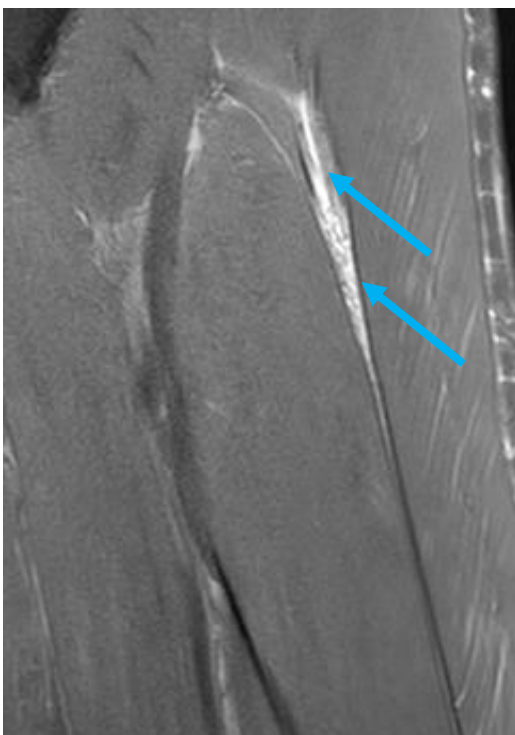
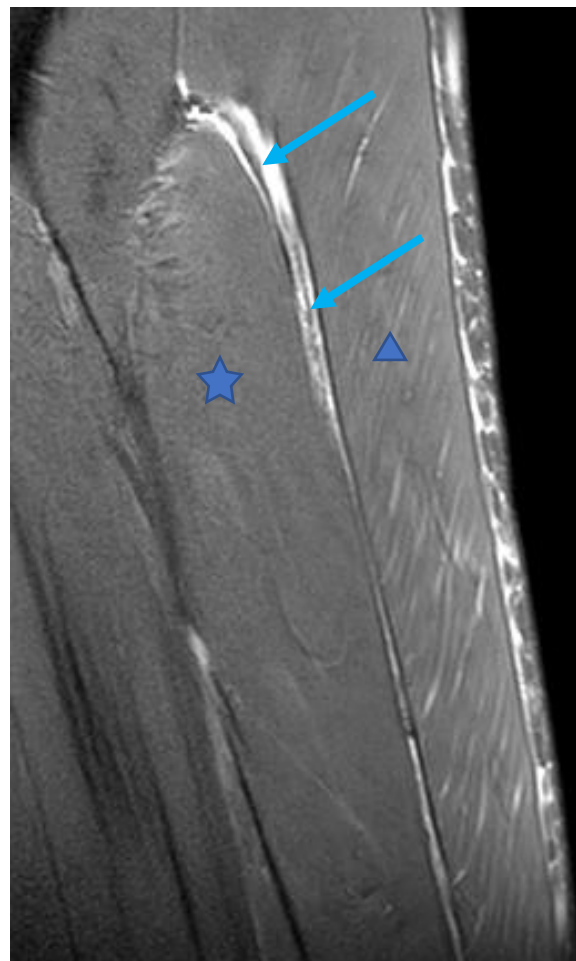


38 M runner presents with 2 months left calf symptoms

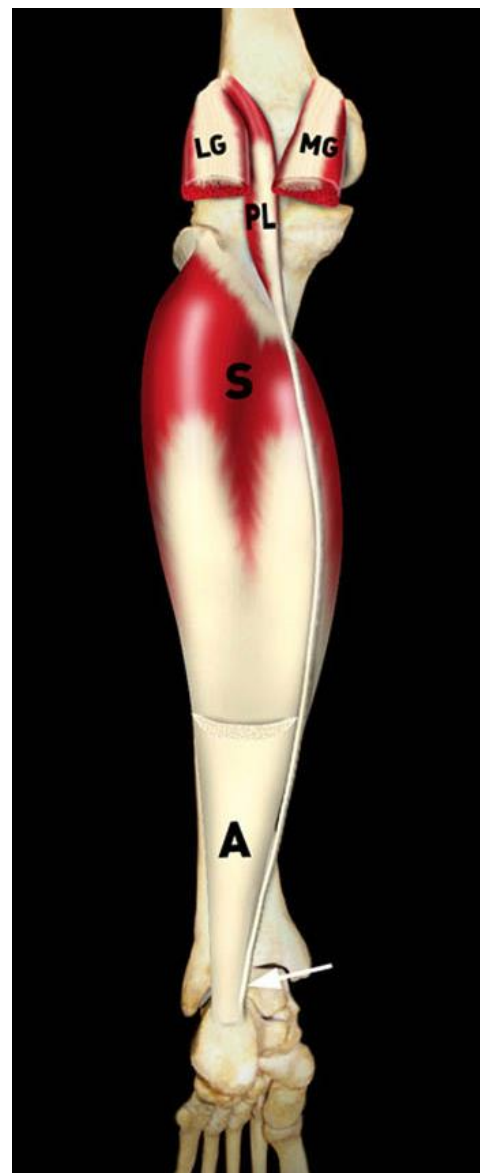
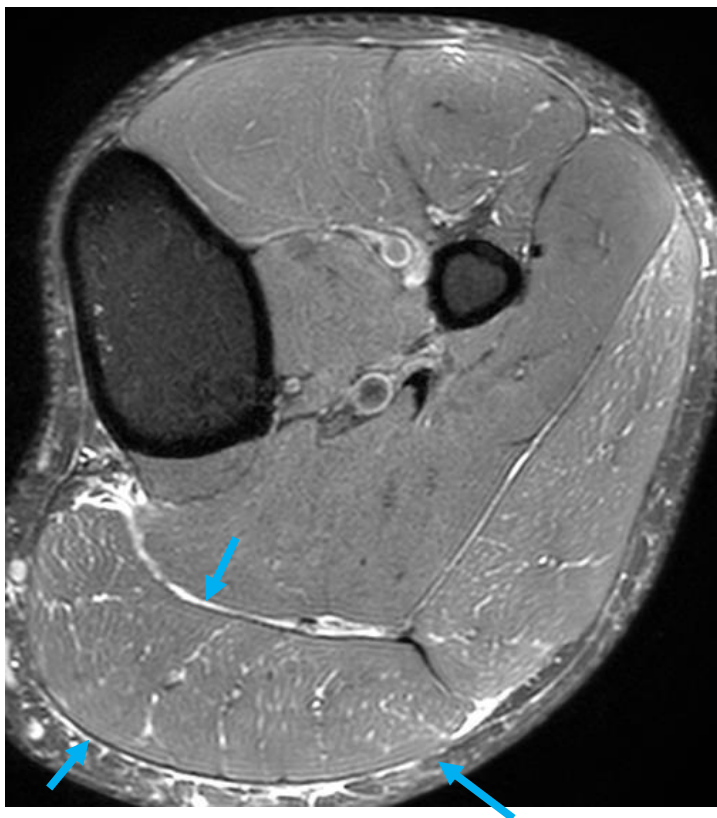
MRI Findings:

- Blood fluid products tracking between the medial gastrocnemius and medial soleal musculature
- Frank disruption of the plantaris tendon slip, 6cm beneath the joint line
- Fluid filled defect between the torn tendon margins
- Mild diffuse atrophic change of the medial and gastrocnemius muscles



Top left: Coronal SPAIR of the left lower leg demonstrates the retracted plantaris tendon surrounded by high signal (haematoma) coursing obliquely from lateral to medial

Above and left: Sagittal SPAIR images nicely depict the ruptured ends of plantaris surrounded by haematoma, in its anatomical location between the medial soleus (blue star) and medial head of gastrocnemius (triangle).



Graphic: <http://radsourc.us/tennis-leg-plantaris-tendon-rupture/>

Above: Axial SPAIR demonstrates high signal blood products between the soleal and gastrocnemius, and surrounding gastrocnemius.

Graphic: Plantaris originates from the lateral supracondylar line of the distal femur, superomedial to the origin of lateral gastrocnemius. The short muscle belly lies deep to the lateral head of gastrocnemius, with the tendon coursing obliquely between the medial head of gastrocnemius and soleus. The distal tendon courses along the medial aspect of the Achilles tendon and inserts on calcaneus.

Discussion:

- The plantaris tendon is a vestigial structure, which is absent in approximately 10% of the population.
- Isolated rupture of the plantaris tendon was originally described by Powell in 1883 as ‘Tennis Leg’. This term is now used more generally to also describe injuries to the gastrocnemius and soleus muscles.
- Plantaris tendon rupture typically occurs in middle aged patients
- The mechanism of injury is often plantar flexion, with the knee in extension.
- Differential diagnosis:
 - Fluid between the medial soleus and medial gastrocnemius can also be caused by injuries to the gastrocnemius, as well as rupture of a Baker’s cyst.
 - Deep vein thrombosis can have a similar clinical presentation and is important to exclude
 - In this case, the presence of a ruptured and retracted plantaris tendon is diagnostic.
- Management for plantaris tendon rupture is almost always conservative.

Further Reading:

Delgado GJ, Chung CB, Lektrakul N, et al. Tennis Leg: Clinical US Study of 141 Patients and Anatomic Investigation of Four Cadavers with MR Imaging and US. *Radiology* 2002; 224:112-119.

Tennis leg. *Br Med J.* 1969;3 (5670): 543-4. Pubmed.

Harwin JR, Richardson ML. "Tennis leg": gastrocnemius injury is a far more common cause than plantaris rupture. (2017) *Radiology case reports.* 12 (1): 120-123.

Powell R.W. Lawn tennis leg. *Lancet.* 1883;122(3123):44.