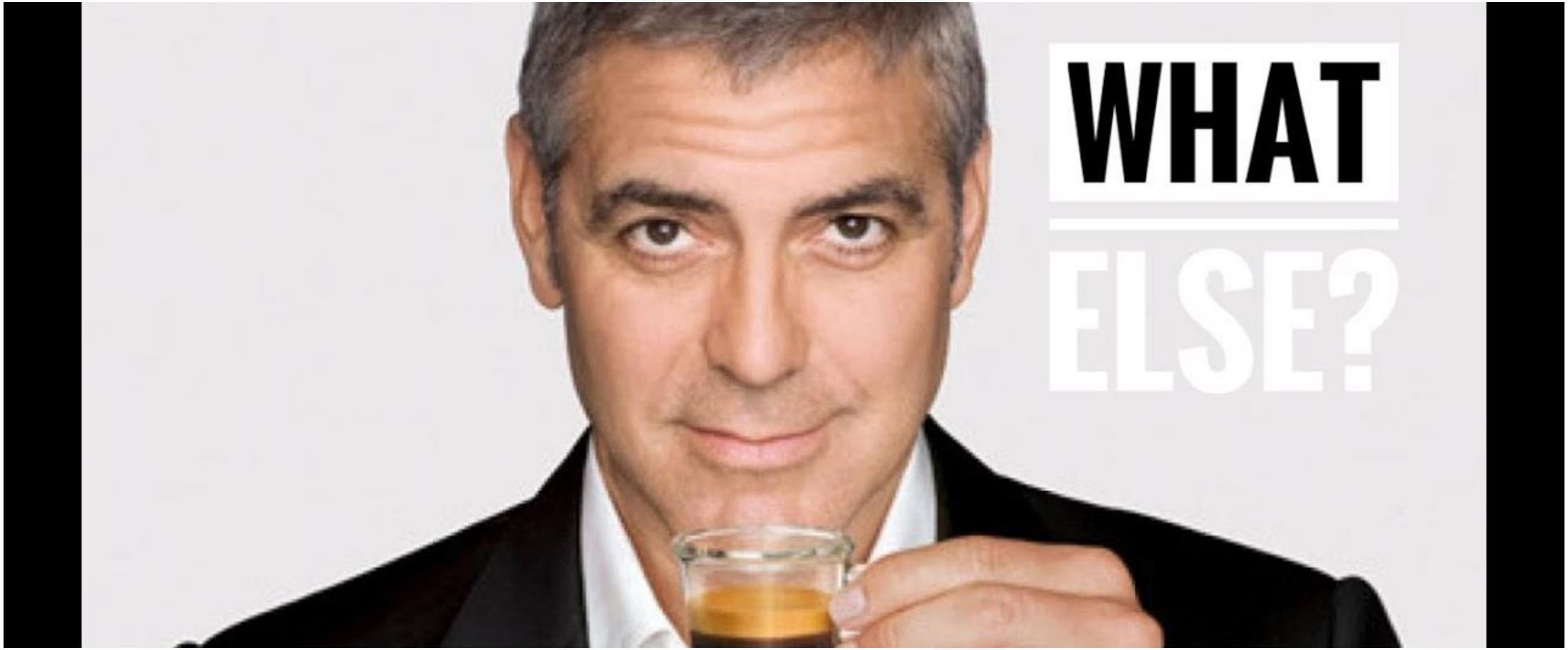
# Laterale elleboogpijn

## meer dan een tenniselleboog

Dr Pieter Pierreux


WHAT
ELSE?

# Ceci n’est pas une epicondylite.

International Orthopaedics (2023) 47:1787–1795
https://doi.org/10.1007/s00264-023-05805-x

ORIGINAL PAPER

# Evaluation of lateral epicondylopathy, posterior interosseous nerve compression, and plica syndrome as co-existing causes of chronic tennis elbow

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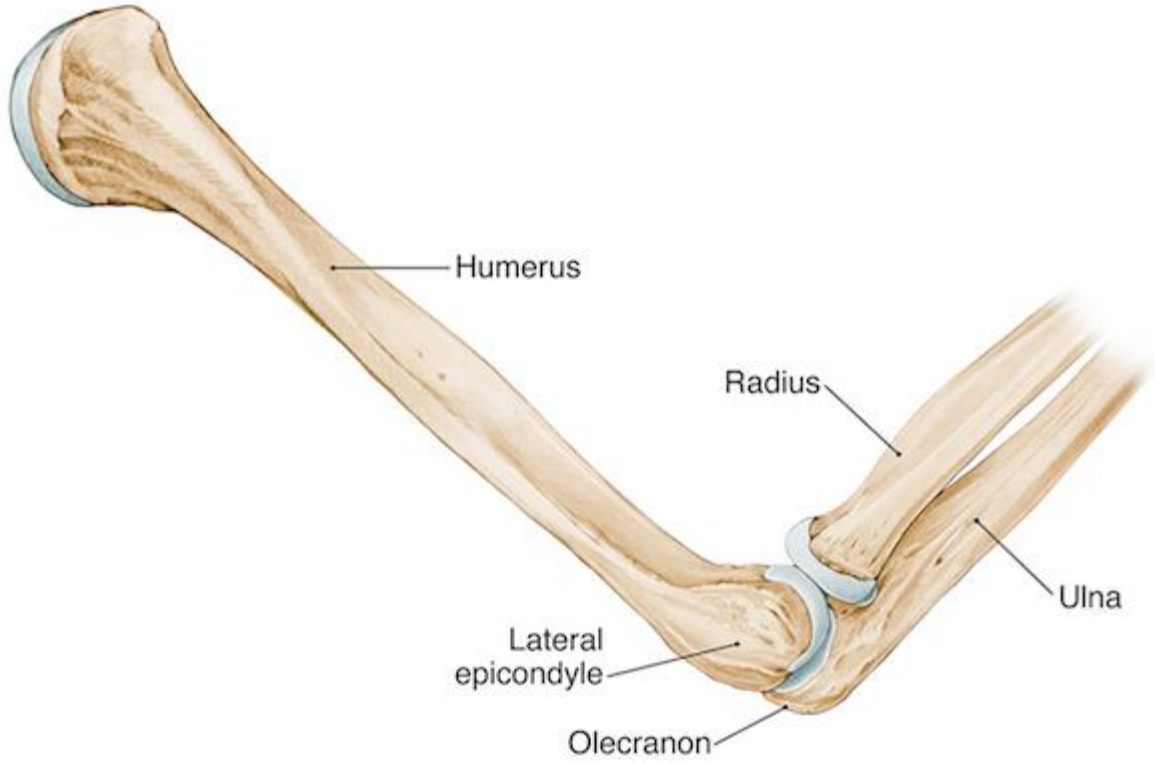
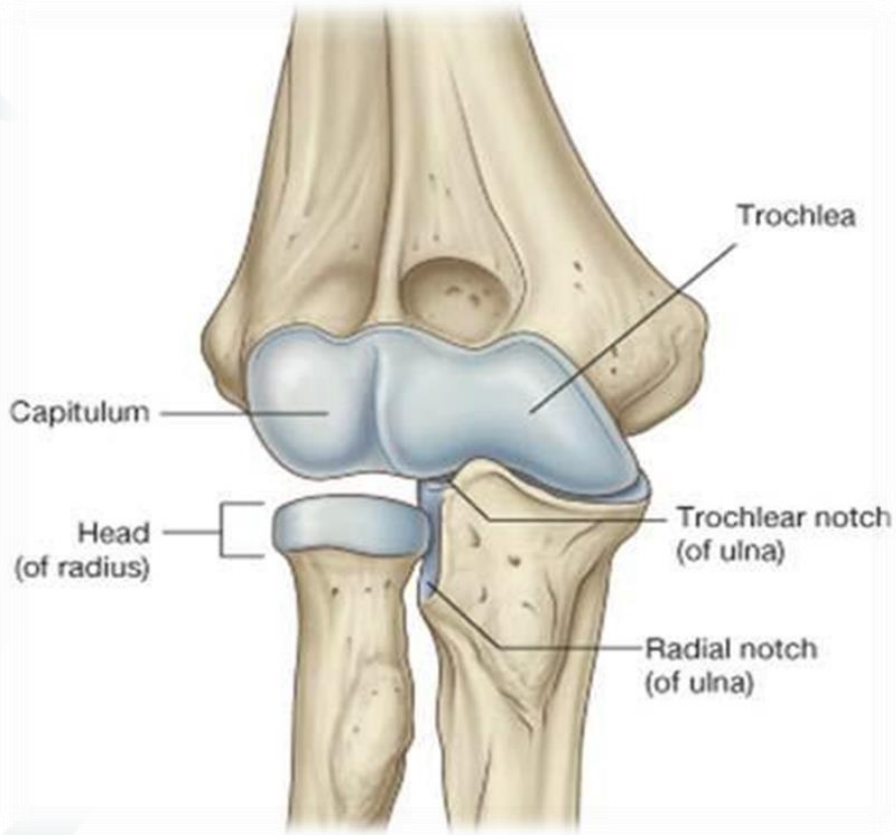
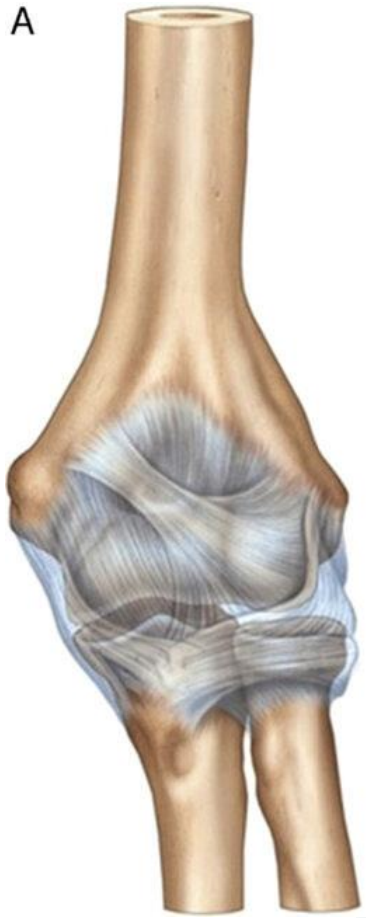
# Overzicht

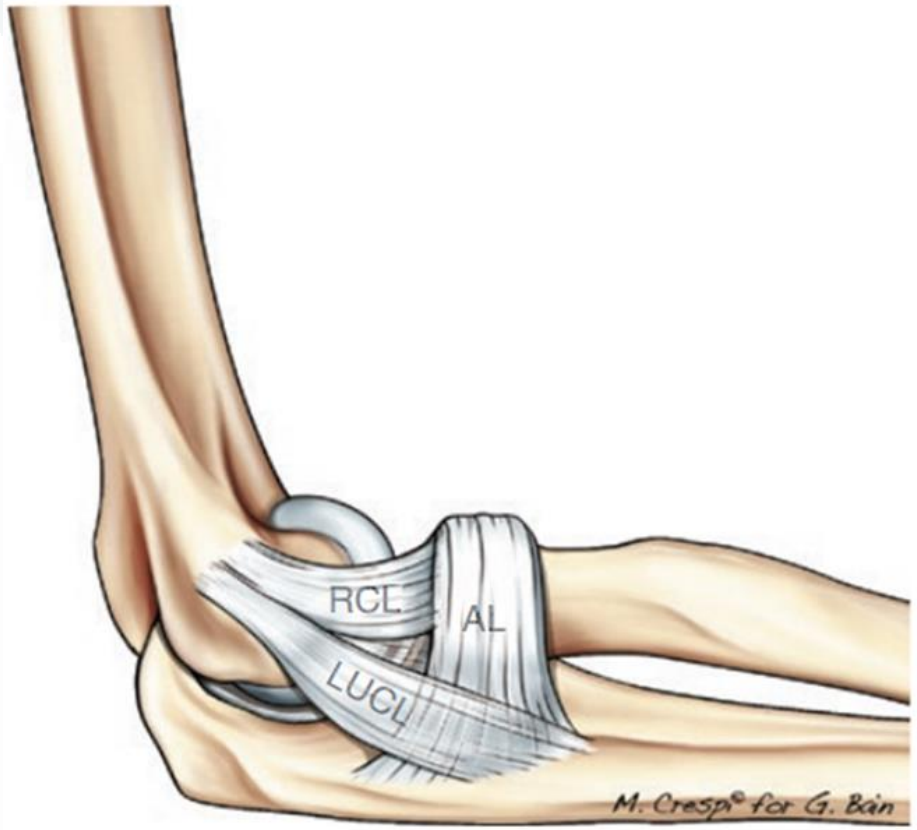
- Anatomie
- Tenniselleboog
- Radiaal tunnel syndroom
- Plica synovialis
- Postero-laterale rotatoire instabiliteit  ( PLRI )
- Radio-capitellaire artrose
- Take home message

# Anatomie

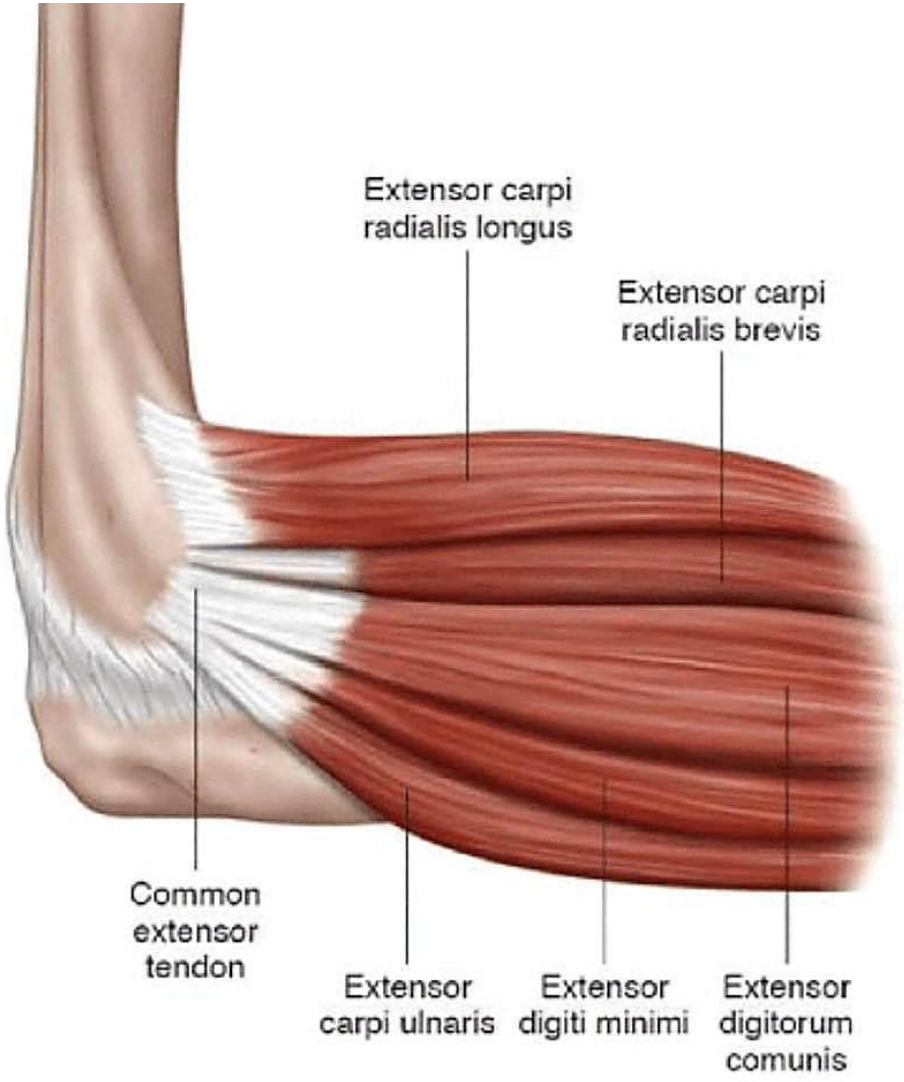

Humerus
Radius
Ulna
Lateral epicondyle
Olecranon

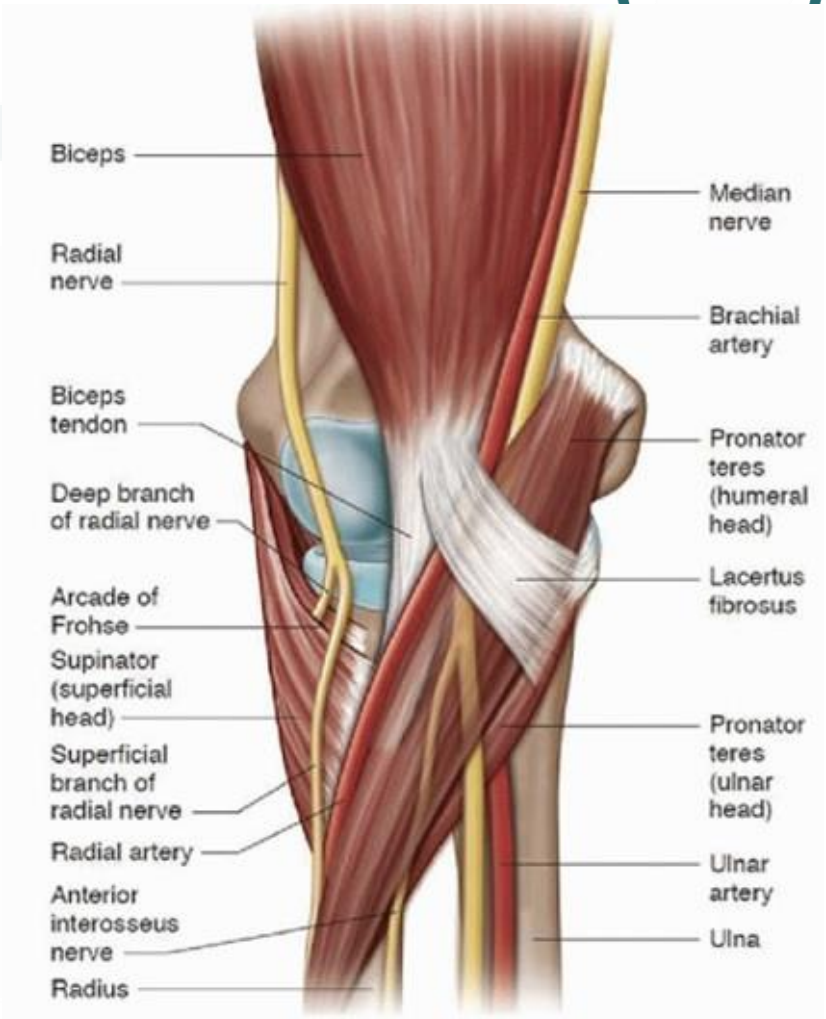

Trochlea
Capitulum
Head (of radius)
Trochlear notch (of ulna)
Radial notch (of ulna)




**LUCL**: lateral ulnar collateral ligament
**RCL**: Radial collateral ligament
**AL**: Annular ligament


Extensor carpi radialis longus
Extensor carpi radialis brevis
Common extensor tendon
Extensor carpi ulnaris
Extensor digiti minimi
Extensor digitorum comunis


Biceps
Radial nerve
Biceps tendon
Deep branch of radial nerve
Arcade of Frohse
Supinator (superficial head)
Superficial branch of radial nerve
Radial artery
Anterior interosseus nerve
Radius
Median nerve
Brachial artery
Pronator teres (humeral head)
Lacertus fibrosus
Pronator teres (ulnar head)
Ulnar artery
Ulna

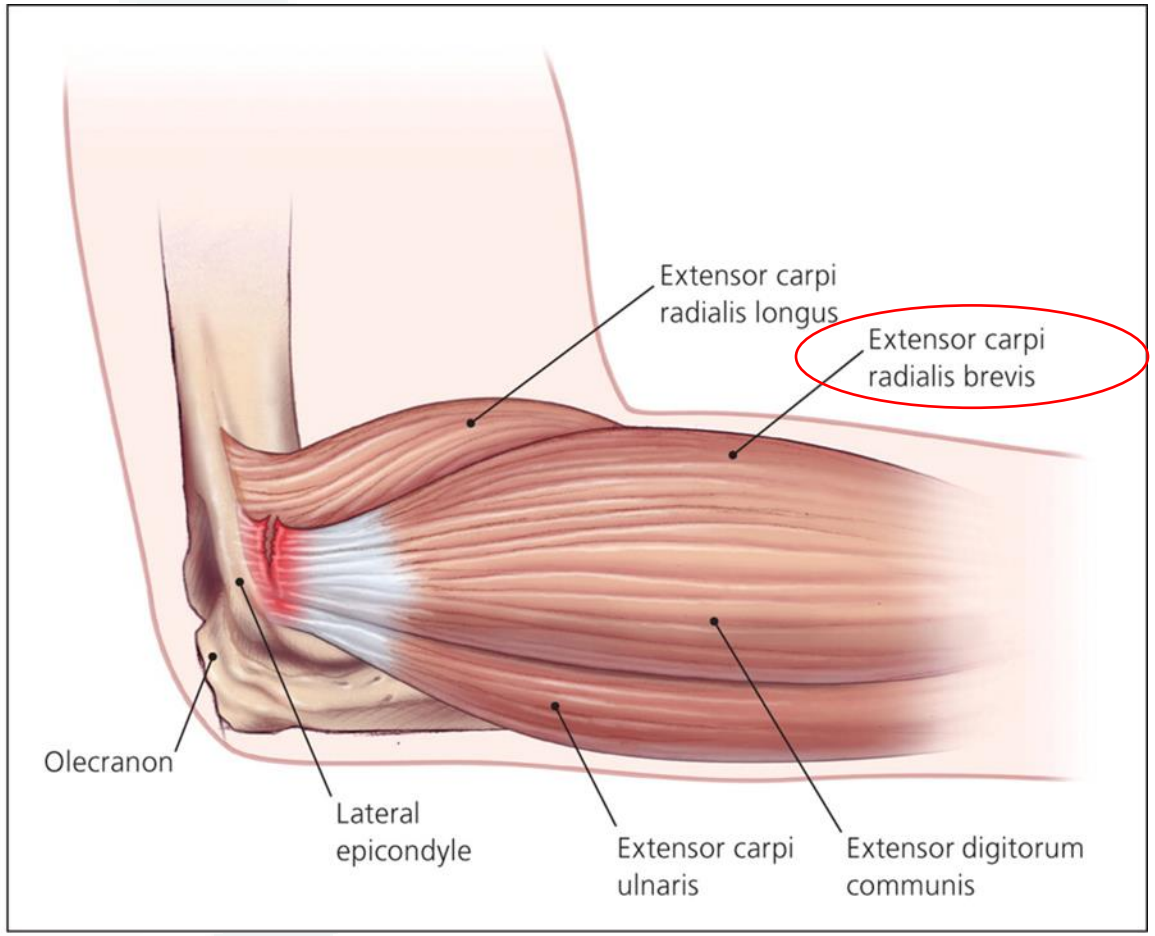
# Tenniselleboog

- Epicondylitis lateralis
- “Peesontsteking” van de strekpezen (extensoren)
  - Overbelasting
  - Angio-fibroblastische hyperplasie = **TENDINOSE**

- Meest voorkomende oorzaak (laterale) elleboogpijn
- 1 tot 3% per jaar
- 35 – 55j
- M = V
- Dominante arm
- Zelflimiterend 12- 18 maanden

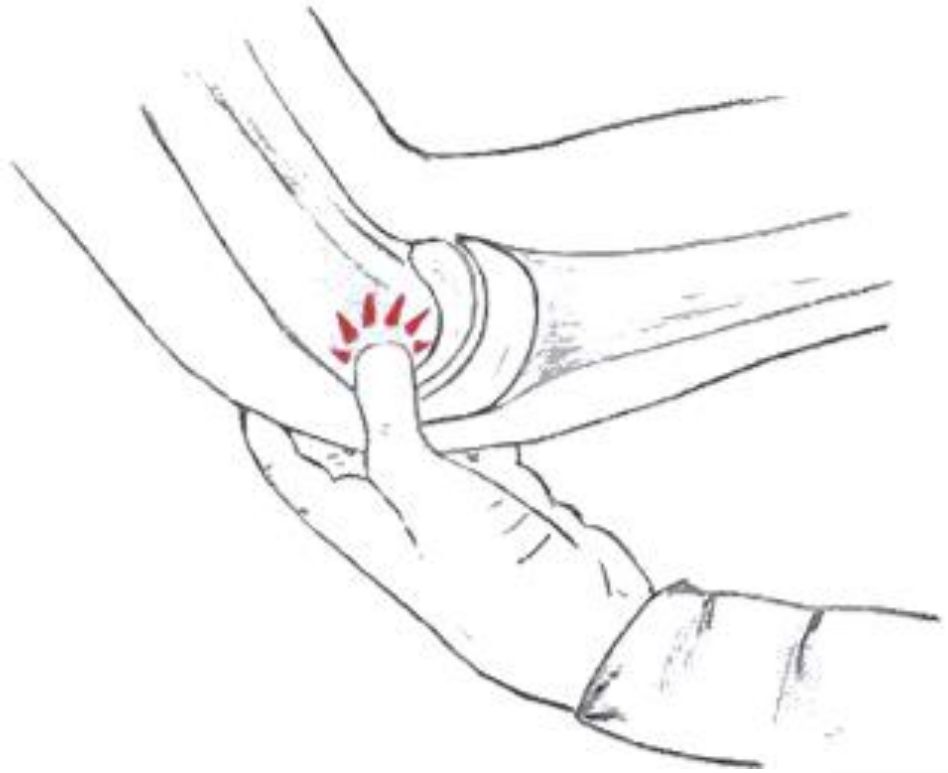
# Tenniselleboog

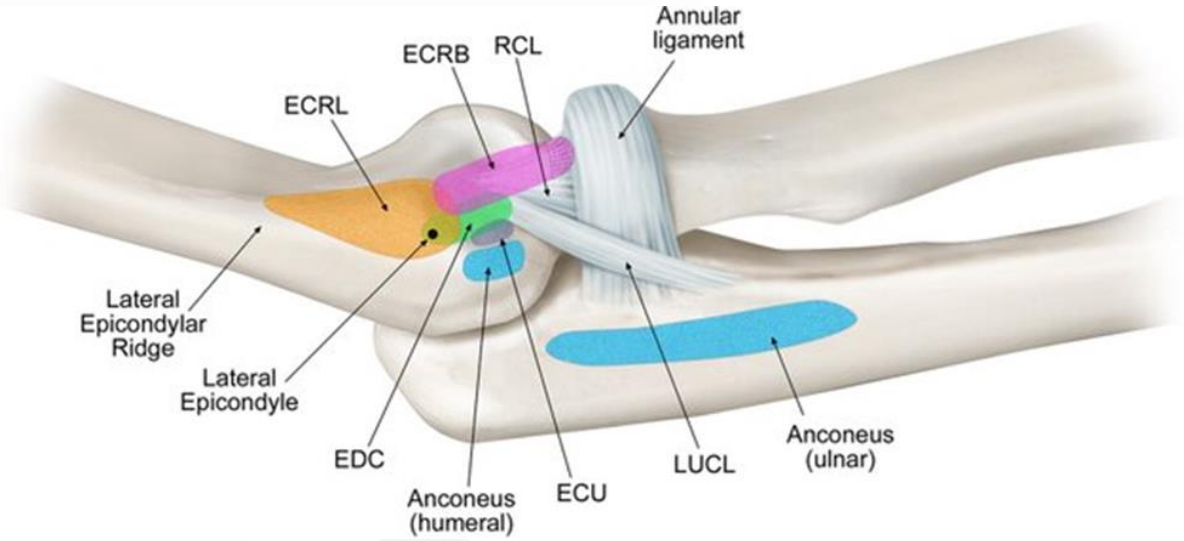
- Extensor carpi radialis brevis ( ECRB )



# Tennis elleboog – Klinisch onderzoek

- **Drukpijn** insertie ECRB = Laterale epicondyle

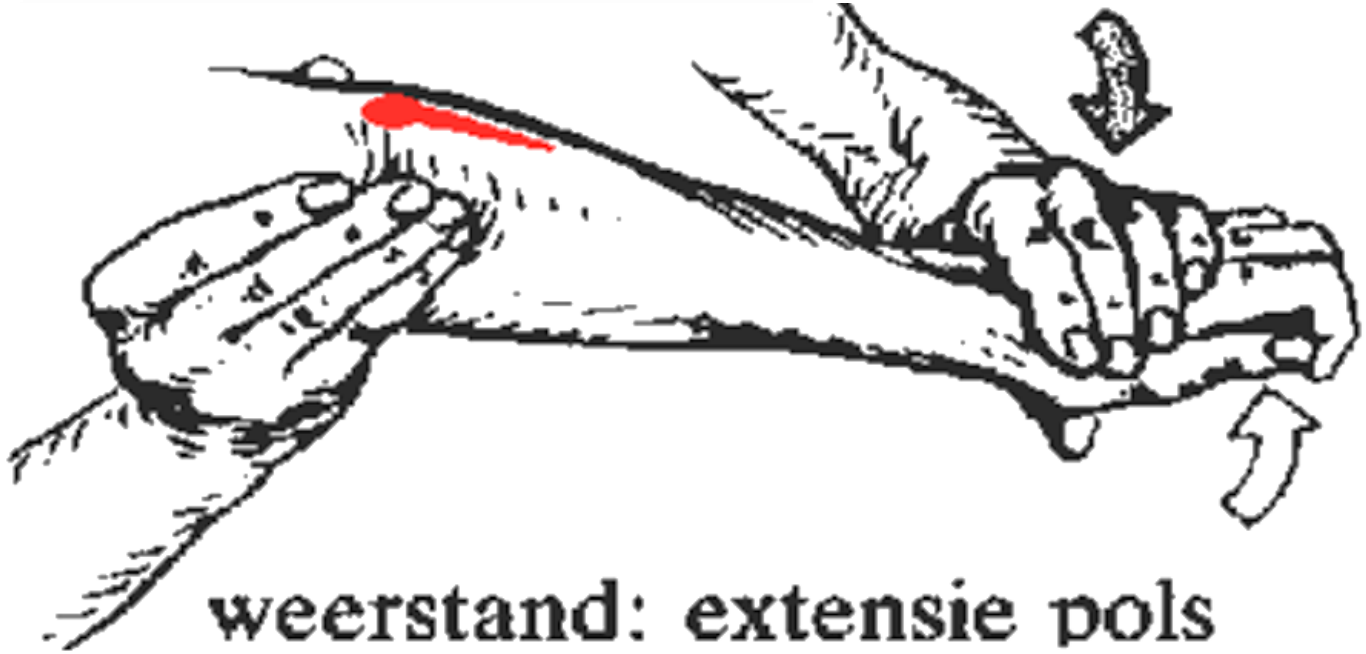




# Tennis elleboog – Klinisch onderzoek

- Drukpijn insertie ECRB = Laterale epicondyle
- Pijn bij pols**extensie** tegen **weerstand**

- Klinische testen:
  - **COZEN TEST**
    - **Pijn & krachtsverlies**
    - Sensitiviteit 91%



# Tennis elleboog – Klinisch onderzoek

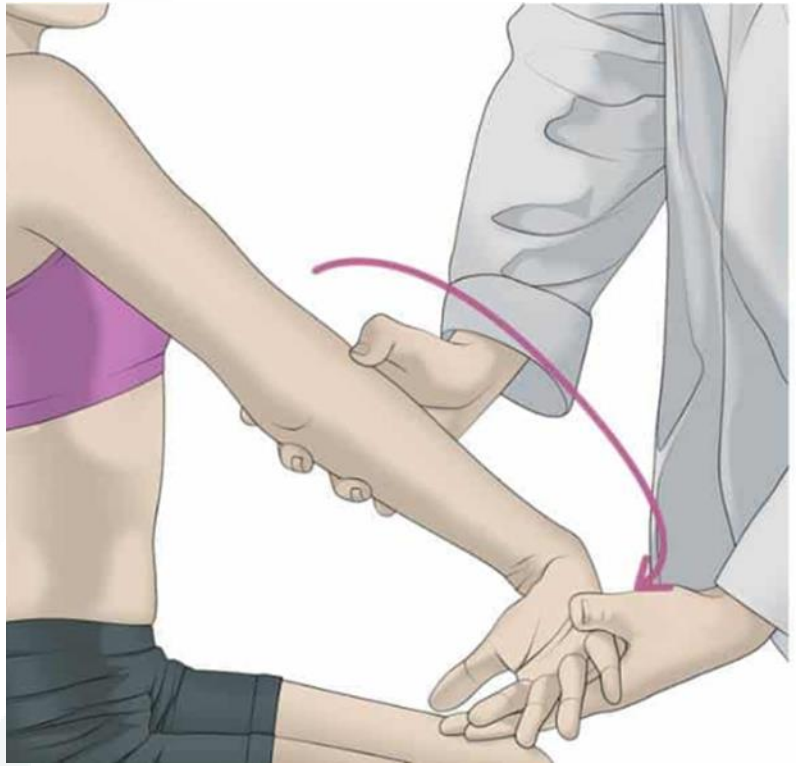
- Drukpijn insertie ECRB = Laterale epicondyle
- Pijn bij pols**extensie** tegen **weerstand**

- Klinische testen:
  - Cozen test
  - **Maudsley's test**

# Tennis elleboog – Klinisch onderzoek

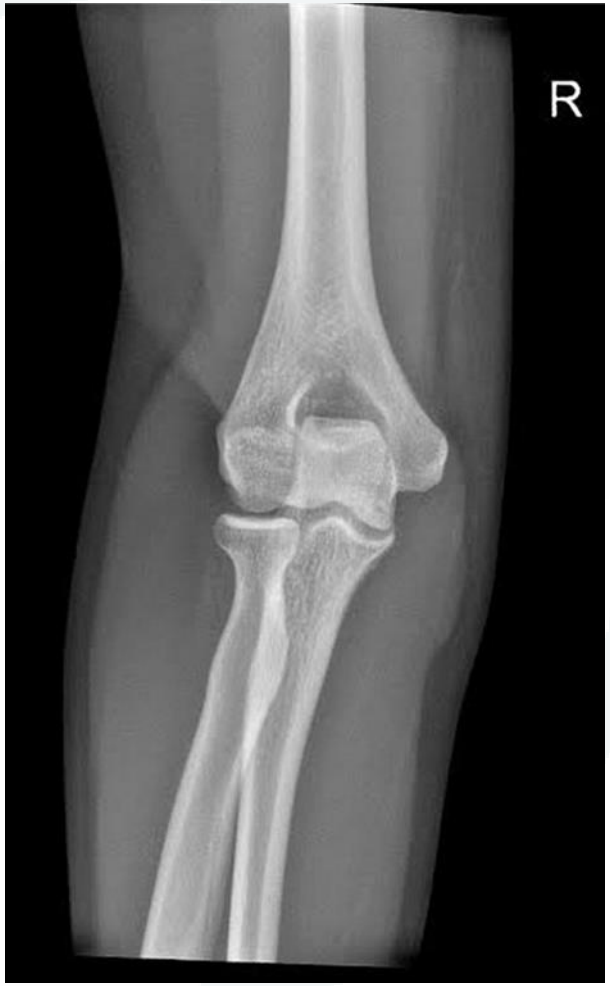
- Drukpijn insertie ECRB = Laterale epicondyle
- Pijn bij polsextensie tegen weerstand

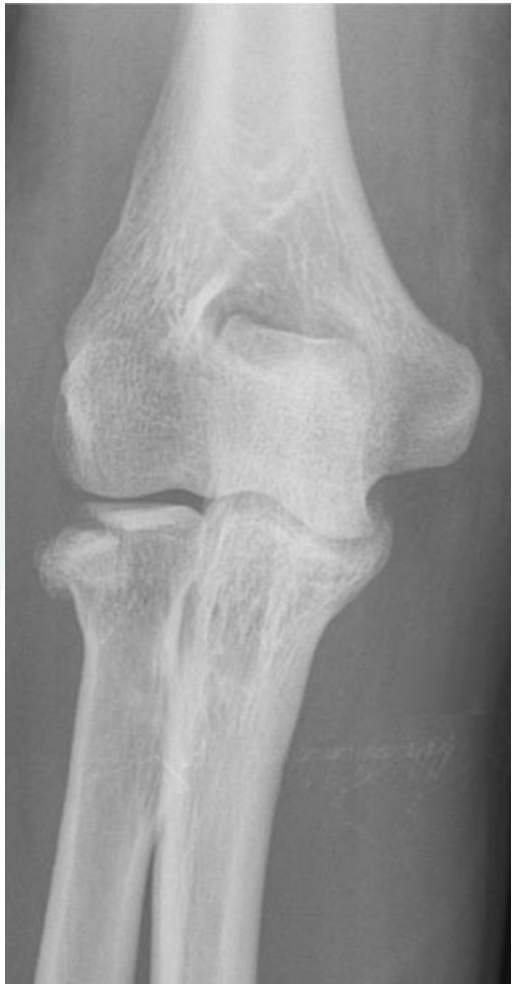
- Klinische testen:
  - Cozen test
  - Maudsely's test
  - **Mill's test**



# Tenniselleboog - Beeldvorming

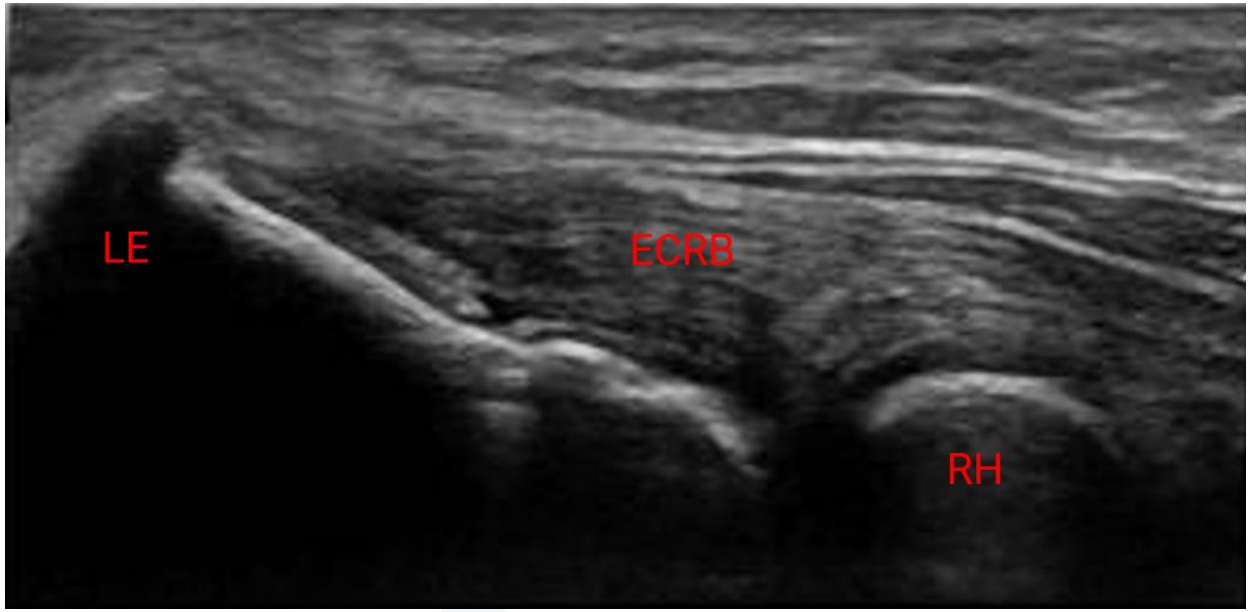
- Radiografie



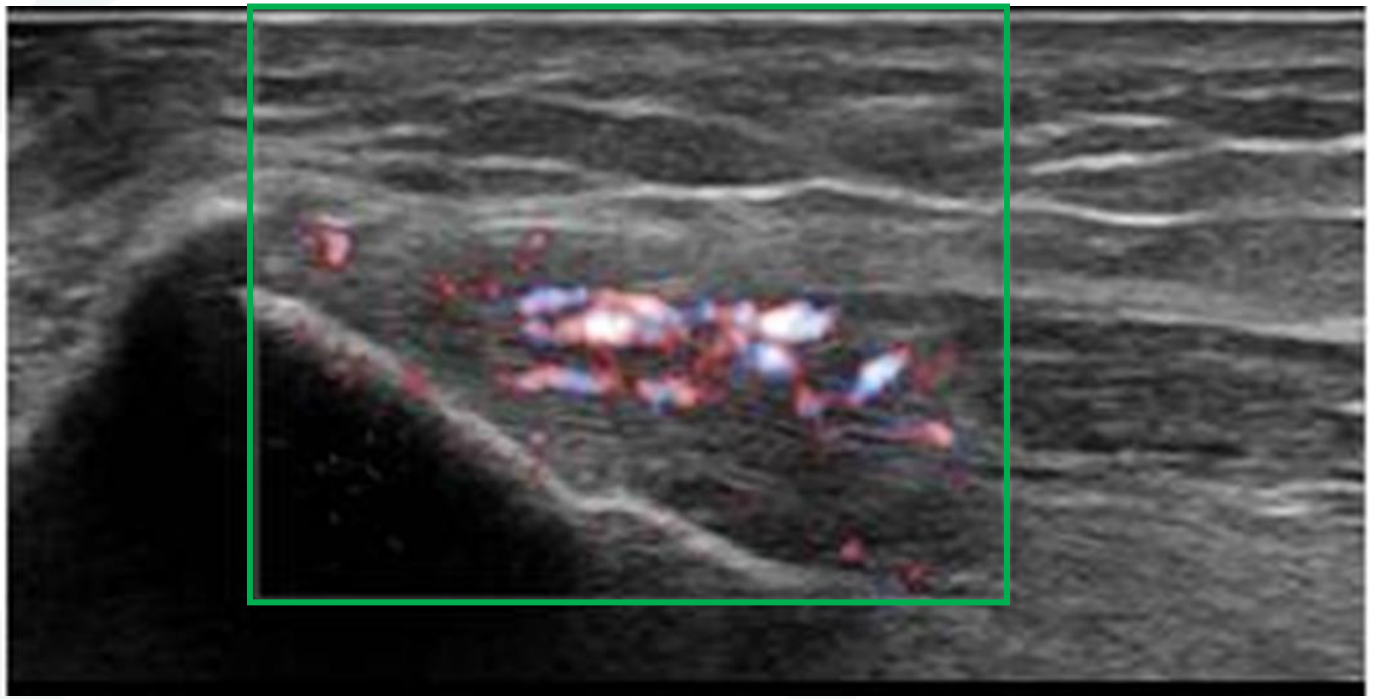
# Tenniselleboog - Beeldvorming

- Radiografie
- Echografie
  - Scheurtjes
  - Calcificaties
  - Heterogeen (verlies van laminaire vezelstructuur)
  - Neovascularisatie



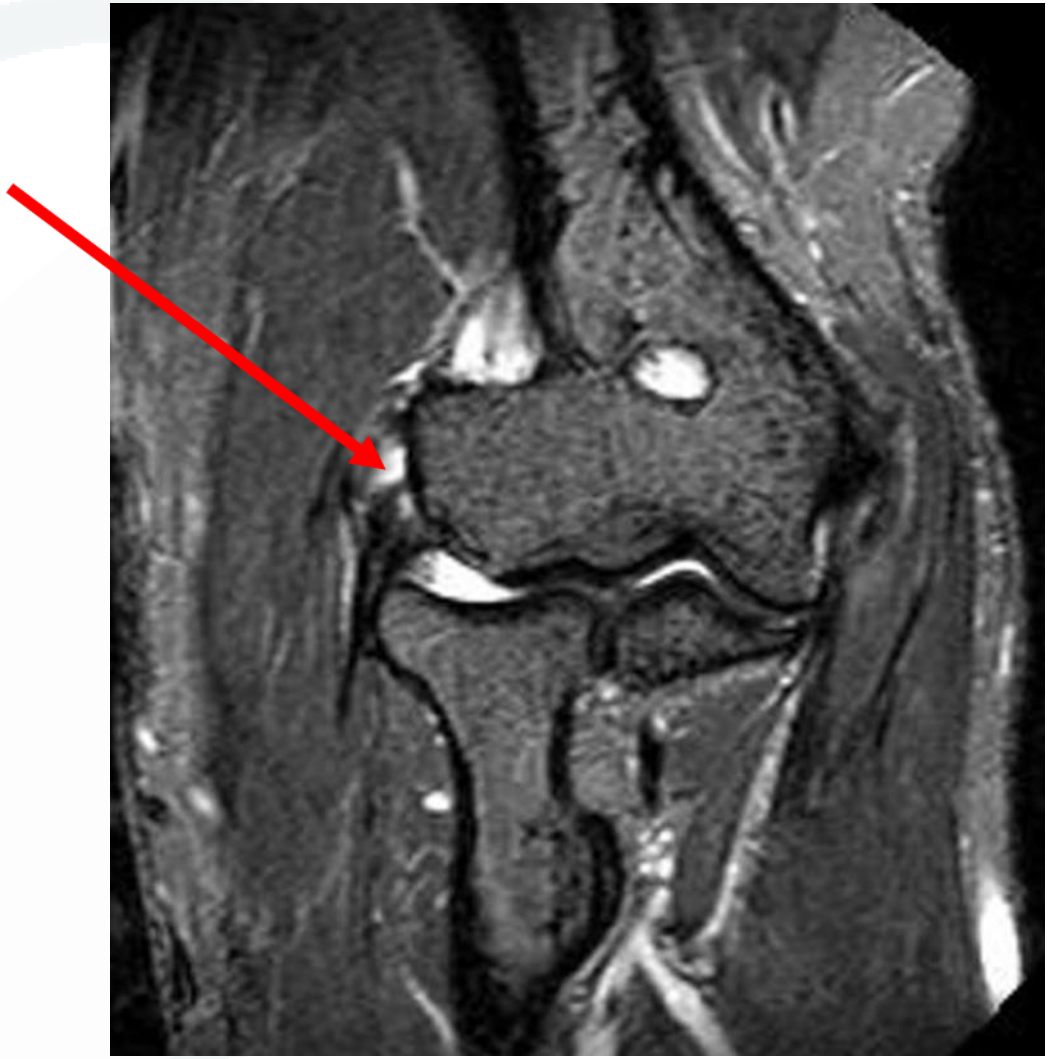
# Tenniselleboog - Beeldvorming

- Radiografie
- Echografie



# Tenniselleboog - Beeldvorming

- Radiografie
- Echografie
- MRI



# Tenniselleboog - Behandeling

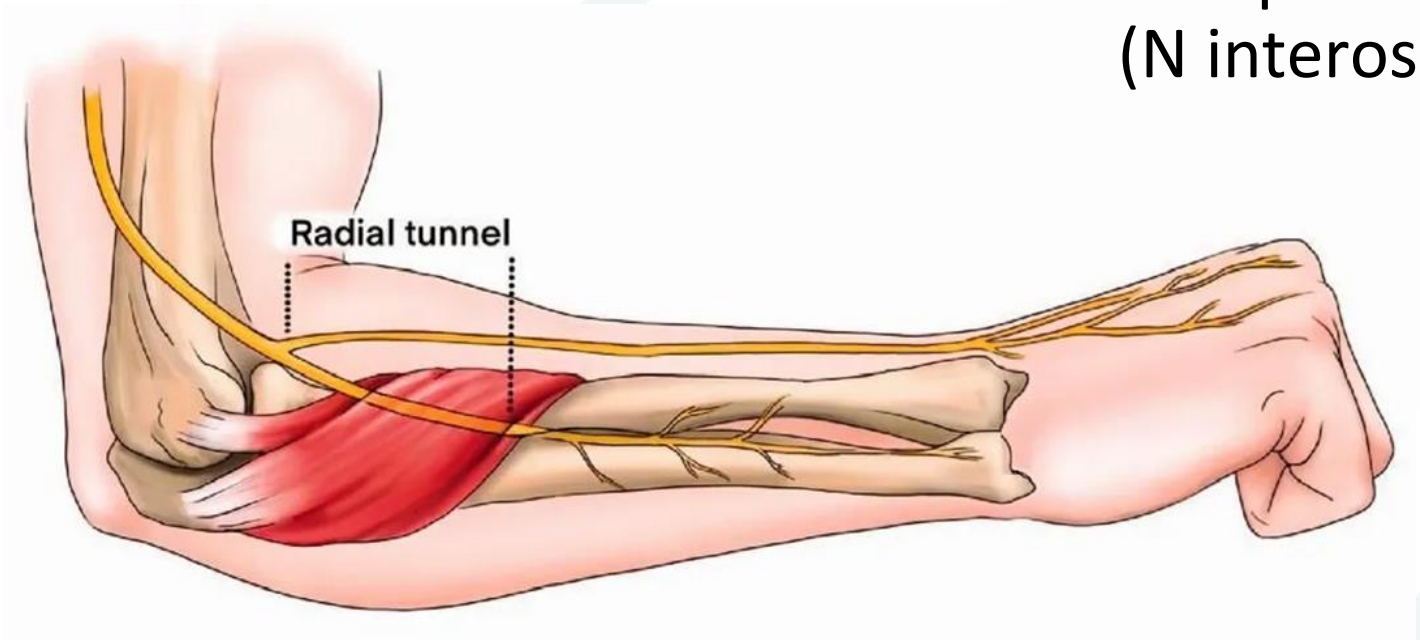
- **Niet-operatieve behandeling**
  - Activiteit aanpassing
  - Kinésitherapie
  - NSAID’s
  - Bracing  (unlaoder – of  polsbrace)
  - ESWT
  - Dry needling
  - Injecties
    - ~~Cortisone~~
    - Platelet-rich plasma (PRP)

**SUCCESVOL IN 90 %**

# Differentieel diagnose

| Differentieel diagnose laterale elleboogpijn |
| --- |
| Laterale epicondylitis |
| Radiaal tunnel syndroom |
| Plica synovialis |
| Postero-laterale rotatoire instabiliteit (PLRI) |
| Radio-capitellaire artrose |
| Valgus extension overload syndroom ( VEOS) |
| Osteochondritis dissecans (OCD) |
| Ziekte van Panner |
| Cervicale radiculopathie (C6) |

# Radiaal tunnel syndroom




- Compressie van de Nervus Radialis (N interosseus posterior - NIOP)

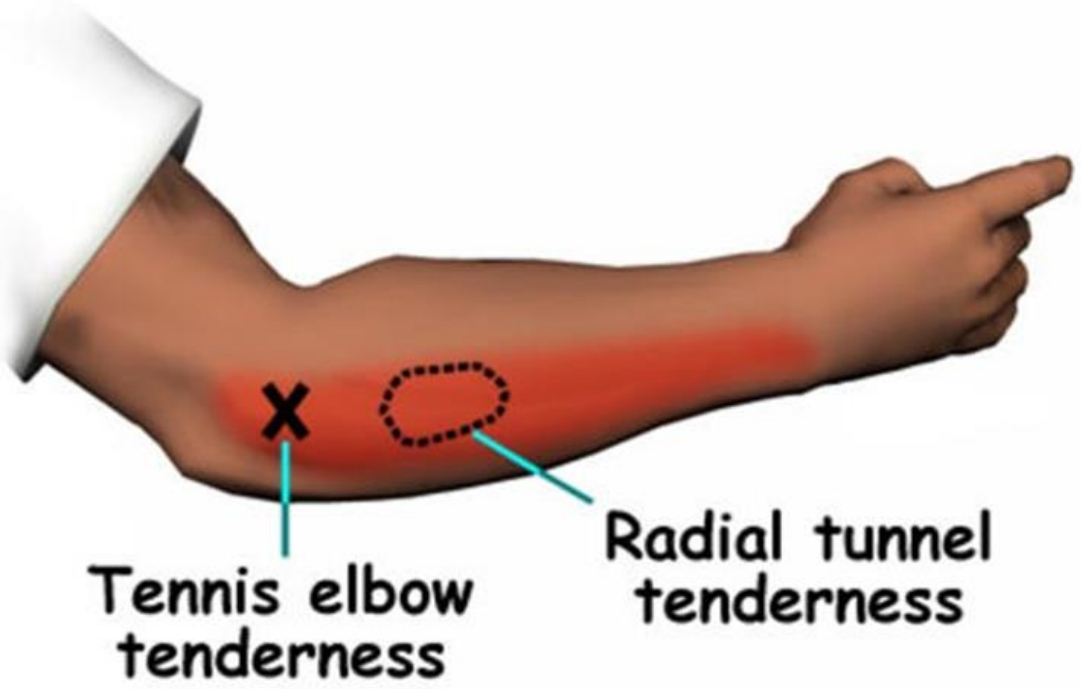
Incidentie ?
M / V 2/1
R / L 2/1

# Radiaal tunnel syndroom

- Pijn :
  - 3 - 5 cm distaal van de laterale epicondyle
  - Proximaal 1/3 voorarm
  - Over ‘mobile wad’
    (Brachioradialis / ECRL / ECRB)

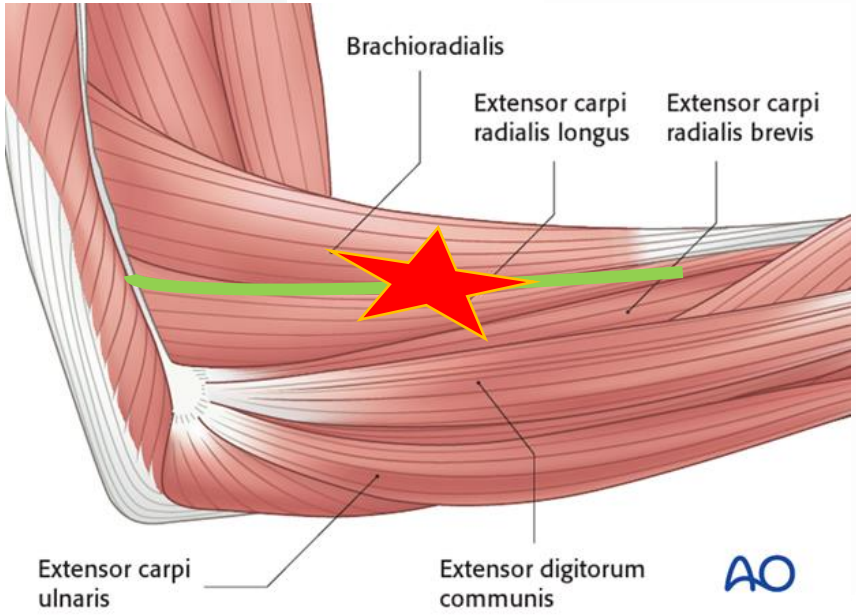
- Pijn bij belasting
  - “Dynamische” compressie

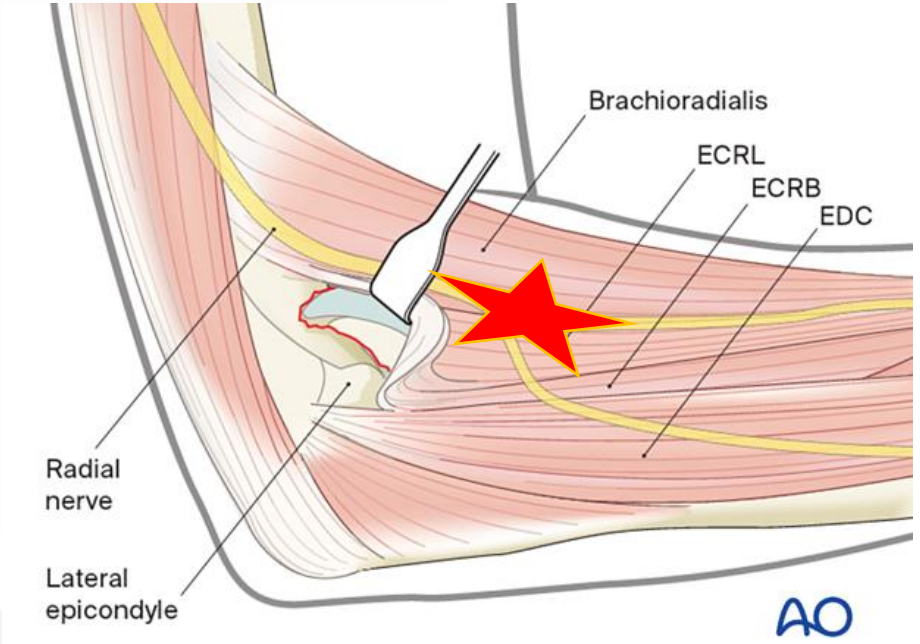
- Geen tintelingen!!



# Radiaal tunnel syndroom – Klinisch onderzoek

- Klinische diagnose !!
  - Drukpijn over mobile wad (tussen BR en ERCL)



# Radiaal tunnel syndroom – Klinisch onderzoek

- Klinische diagnose !!
  - Drukpijn over mobile wad (tussen BR en ERCL)
    - **Supinatie** > pronatie **!!**

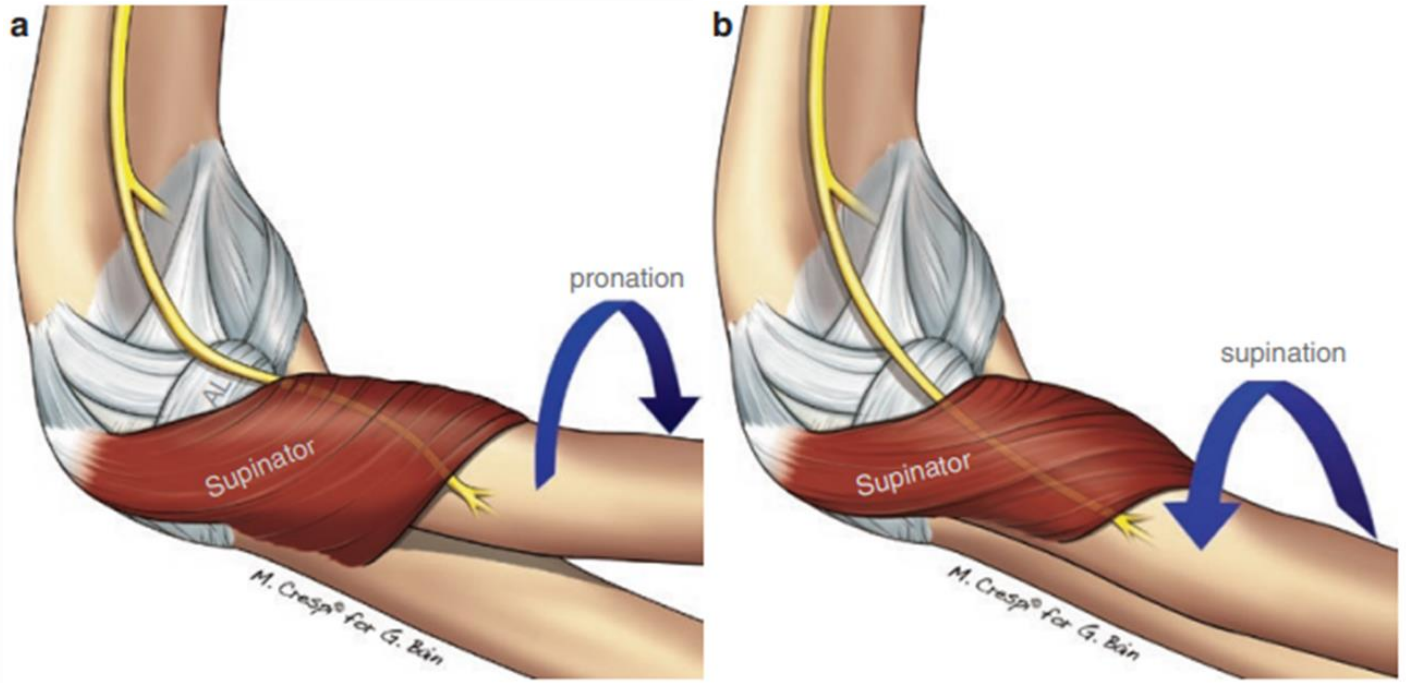
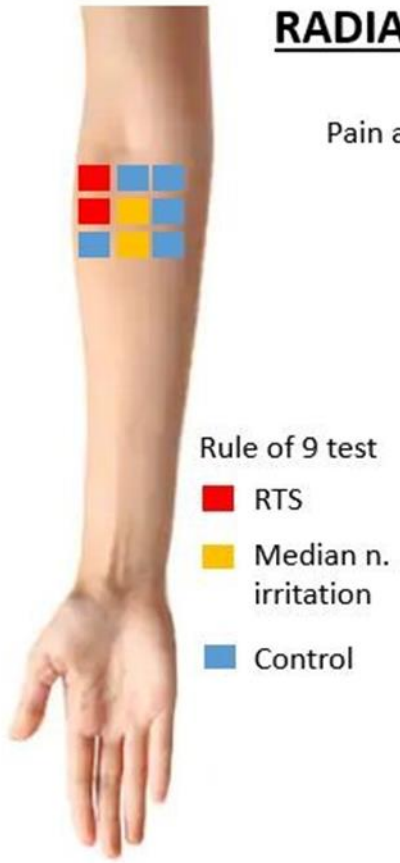


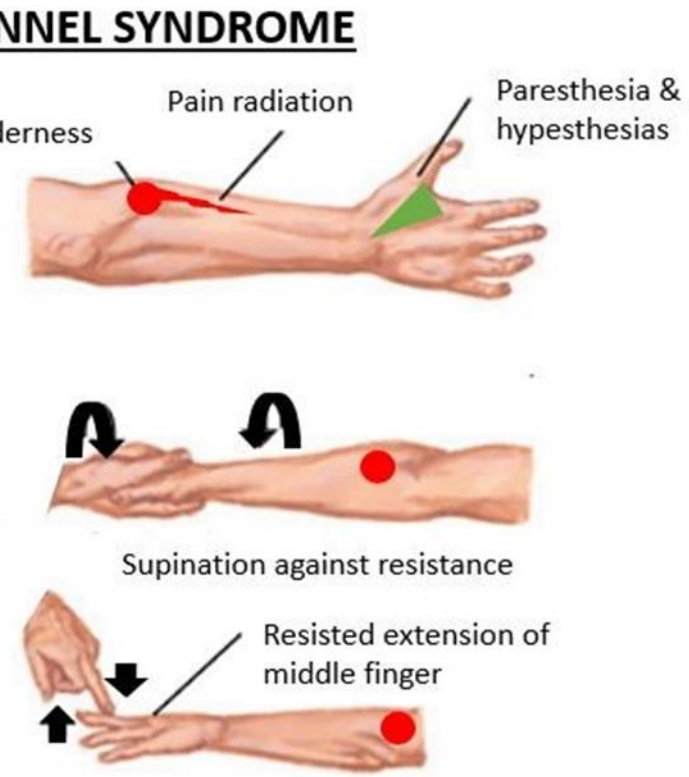

**Fig. 9.9** Position of the posterior interosseous nerve (PIN) during lateral approaches to the elbow. The risk of injury to the PIN is decreased by fully pronating the forearm (**a**), which translates the nerve medially by 1 cm compared to the supinated forearm (**b**) (Copyright Gregory Bain and Max Crespi)

# Radiaal tunnel syndroom – Klinisch onderzoek

- Klinische diagnose
  - Drukpijn over mobile wad
    - Supinatie > pronatie !!
  - Pols **EXTENSIE / SUPINATIE tegen weerstand**
    - Pijn
    - Bewaarde kracht ( DD TE )
  - **Rule of 9**
  - Scratch collaps test??

**VERGELIJK STEEDS MET ANDERE KANT !**

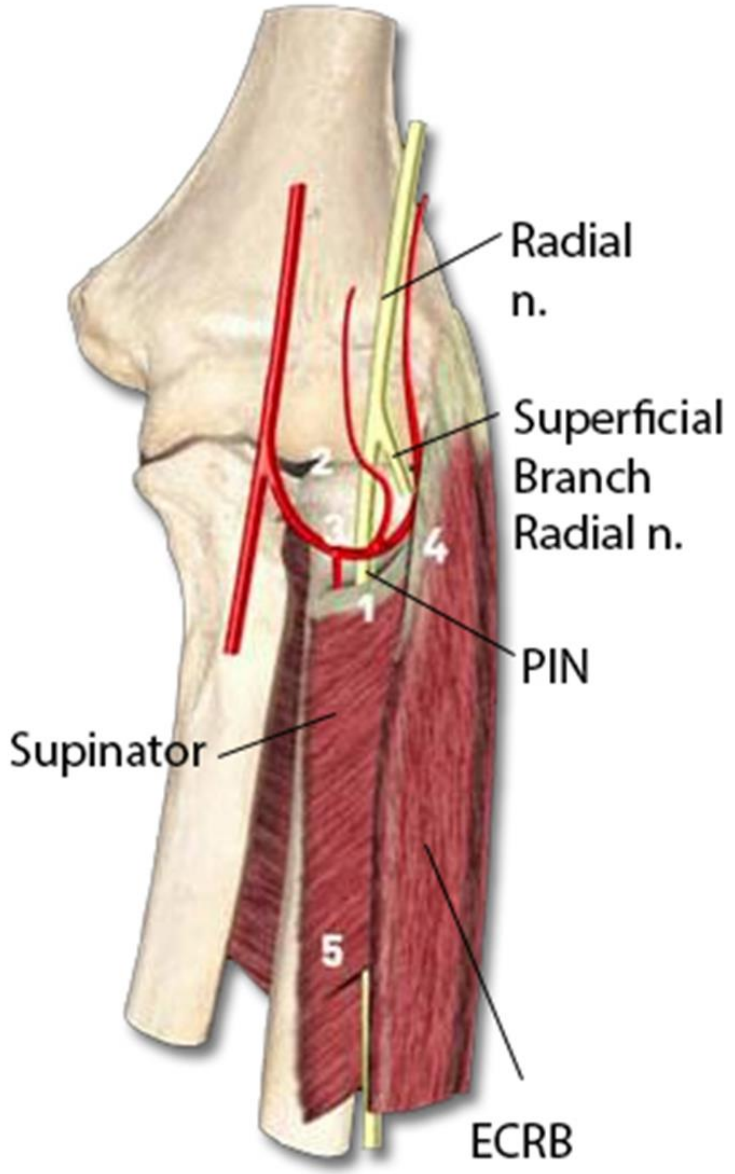


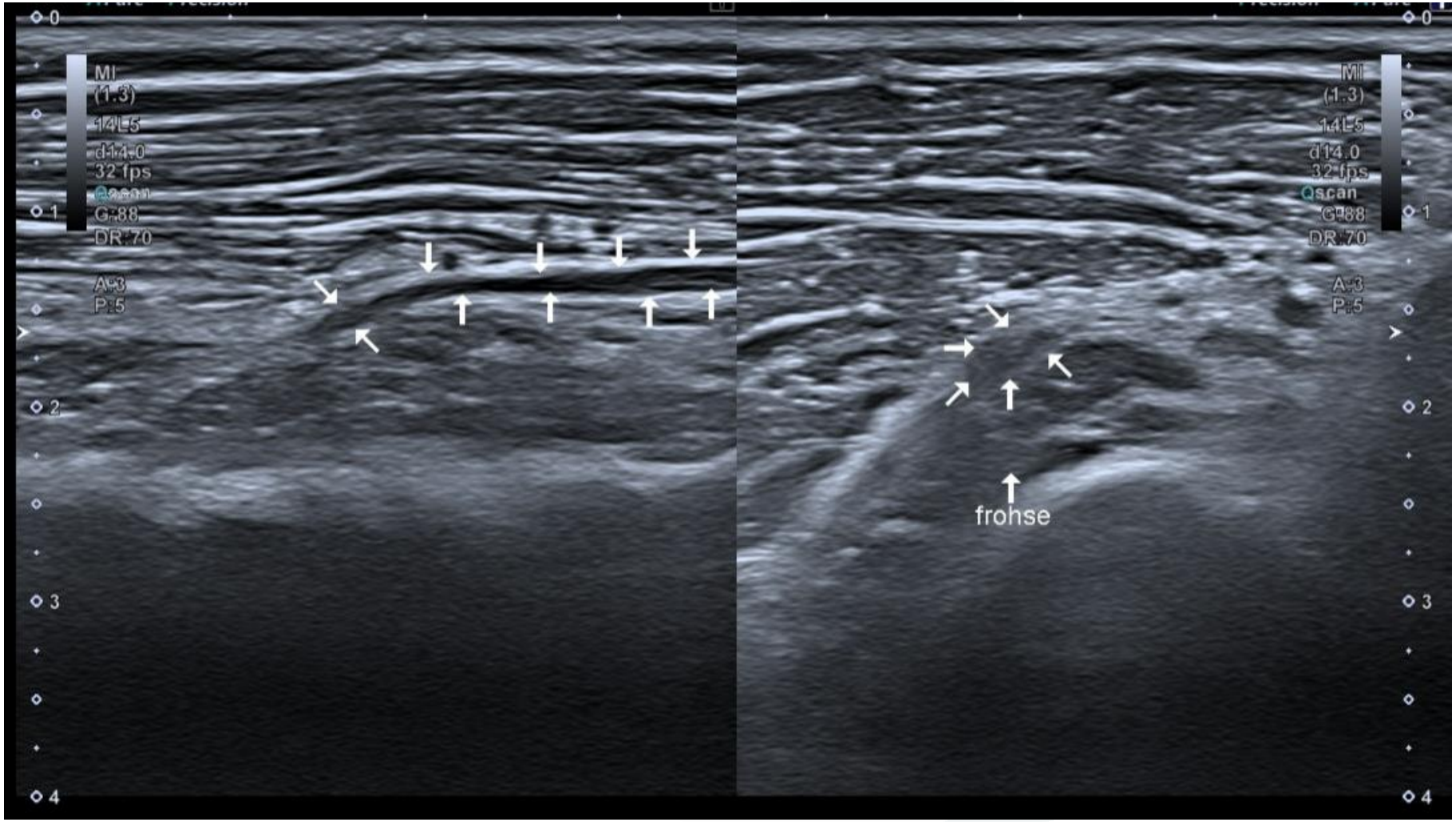
# Radiaal tunnel syndroom – Beeldvorming

- Site of compression
  - **Arcade van Froshe** (1)
  - Tendineuze rand ECRB ( DD TE ) (4)
  - Recurrente arteria radialis (3)
  - Cyste van radio-capitellair gewricht (2)

- RX
- **ECHO**
- MRI
- EMG ?



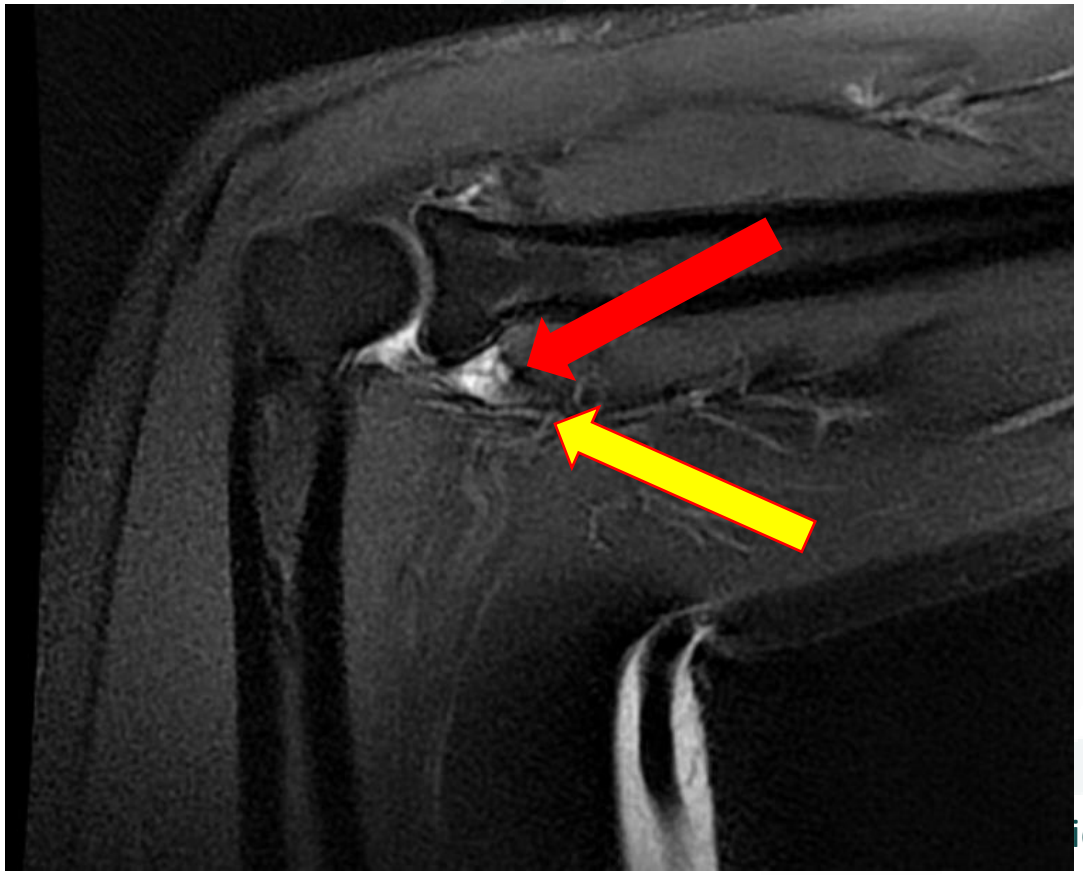
# Radiaal tunnel syndroom – Beeldvorming

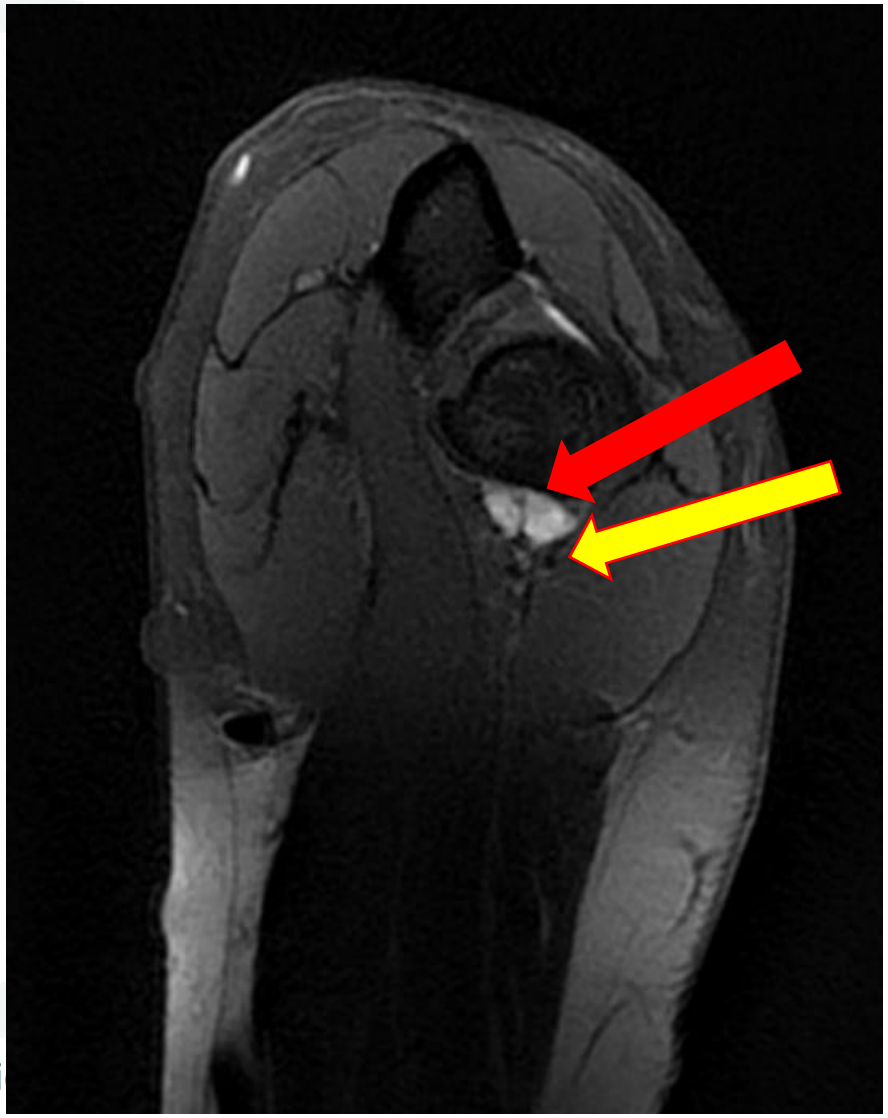



Normaal 1.85 mm
Symp > 3.05 mm

# Radiaal tunnel syndroom – Beeldvorming

- MRI
  - Radio-capitellaire cyste





# Radiaal tunnel syndroom – Behandeling

Review > J Am Acad Orthop Surg. 2023 Aug 1;31(15):813-819. doi: 10.5435/JAAOS-D-23-00314.
Epub 2023 Jun 2.

## Radial Tunnel Syndrome: Review and Best Evidence

Jennifer Moriatis Wolf [1], Ronak Patel, Kanad Ghosh

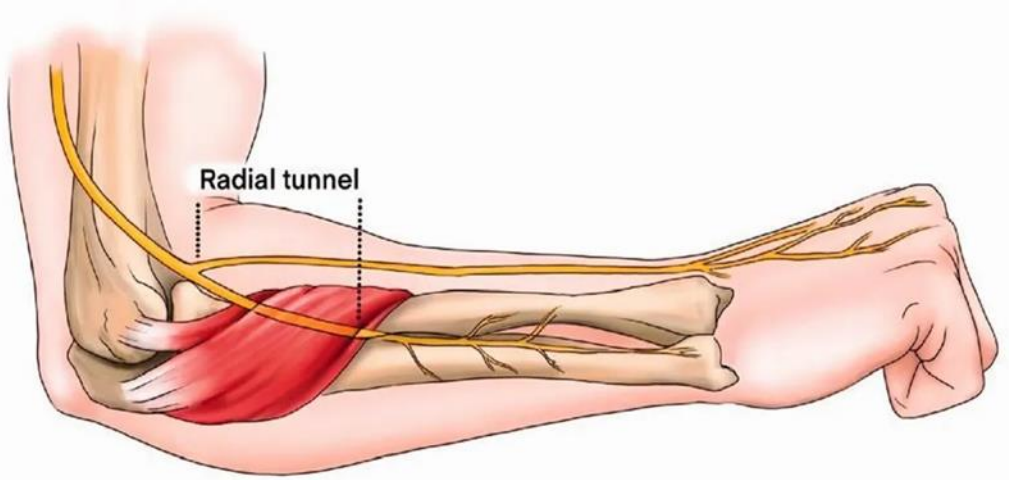
Affiliations + expand

PMID: 37276490 DOI: 10.5435/JAAOS-D-23-00314

- "Conservative therapy is unsuccesfull, decompression is necessary"
  - Alternatief
    - Echo-geleidde infiltratie (Lidocaïne en cortisone)
    - Dry needling

# Radiaal tunnel syndroom – Behandeling

- Controversie over effect van ‘unloader’ brace

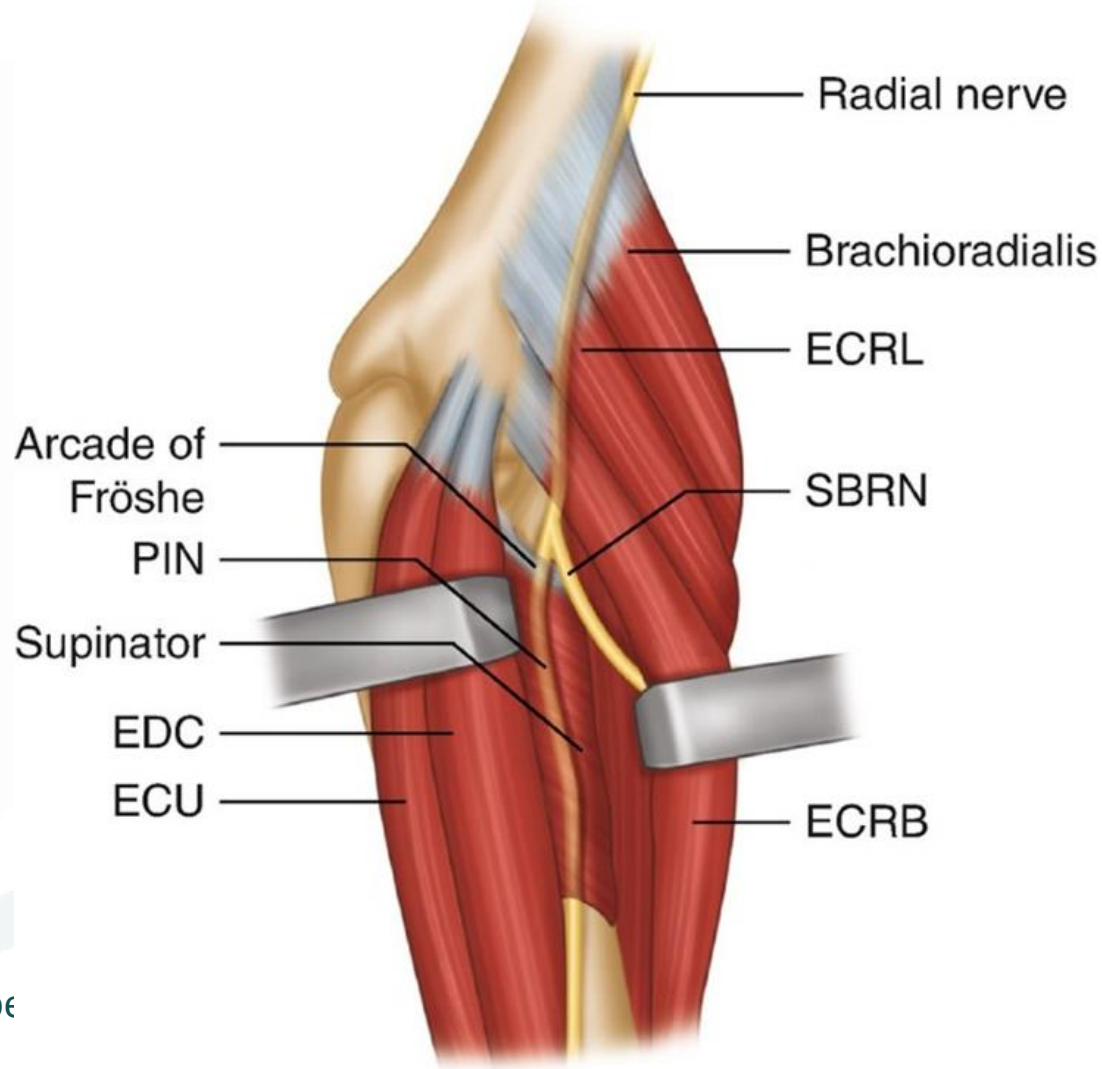

PEES *vs* ZENUW

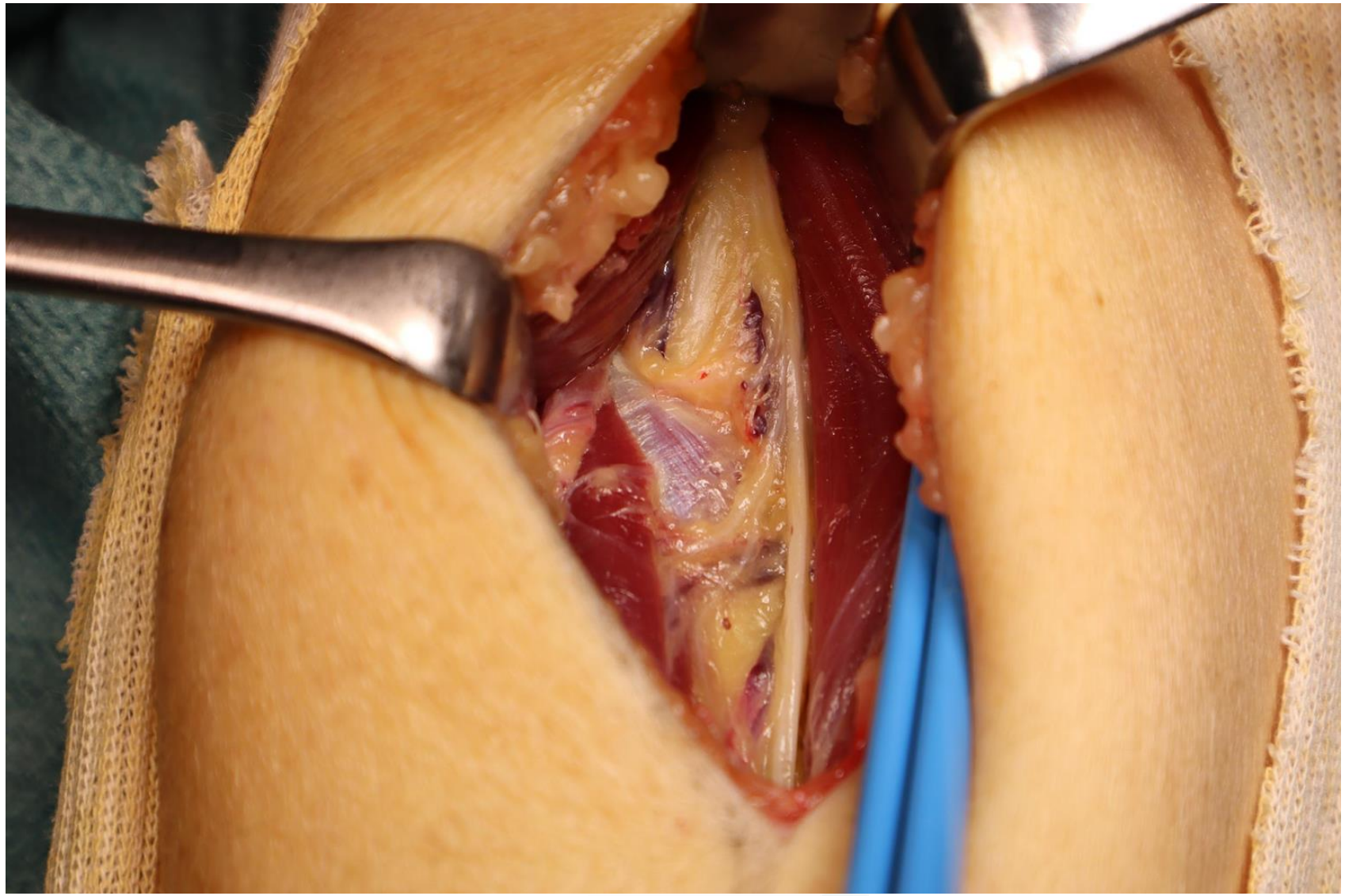
# Radiaal tunnel syndroom – Behandeling

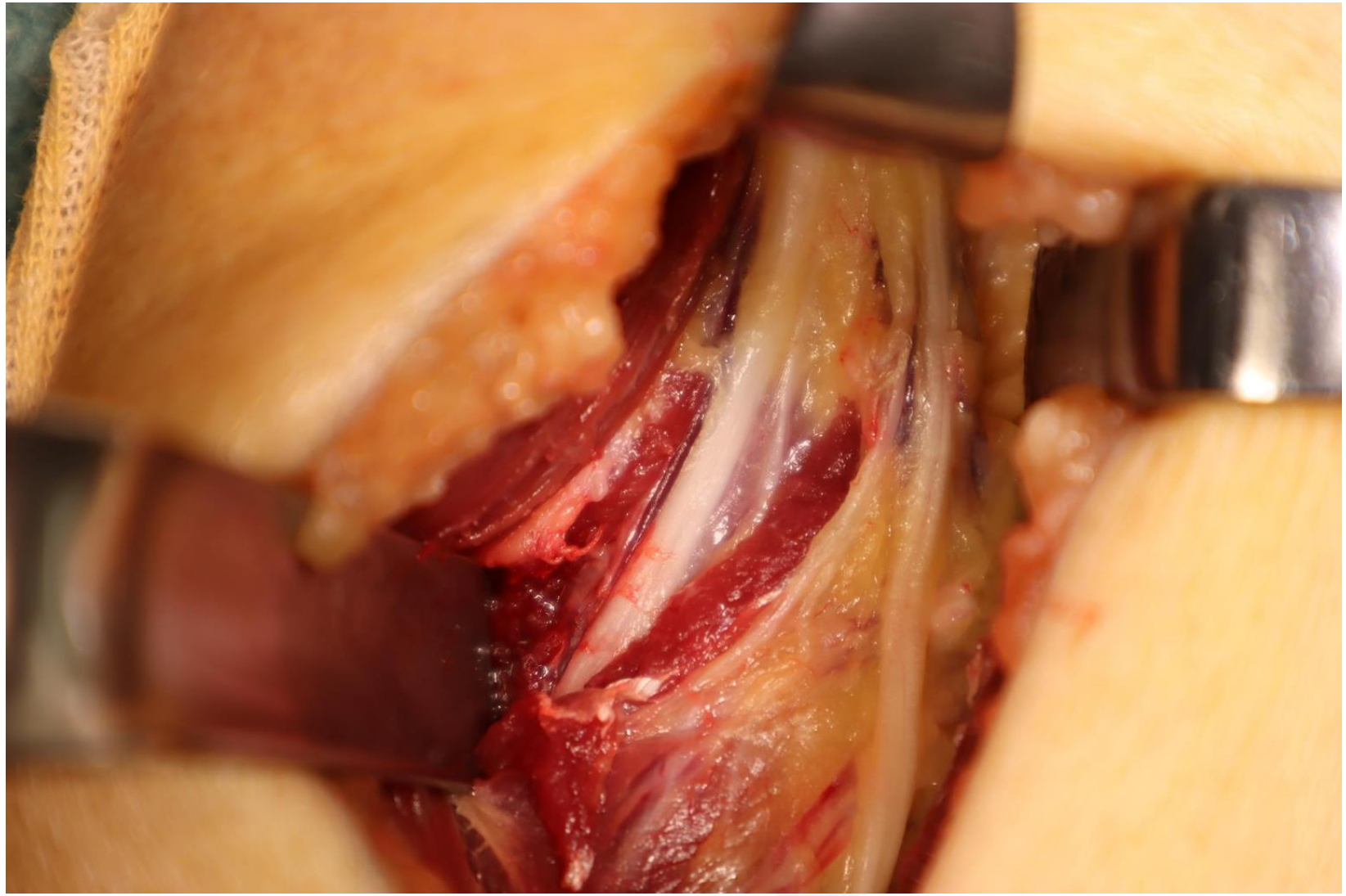
- Operatieve decompressie
  - **Arcade van Froshe**
  - Tendineuze rand ECRB ( DD TE )
  - Recurrente arteria radialis

- Simultaan verlenging ECRB ( TE )

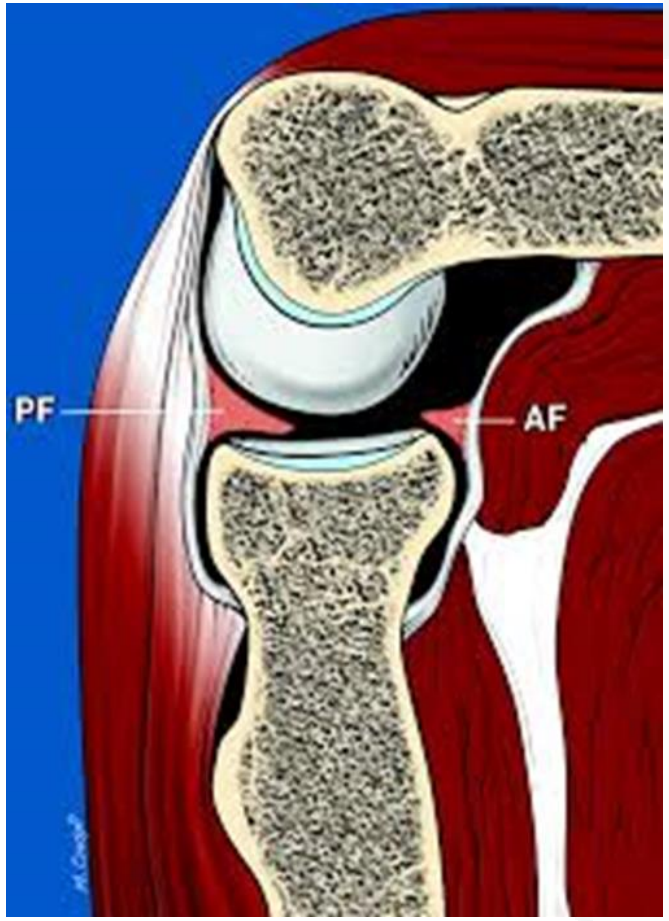
PIN + ECRB = “GROOT ONDERHOUD”







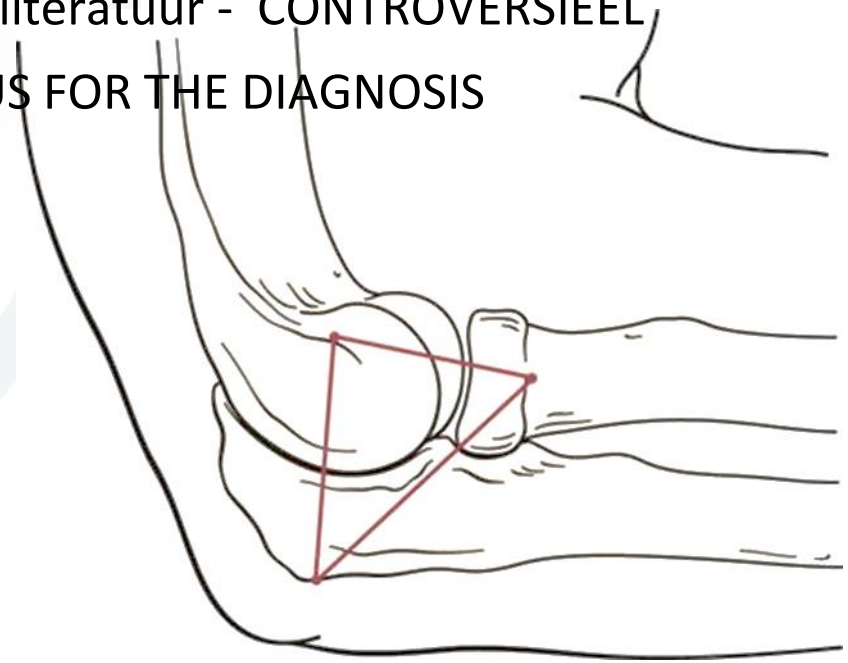
# Plica synovialis

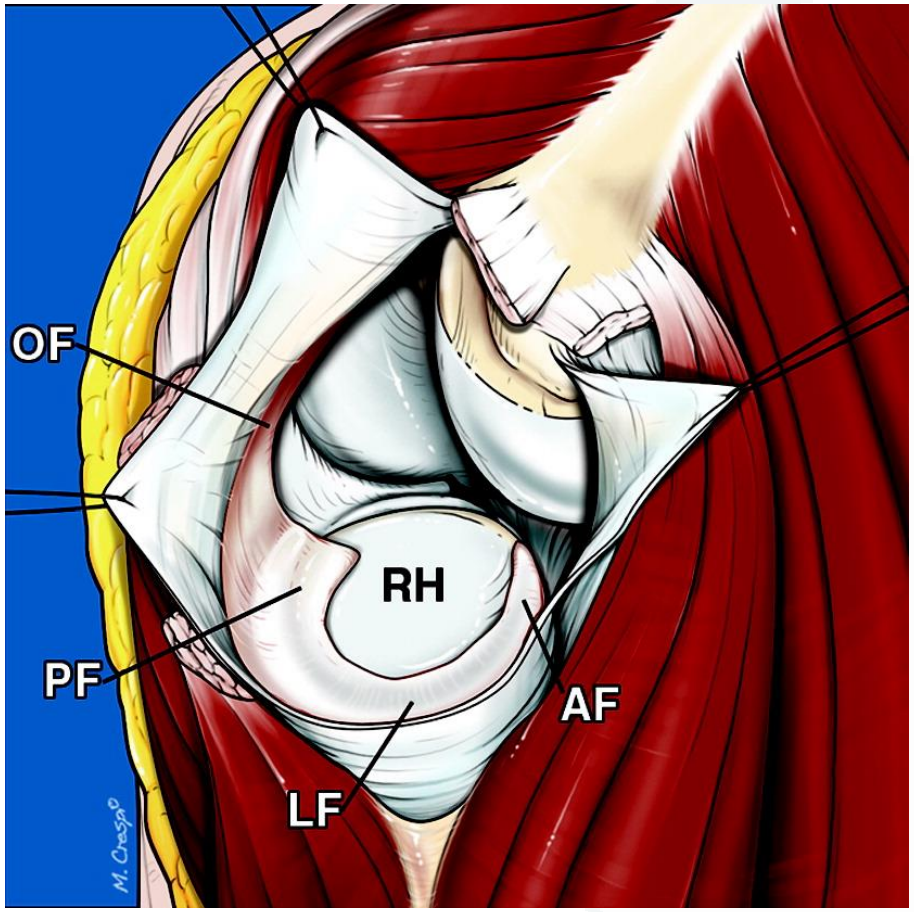



- PLOOI  van het gewrichtskapsel
- Tussen radiuskop en capitellum
- MENISCUS –LIKE
- Posterieur > Anterieur

- FAKE OR **REAL** ? Weinig literatuur -  CONTROVERSIEEL
- NO CLINICAL CONSENSUS FOR THE DIAGNOSIS

- Pijn in de **SOFT SPOT**

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RH
PF
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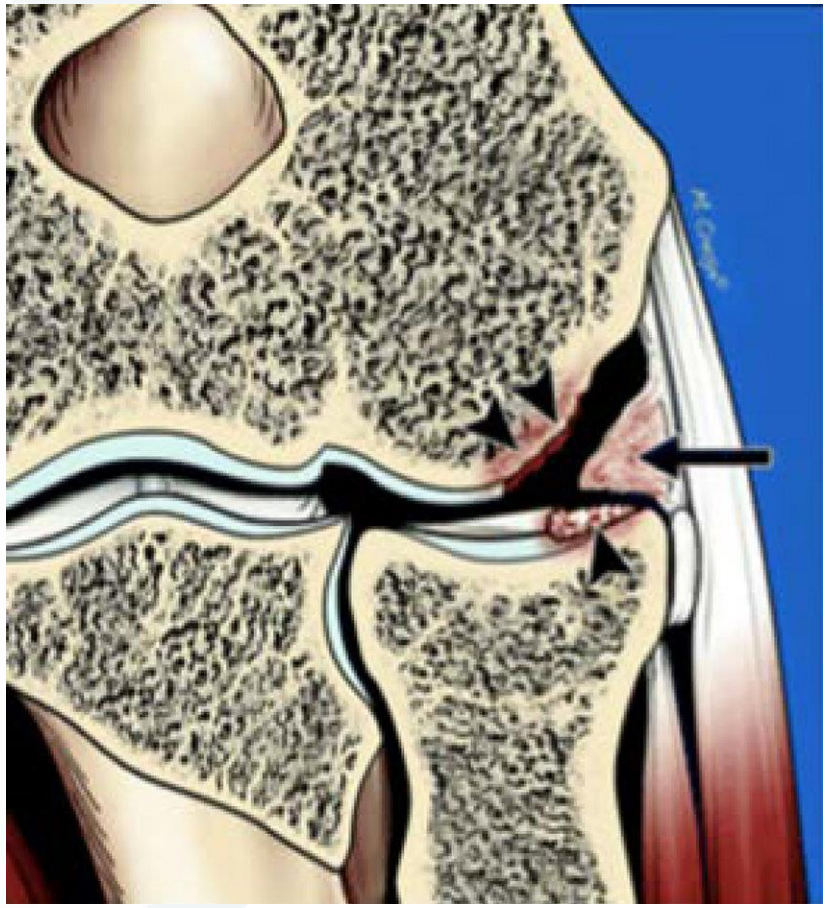
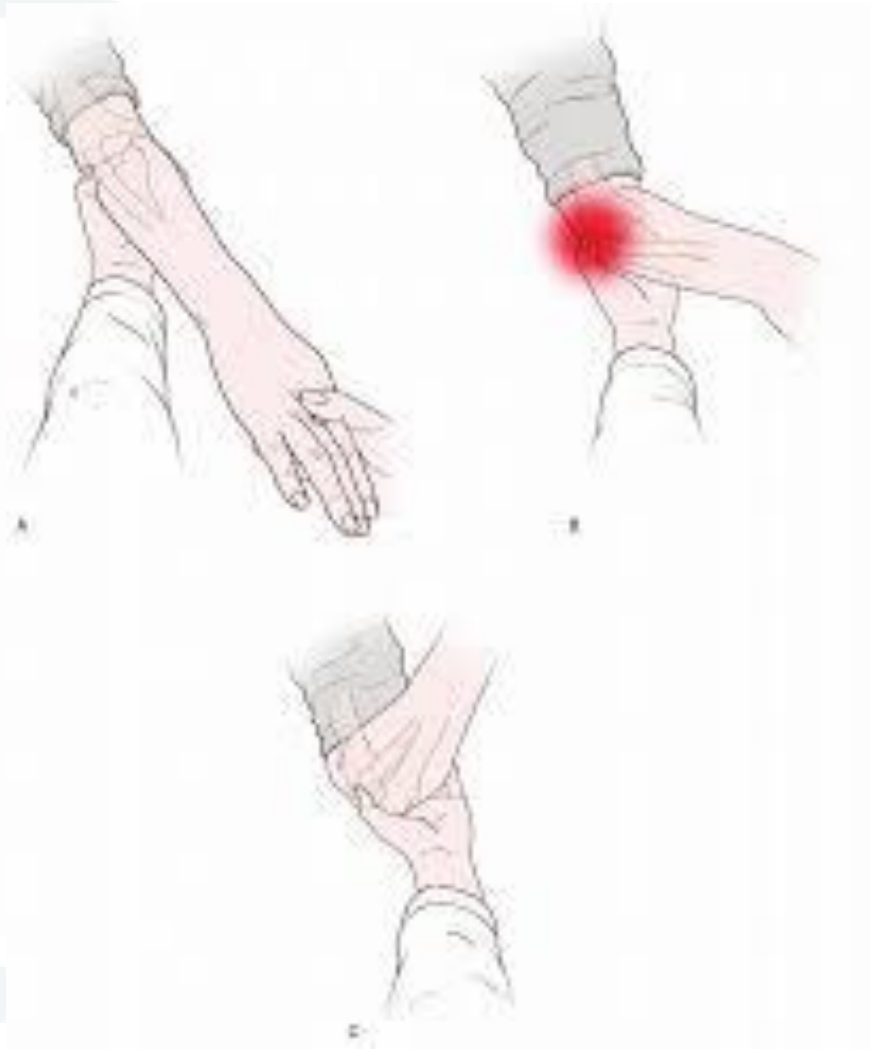


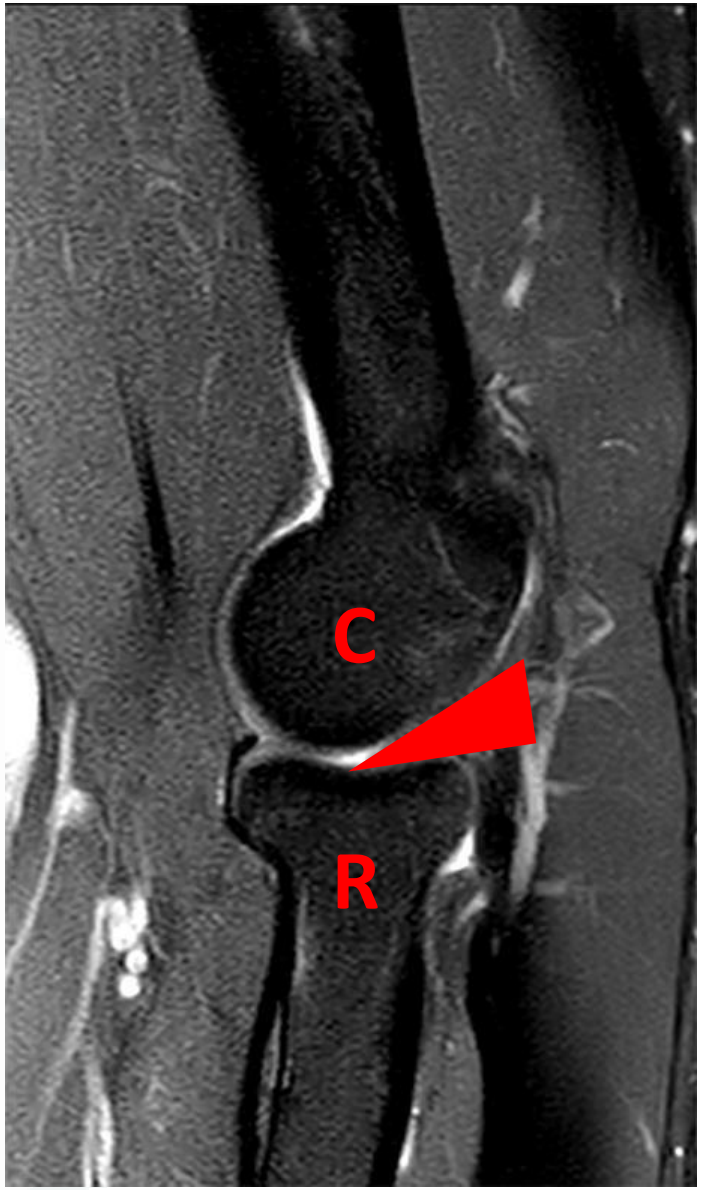
# Plica – Klinisch onderzoek

- Range of Motion
- “**Plica test**”
  - Druk in de ‘Soft spot’ → extensie
  - Pijn !!
  - Verdwijnt na IA proefinfiltratie
- Antero-lateraal
  - Flexie - pronatie



# Plica – Beeldvorming

- MRI T2
  - Plica
  - +/- kraakbeenlijden

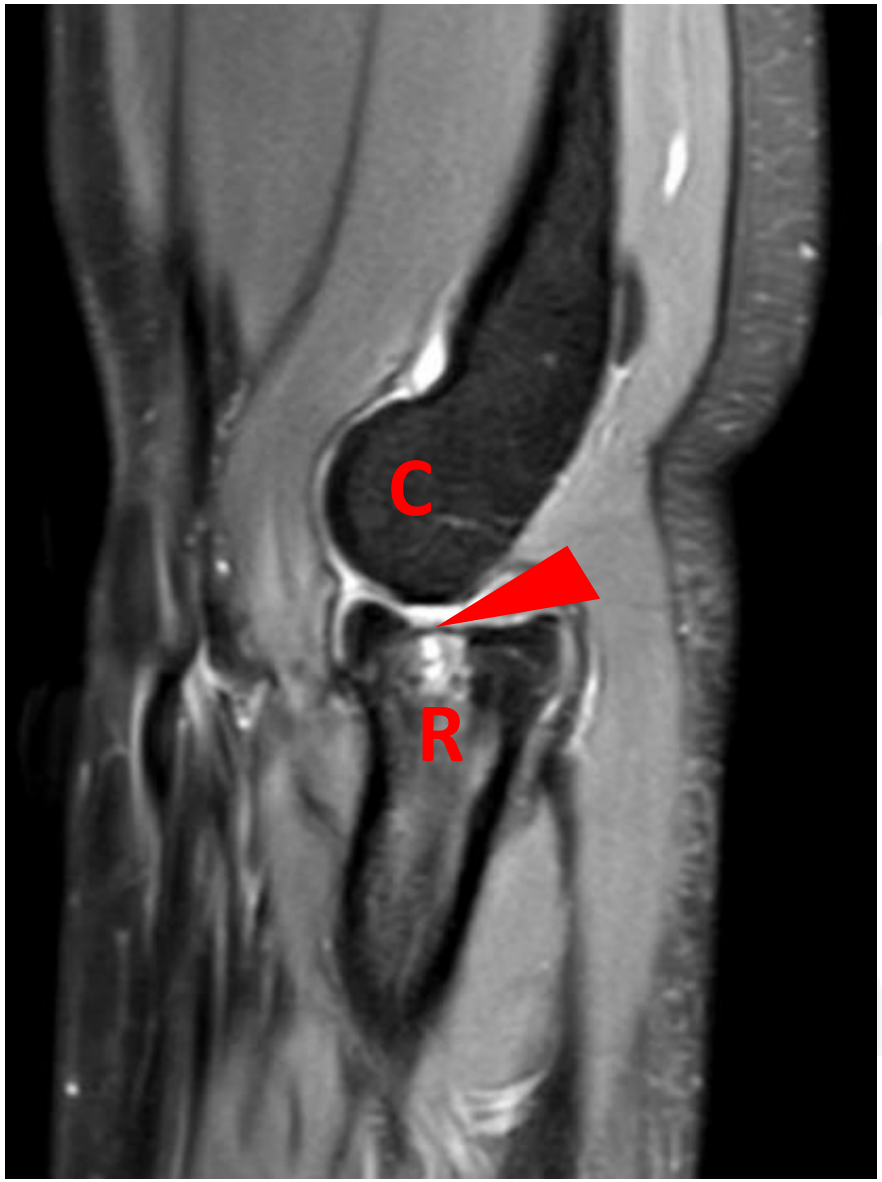


# Plica synovialis

- Diagnose: Klinisch onderzoek en beeldvorming ( MRI T2)

- Intra-articulaire proef **infiltratie** !!!

- Conservatief
  - Cortisone infiltratie ?
- Operatief
  - Arthroscopische inspectie + resectie / synovectomie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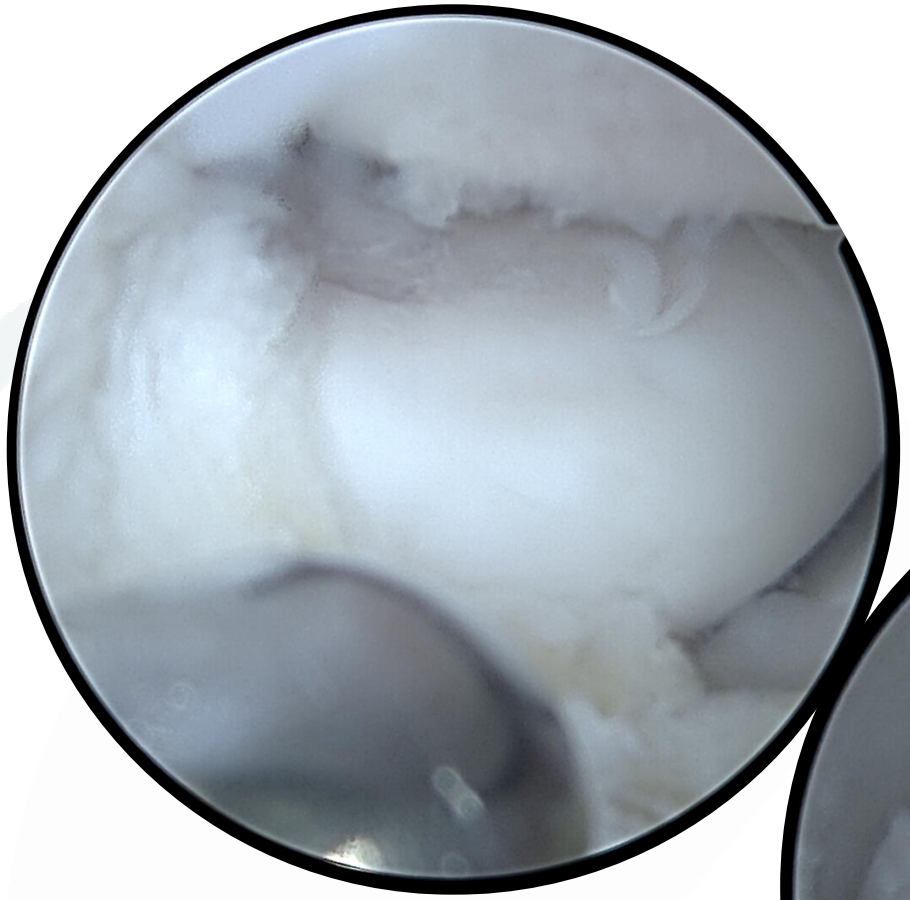

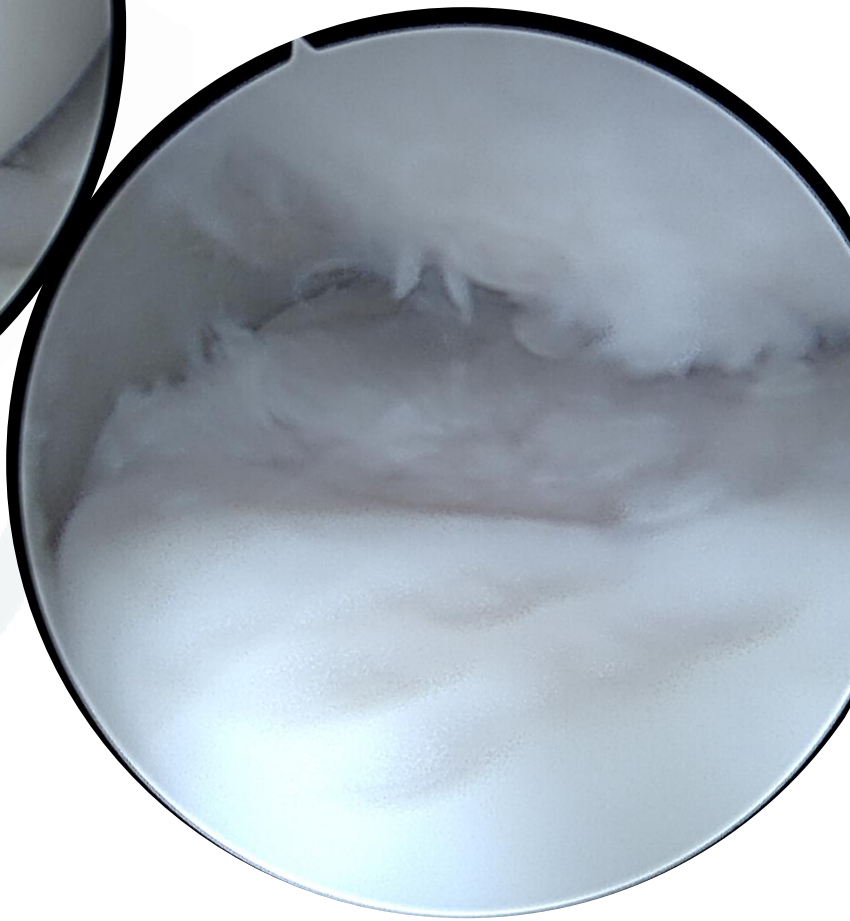

International Orthopaedics (2023) 47:1787–1795
https://doi.org/10.1007/s00264-023-05805-x

ORIGINAL PAPER

# Evaluation of lateral epicondylopathy, posterior interosseous nerve compression, and plica syndrome as co-existing causes of chronic tennis elbow

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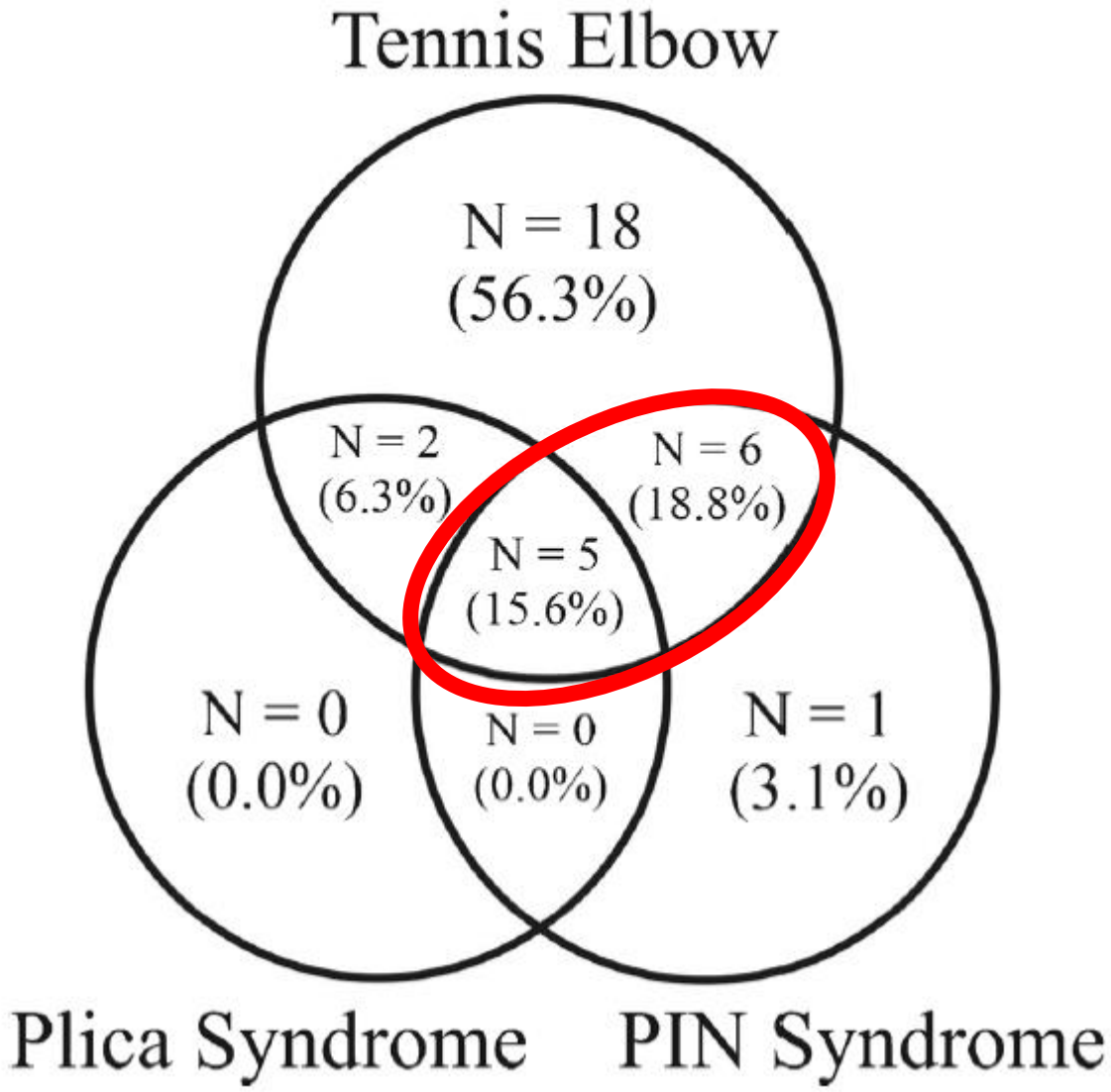
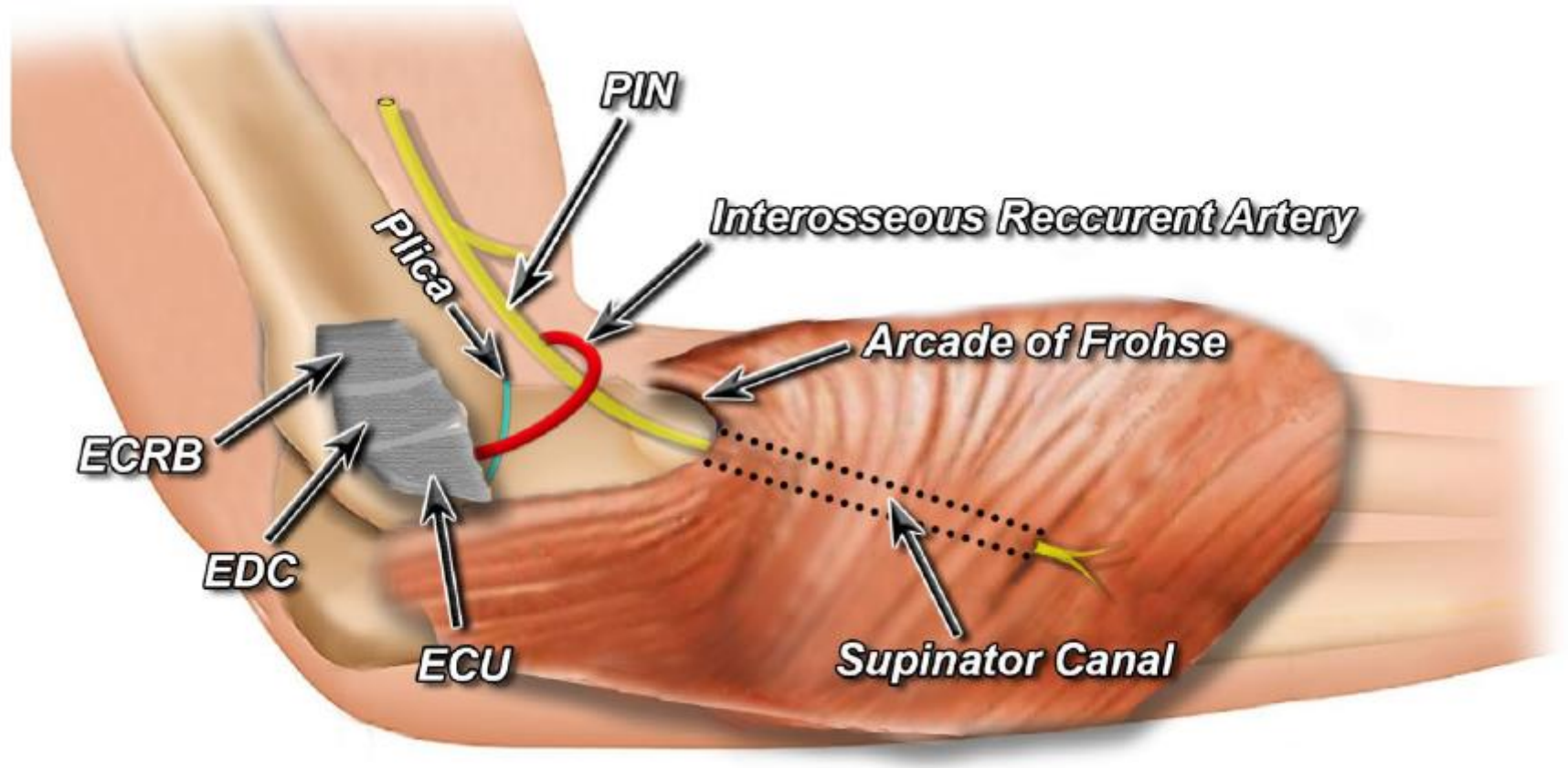
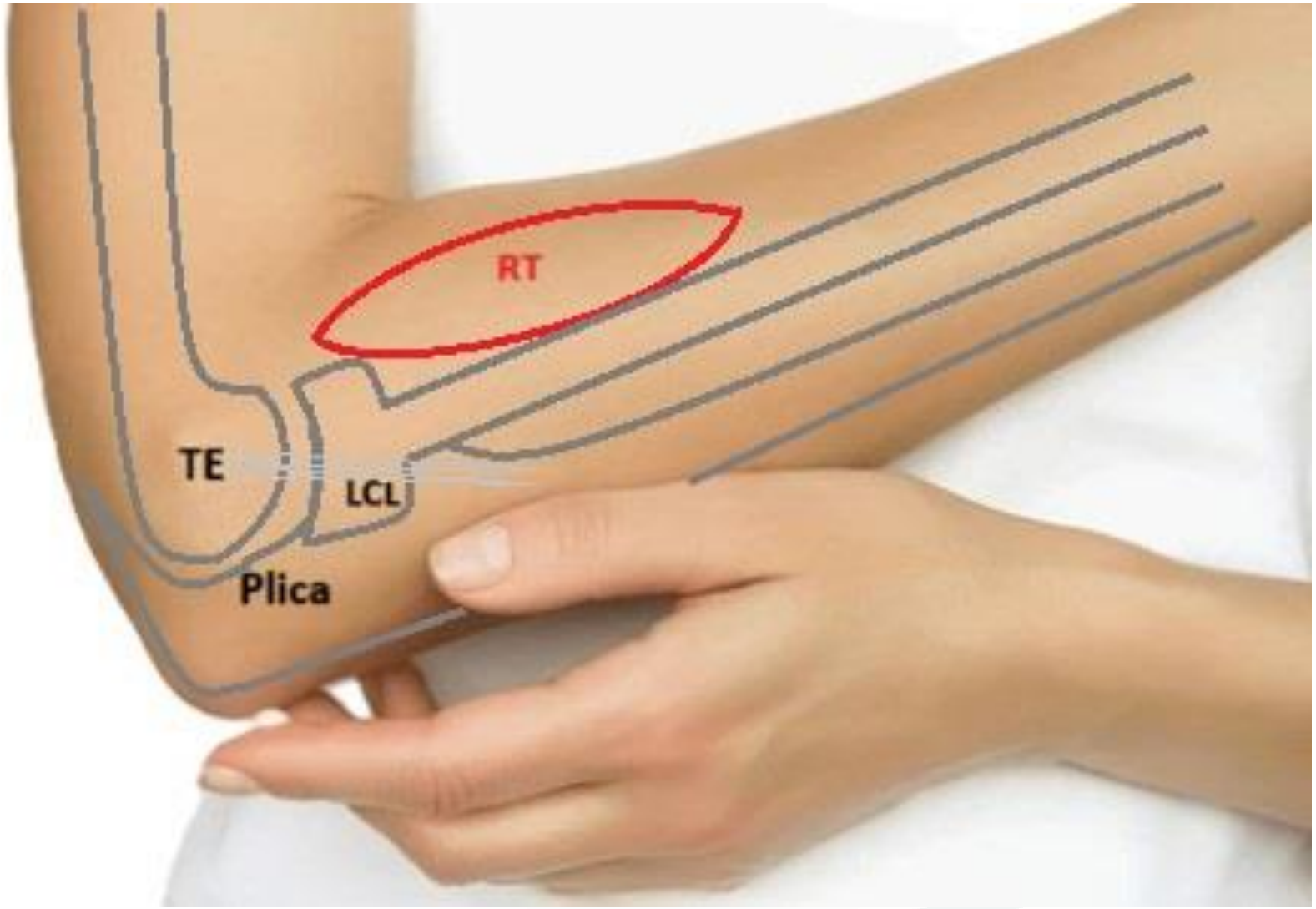



- 40% meer dan TE
- 15% alle 3
- **35% TE en PIN ( 1 OP 3)**


PIN
Plica
Interosseous Reccurent Artery
Arcade of Frohse
ECRB
EDC
ECU
Supinator Canal

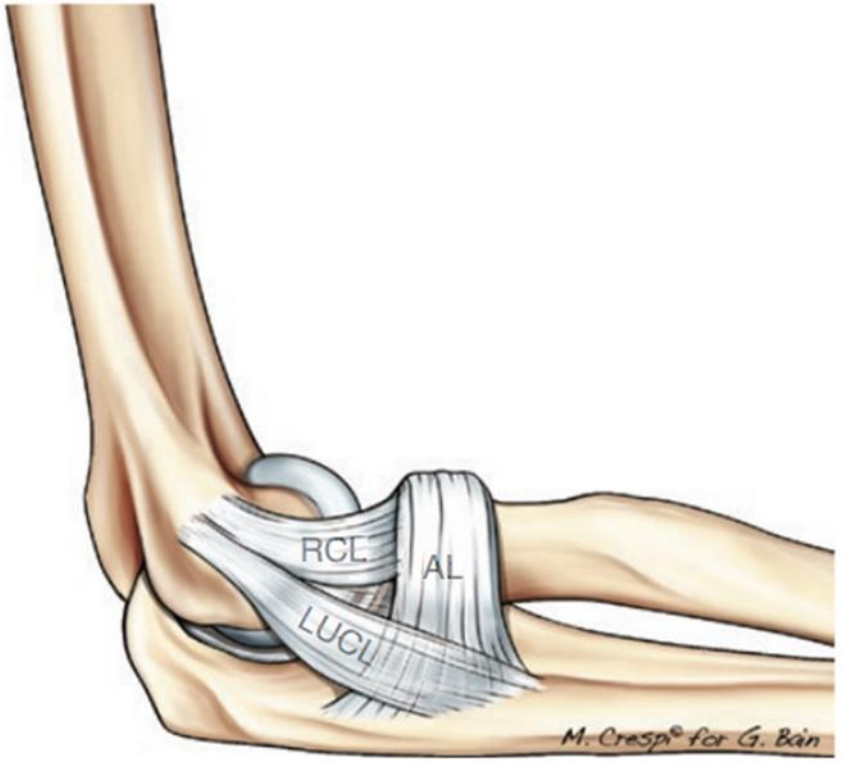

RT
TE
LCL
Plica

# Postero-laterale rotatoire instabiliteit ( PLRI )

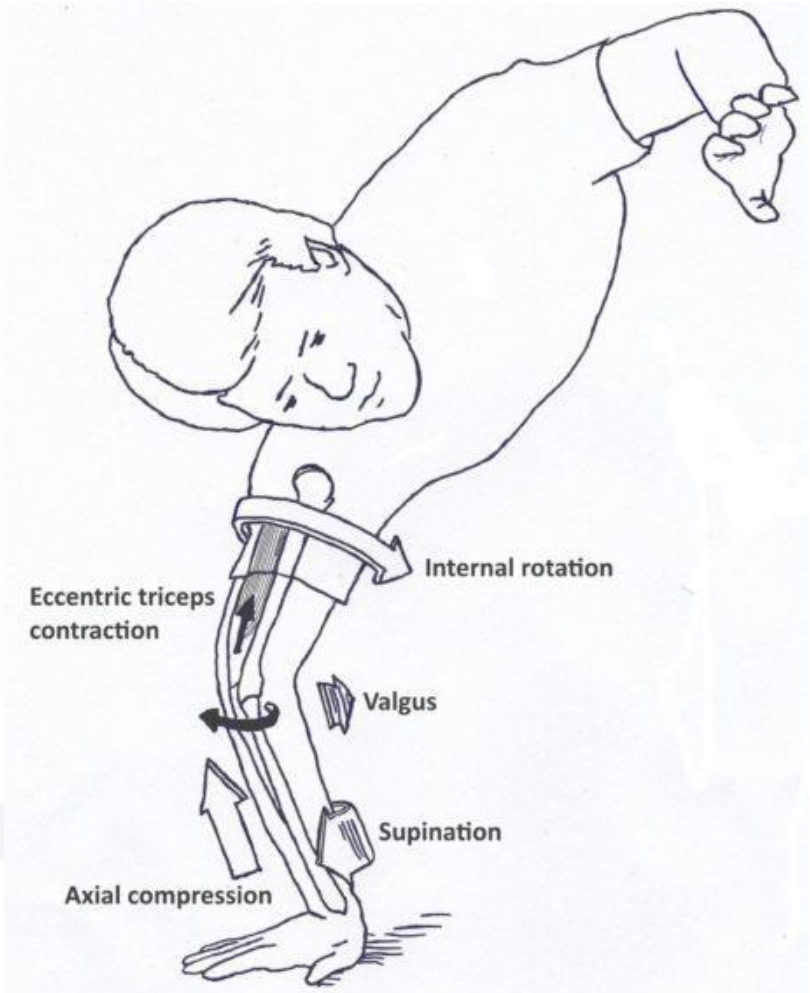
## LCL insufficiëntie

- **Acuut** / traumatisch
  - Val op uitgestrekte hand
  - Elleboog luxatie
- **Chronische** instabiliteit
  - Niet-behandelde acute letsels
  - Iatrogeen

  (cortisone injecties / chirurgie laterale elleboog)

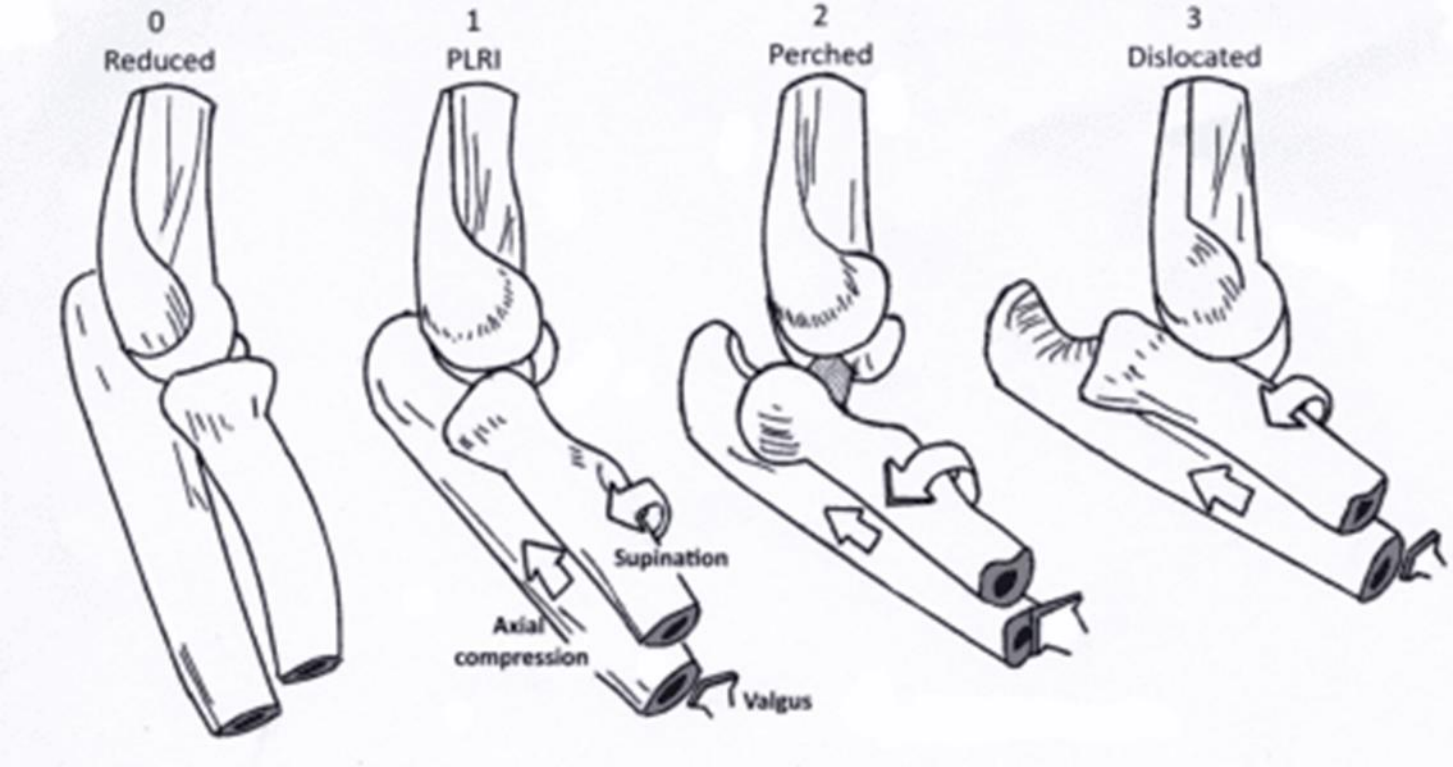


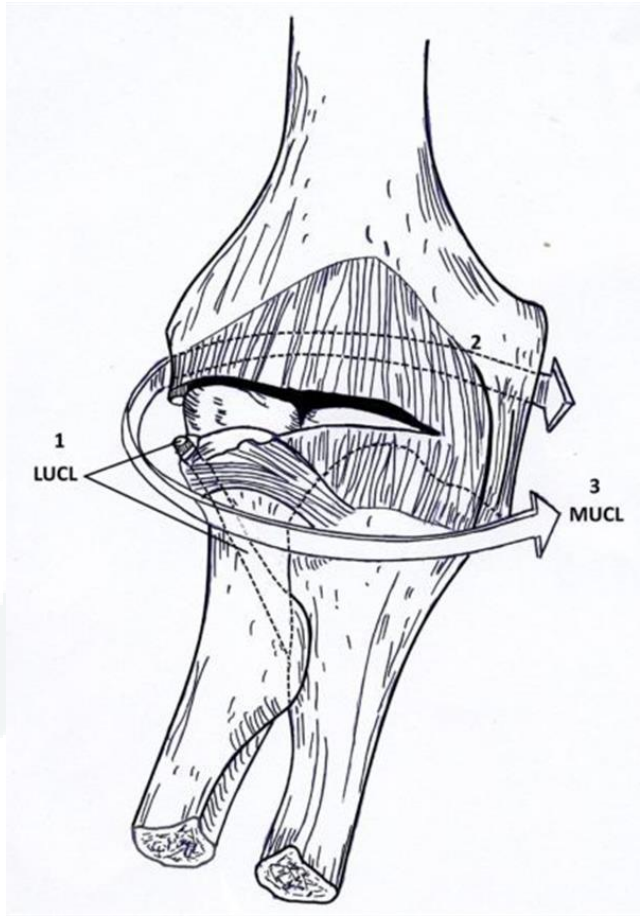
# Traumatische PLRI

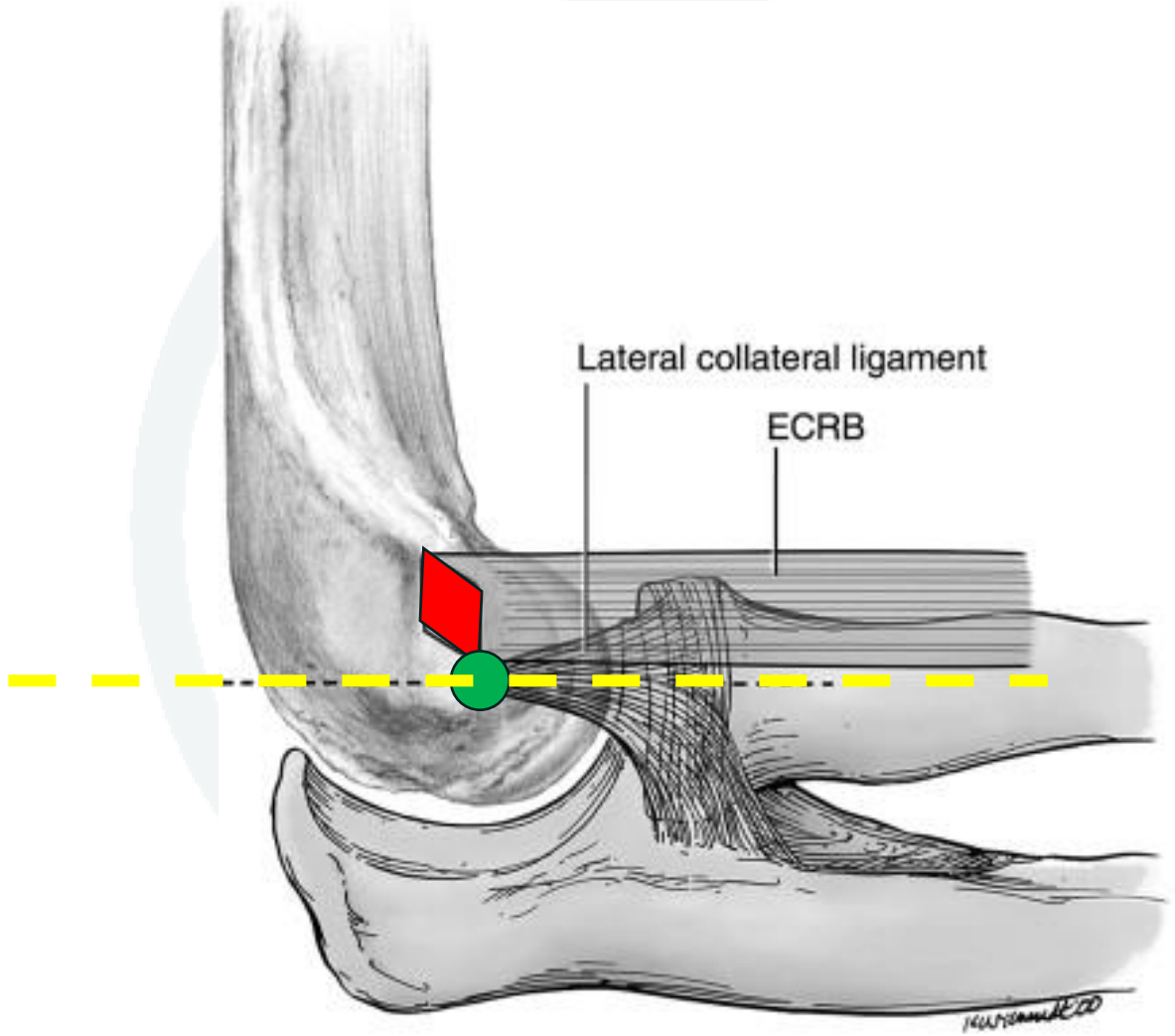

FD GARDEN
MIA 50
BOS 60
3rd 7:06
EAST SEMIS - MIA LEADS 2-0
abc

# PLRI


0
Reduced
1
PLRI
2
Perched
3
Dislocated
Supination
Axial compression
Valgus


1
LUCL
2
3
MUCL

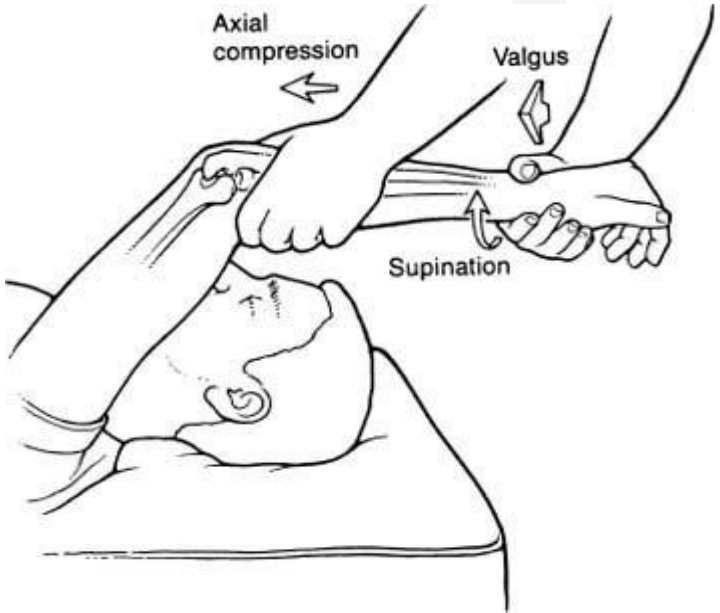
# Iatrogene PLRI

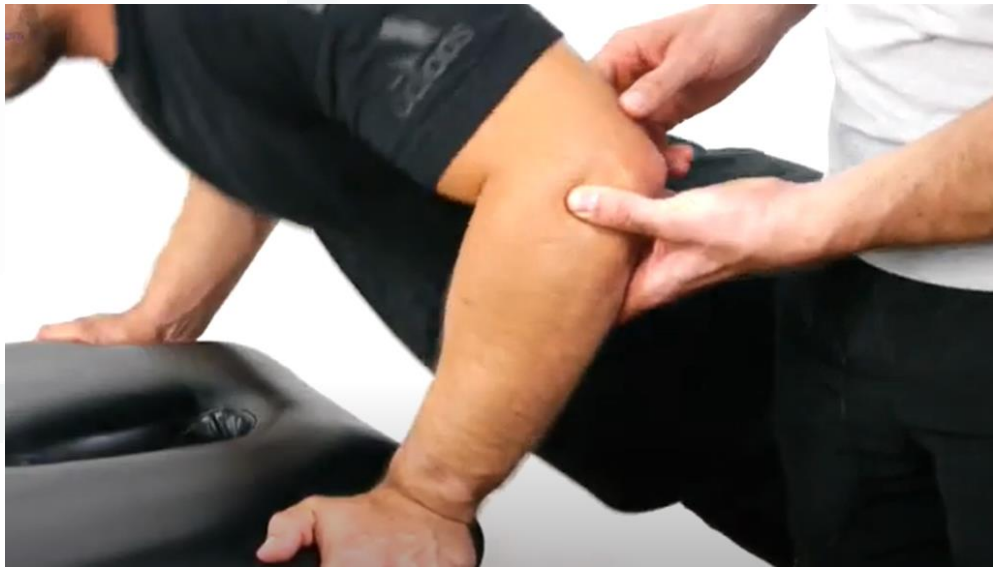


# Test PLRI

**Table 3** Diagnostic provocation tests for elbow instability[11 87]

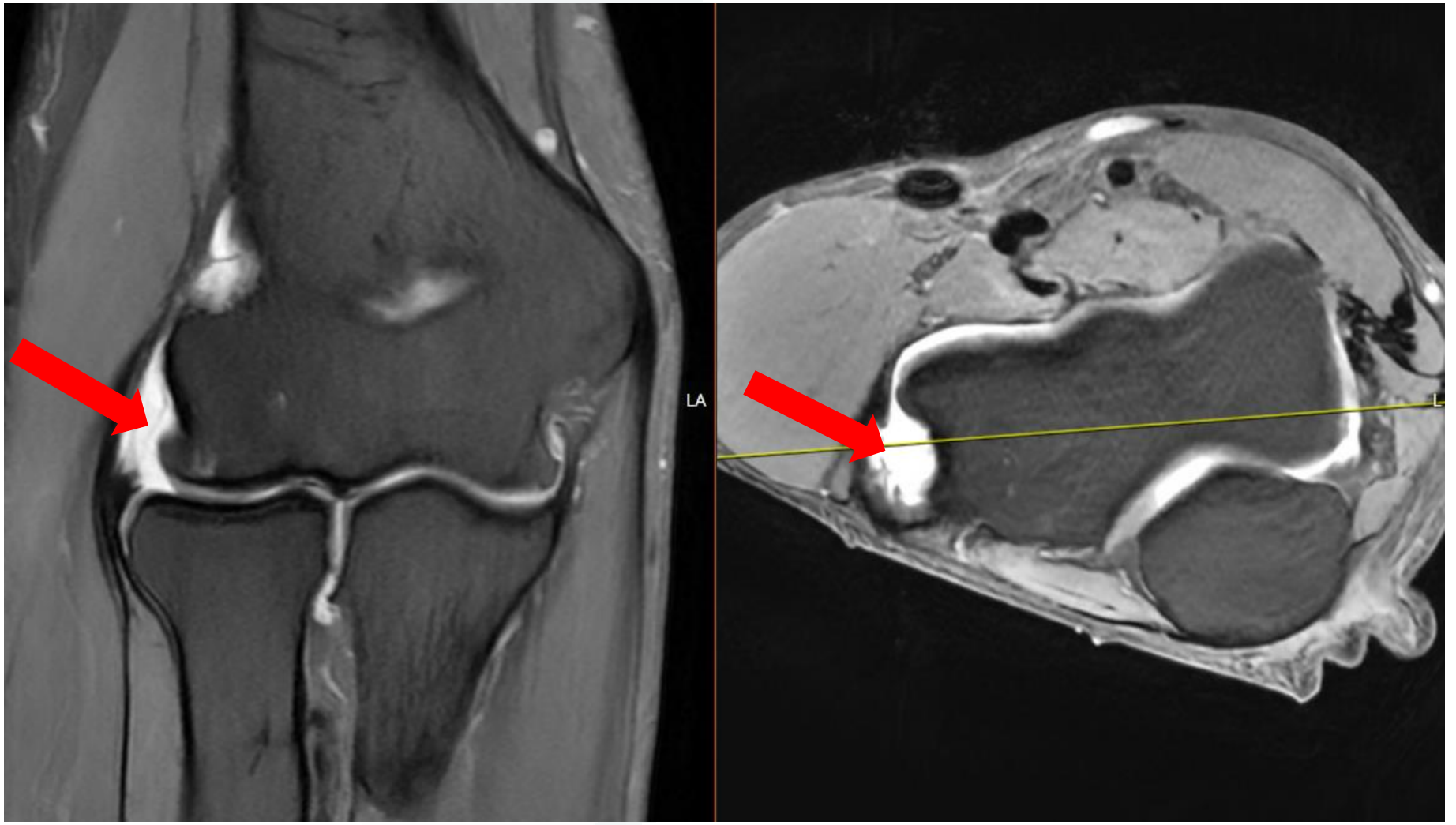
| | | Diagnostic provocation tests | |
|---|---|---|---|
| **Instability** | **Lesion** | **Test** | **Sensitivity** |
| PLRI | LCL | Posterolateral rotatory drawer | *Most* |
| | | Lateral pivot-shift | *Good* |
| | | Supinated push-up tests: | *High* |
| | | ▶ Table top relocation | *Good* |
| | | ▶ Prone push-up | *Good* |
| | | ▶ Chair push-up | |



# PLRI – Beeldvorming

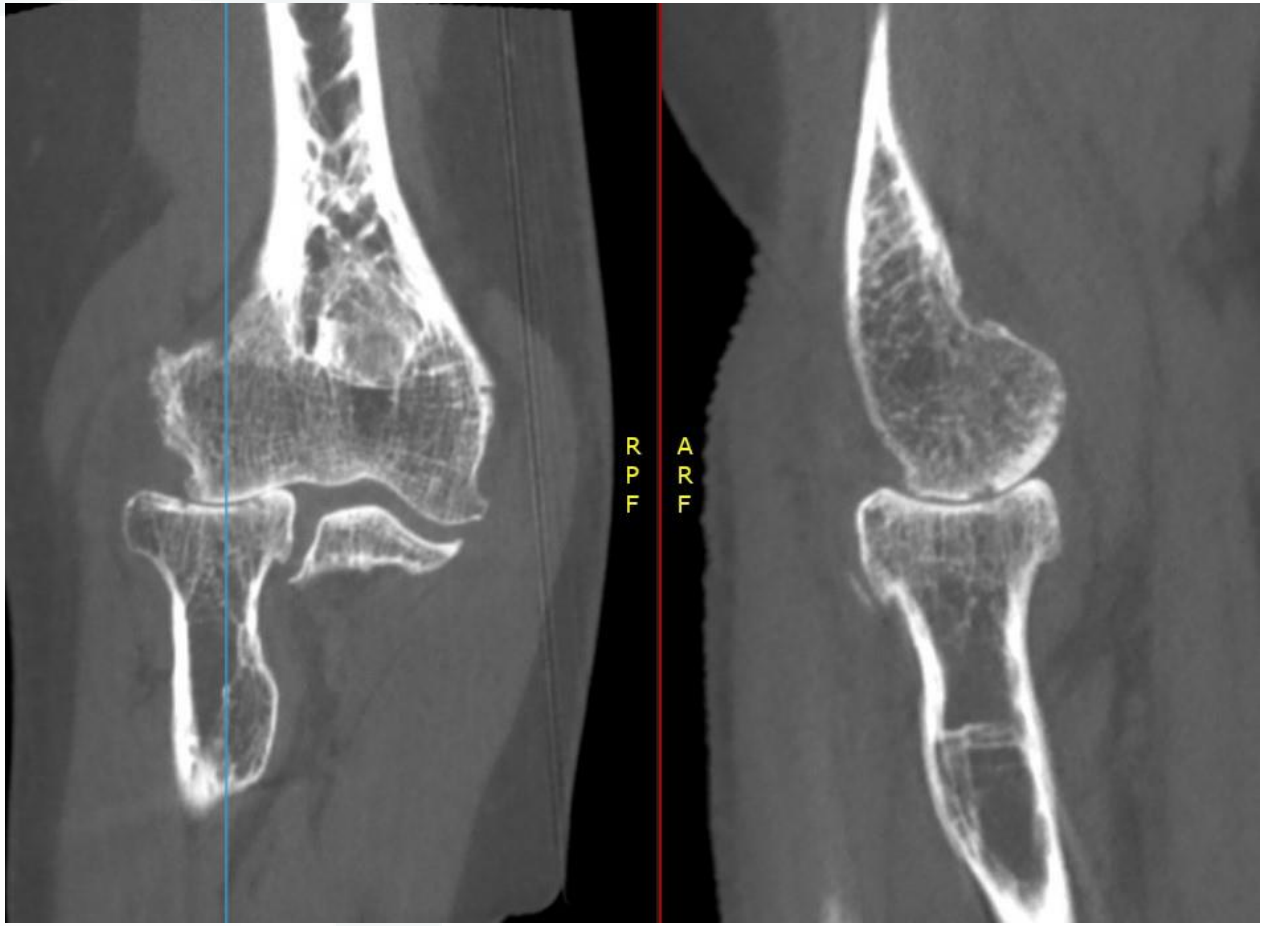
- MRI



# Artrose

- Radio-capitellaire artrose

RX > CT > MRI



# TAKE HOME MESSAGE

***Laterale elleboogpijn , meer dan een tenniselleboog***

KLINISCH DIAGNOSE >> Beeldvorming

PEES > ZENUW > KAPSEL > ARTROSE

Tenniselleboog conservatief 90%
Chronische laterale elleboogpijn > 40% > TE

EERSTE LIJN : AANVRAAG RX/ECHO – MEER DAN EEN TENNISELLEBOOG

# Vragen

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