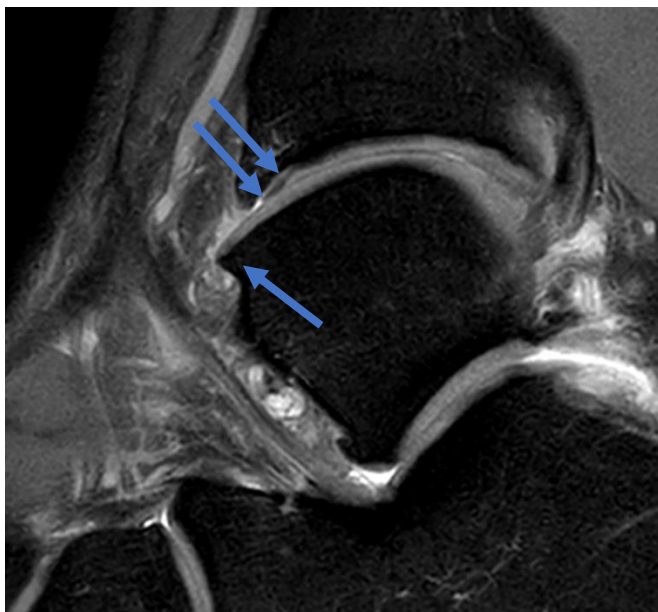


**26 year-old footballer presents with anterior ankle symptoms, with pain and stiffness**

**MRI Findings:**

- Bony osteophytes of the anterior tibial plafond and dorsal talus, with associated oedema
- Associated chondral delamination of the anterior tibial plafond
- Small degree of synovitis, but no capsular scarring
- Similar changes of likely posterior impingement (see XR overleaf)



**Sagittal PD (top left)** – the blue arrow shows the prominent anterior osteophyte of the anterior tibial plafond, and the more subtle osteophyte of the dorsal talus

**Sagittal T2 (top right)** – the blue arrow here shows the T2 weighted appearances of the anterior osteophyte – note the subtle oedema of the culprit osteophyte, and the adjacent mild synovitis.

**Sagittal T2 (bottom left)** – This time, the blue arrow shows the talar osteophyte, but also nicely displays the subtle evolving chondral delamination of the anterior tibial plafond.

Close inspection of all three images in this patient will also show features of likely evolving posterior impingement (also see dorsiflexed and plantarflexed radiograph overleaf)



**Comparison case radiographs:** Here, dorsiflexed and plantarflexed radiographs nicely shows the culprit osteophytes which are causing the patient's anterior impingement symptoms. Posterior impingement osteophytes are also noted to be developing.

### Discussion

- Anterior impingement aetiology thought secondary to microtrauma from repeated forced plantarflexion/dorsiflexion
- Well-known association of anterior impingement bony spurring with anterior cartilaginous injury
- Clinically, presents with subjective 'locking', 'clicking' or 'blocking' with dorsiflexion
  - May be associated with soft-tissue changes (capsular scarring/thickening)
- Prognosis is related to degree of cartilaginous/subchondral changes
- Treatment:
  - Physiotherapy
  - Arthroscopic resection of osseous spurring

### XR / CT

- Exquisitely shows osteophytic lipping, also helps exclude fracture/coalition differential diagnosis

### US

- Operator dependent, but in experienced hands may show anterior capsular scarring/thickening, and note underlying bony changes

### MR

- Best modality – shows bony abnormalities, associate bone marrow oedema, chondral changes, capsular thickening/scarring.

### Further Reading:

Robinson P, White M, *Soft-tissue and osseous impingement syndromes of the ankle: role of imaging in diagnosis and management*, Radiographics, 2002, 22:1457-1471  
 Cerezal L et al, *MR imaging of ankle impingement syndromes*, American Journal of Radiology, 2003 Aug, 181:551-559  
 Donovan A, Rosenburg Z, *MRI of ankle and lateral hindfoot impingement syndromes*, American Journal of Radiology, 2010; 195:595-604