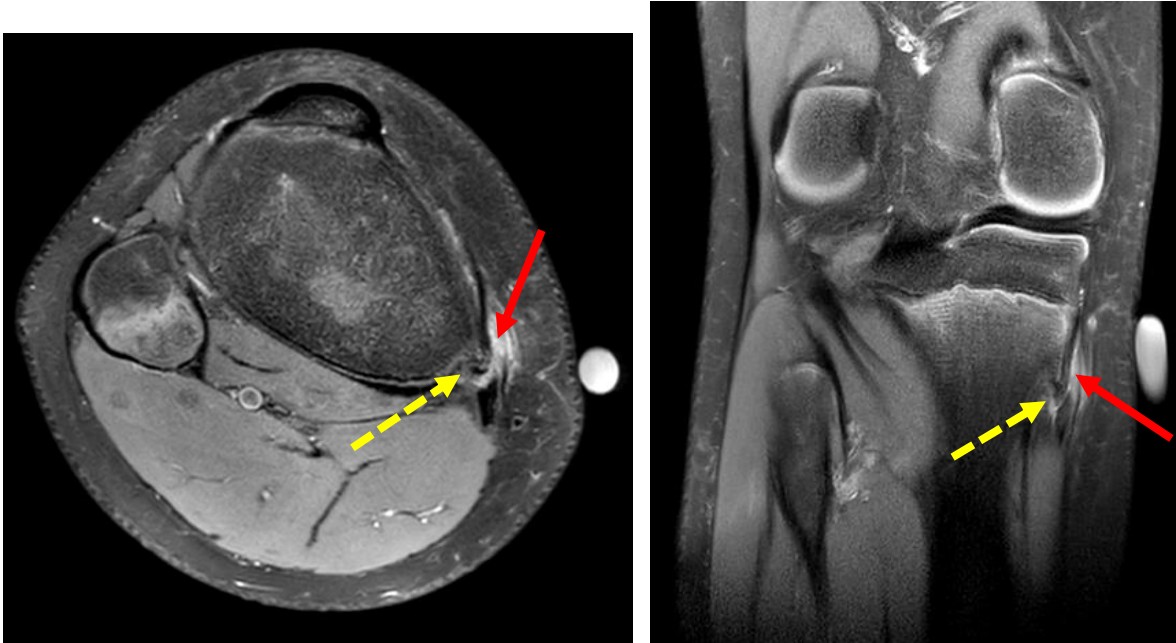


14yo M. Active (football, basketball, cricket). Pain lower medial knee for 3 months.



MRI Findings:<sup>1</sup>

- Annotated T2 SPAIR axial (left) and coronal (right) images:
  - Increased fluid within the pes anserine bursa (red solid arrows) which is located immediately deep to the pes anserine tendons at the level of the proximal tibia
  - Surrounding tissue oedema
  - Note the small underlying exostosis arising from the proximal medial tibia (yellow dashed arrows)
  - A skin marker indicating the site of symptoms directly overlies the abnormalities (bright circle left, oval right)
  - No alternative cause for pain demonstrated

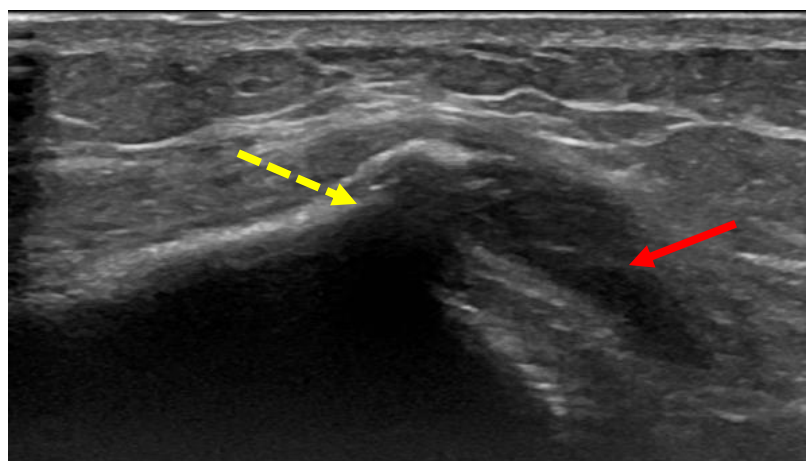


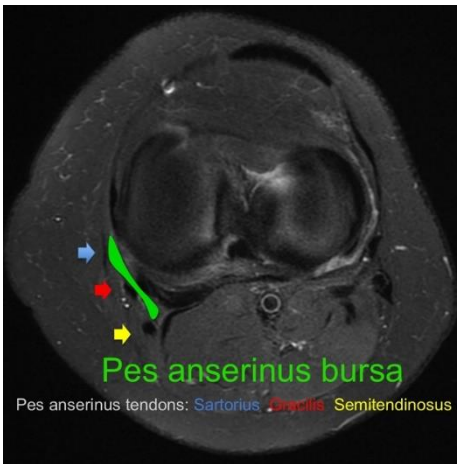
X-ray Findings:

- Can be normal or demonstrate degenerative changes or underlying exostosis
- Our case shows a spur arising from the medial aspect of the proximal tibia (arrow)

Ultrasound Findings:

- Proximal tibial spur directly underlies the bursa and pes anserine tendons (yellow dashed arrow)
- Fluid within the pes anserine bursa (red solid arrow)
- No increased vascularity in this case





Annotated image of the contralateral knee courtesy of Radiopaedia indicates the regional anatomy:

- Pes anserinus bursa is indicated in green deep to the pes anserine tendons as indicated by the coloured arrows
- The order of the pes anserine tendons can be remembered (from anterior to posterior) with the aid memoir “Say Grace before Tea” – Sartorius, Gracilis, SemiTendinosus

Discussion:<sup>1-3</sup>

- Overview:
  - Symptomatic inflammation of the pes anserinus bursa
- Epidemiology
  - Overweight, middle-aged women
  - Patients with osteoarthritis
  - Young, athletic population, especially runners
- Aetiology
  - Bursa becomes inflamed and distended with repetitive microtrauma
    - Potential contributory factors:
      - Valgus tightness, flatfoot position, rotatory stresses to the knee
      - Irritation from underlying osteophytes or exostoses (such as in our case)
  - Direct contusion – causing increased release of synovial fluid by the lining of the bursa which then becomes inflamed and painful
  - Overuse of the hamstrings especially in athletes with tight hamstrings (improper training, sudden increases in distance run, running up hills)
  - Association with diabetes and obesity
- Clinical
  - Pain and swelling along the proximal medial tibia or medial joint line or more diffuse medial pain
  - Often exacerbated by activities such as ascending and descending stairs
- Differential diagnosis
  - Inflammation of other medial knee bursae
    - Tibial collateral ligament bursa (deep to MCL)
    - Semimembranosus/tibial collateral ligament bursa (posteromedial, courses around semimembranosus tendon and deep to MCL)
  - Semimembranosus tendinosis or partial tears with tenosynovitis
  - Parameniscal cyst or other extra-articular cystic lesions
  - Medial collateral ligament injury
  - Proximal tibial stress fracture
- Management
  - 1<sup>st</sup> line:
    - Rest, NSAIDs, cryotherapy
    - Physical therapy (stretching and strengthening of the adductor and quadriceps muscle groups)
  - 2<sup>nd</sup> line:
    - Injection with local anaesthetic and/or corticosteroid
    - With prolonged disability, and particularly when a mechanical irritant such as an exostosis is present, surgical intervention may be warranted, in which case the bursa and any offending anatomical anomaly is resected

References & Further Reading:

1. El-Feky M, Dixon A. Pes anserinus bursitis. <https://radiopaedia.org/articles/pes-anserinus-bursitis-1>
2. Burdett PH. Pes Anserinus Bursitis. 2007. <https://radsourc.us/pes-anserinus-bursitis/>
3. [https://www.physio-pedia.com/images/b/b0/Pes\\_anserinus\\_bursitis.pdf](https://www.physio-pedia.com/images/b/b0/Pes_anserinus_bursitis.pdf)