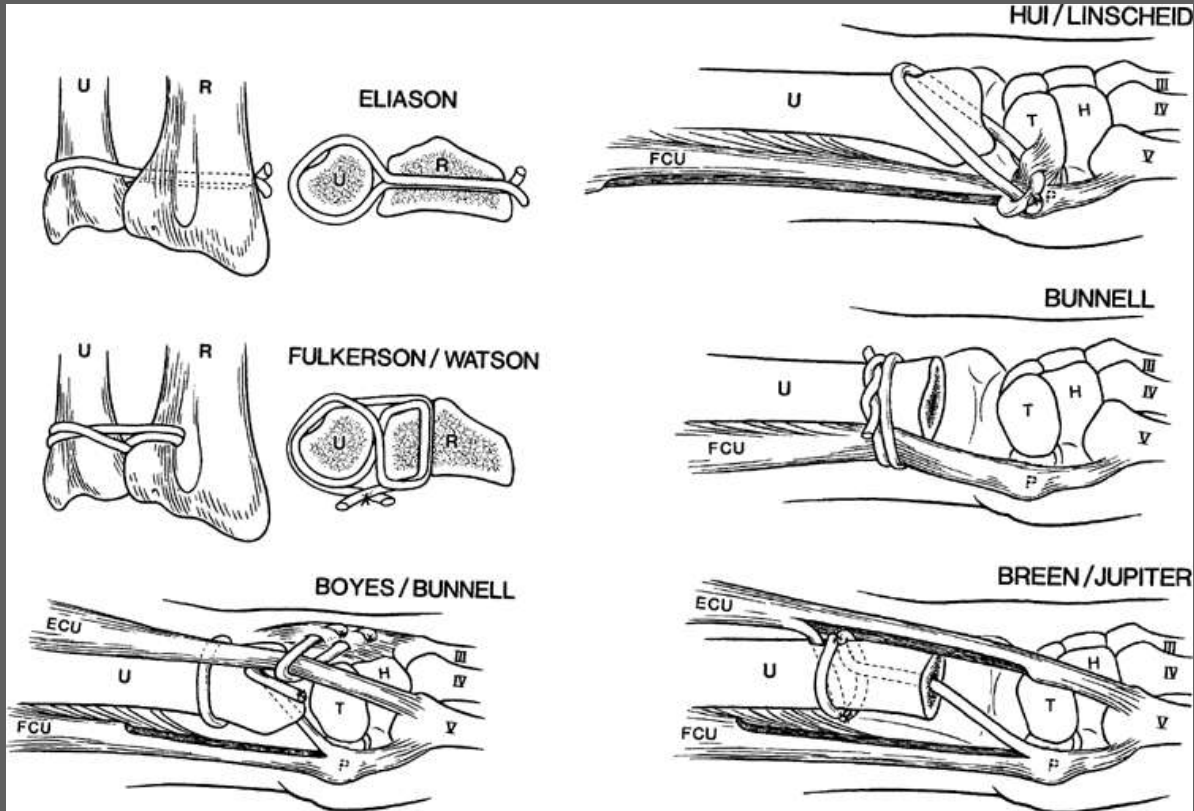


Test

- radially deviate wrist to tighten UCL

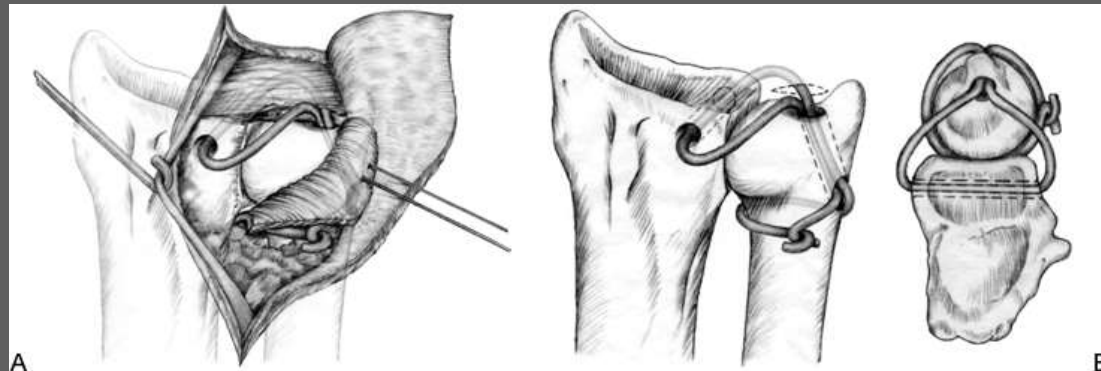


Reconstruction



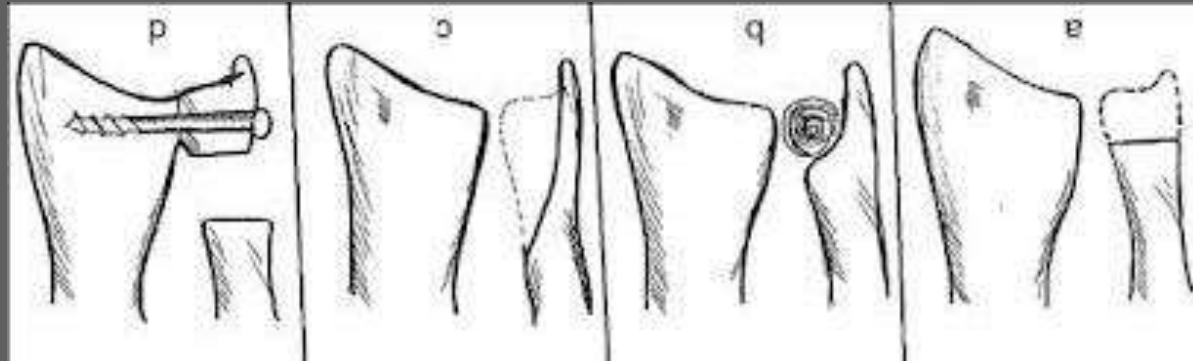
Adams Procedure

- 3-incision technique
- Palmaris longus graft – never long enough!



DRUJ arthritis

- Darrach's?
- Partial excision
- Sauve-Kapandji
- replacement



Replacement

- Hemiarthroplasty
- Total (Scheker)



40 female, fall 6+ months ago



Darrach's, skin healed



Happy?



Inadequate soft tissue restraint



Radioulnar fusion

