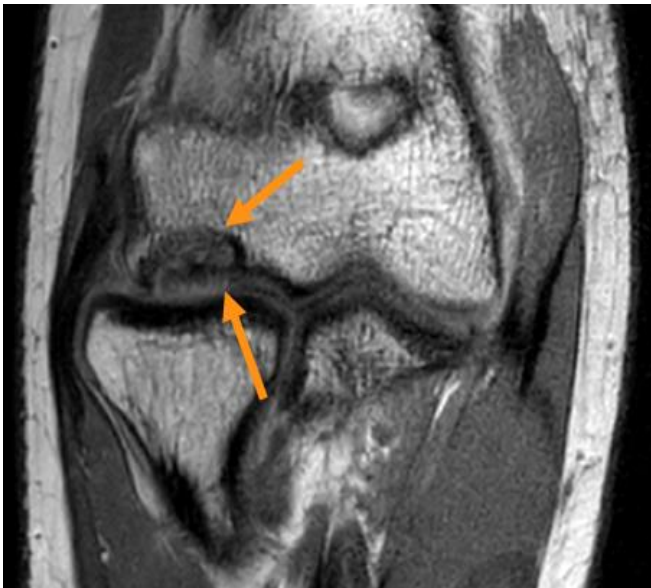


**14 year old female gymnast presents with 6/52 of pain and swelling and now unable to fully extend right elbow**

MRI Right Elbow (Standard protocol PD and PD fat-sat sequences):

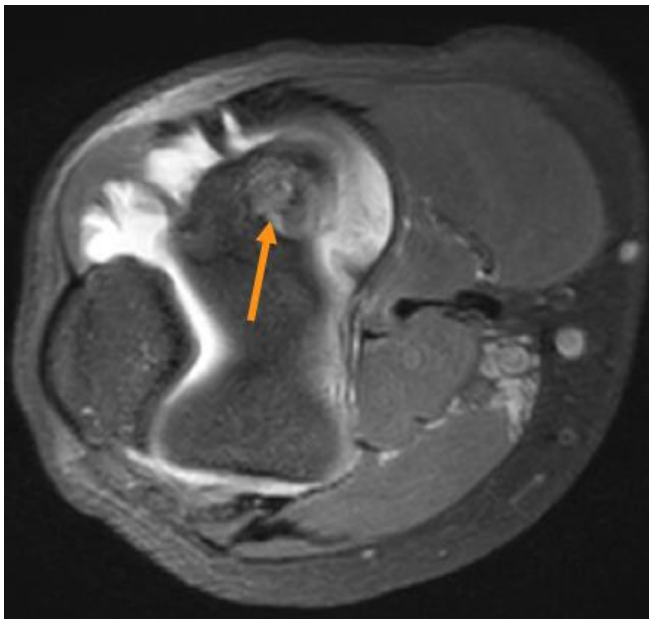
- 10 x 8 mm osteochondral defect anterolateral capitellum with undermining fluid cleft indicative of unstable lesion
- Ill-defined tissue in the defect suggests granulation/repairative change
- Subchondral marrow oedema in the capitellum
- 9 x 3 x 6mm intra-articular body dorsomedial aspect radiocapitellar joint
- Joint effusion and features of synovitis



*Coronal PD*



*Coronal PDFS*



*Axial PDFS*



*Sagittal PDFS*

## Discussion

- **Osteochondral lesion (OCL)** = Umbrella and preferred term for focal injury of articular cartilage and underlying bone (does not indicate chronicity or stage)
- Elbow OCL most commonly affects **capitellum**
- Adolescents and young adults; M>F
- Throwing sports, gymnasts, trauma/dislocation (repetitive joint overloading / valgus stress or sudden impact/force)
- Present with pain, tenderness, locking/clicking/crepitus
- May heal spontaneously
- Beware the intra-articular body/loose body
- Risk of premature osteoarthritis
- Management options include conservative and surgical (drilling chondroplasty / debridement)

## CT Imaging

- + Fracture and intra-articular bodies well delineated
- + Reactive sclerosis
- - Cannot demonstrate marrow oedema
- - Difficulty assessing lesion stability

## MR Imaging

- Imaging test of choice
- Demonstrates
  - cartilage defect
  - subjacent marrow oedema
  - fracture line
  - osseous defect/fragment
  - displaced fragment
  - subchondral cystic change / subsequent secondary osteoarthritis
- Classifies lesion
  - Stable
  - Unstable attached
  - Unstable displaced



**Sag PDFS** illustrates large lateral dorsal fragment/body

## Differential Diagnoses

- Osteonecrosis
- Panner Disease
  - self-limiting osteochondrosis
  - younger age group ~5-12 yrs
  - typically involving entire capitellar epiphysis

## Further Reading:

Takahara M et al: Classification, treatment, and outcome of osteochondritis dissecans of the humeral capitellum. J Bone Joint Surg Am. 2007 Jun;89(6):1205-14.  
Bancroft LW et al: Osteochondral lesions of the elbow. Semin Musculoskelet Radiol. 2013 17(5):446-54.  
Snearly, W. Osteochondral Injury of the Elbow. Radsources MRI Web Clinic — October 2014  
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