Coronal IR image (multiple coronal IR images to follow)

History: Twenty year old male, avid runner with bilateral thigh pain but left greater than right


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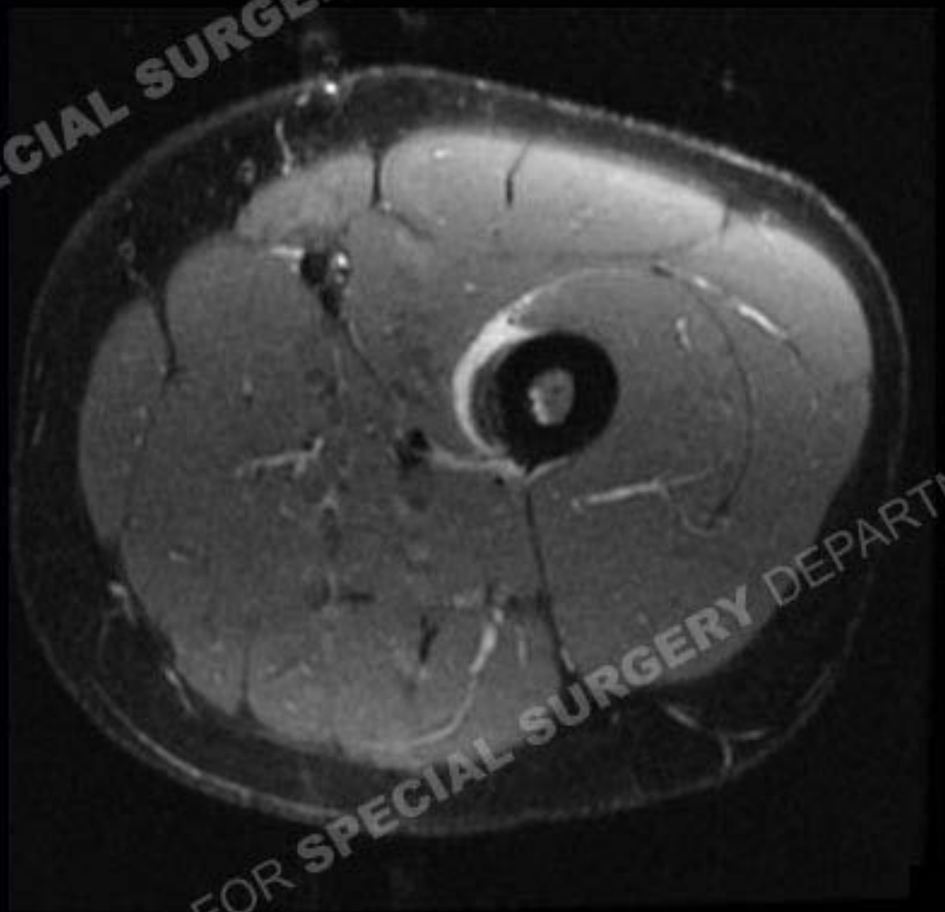
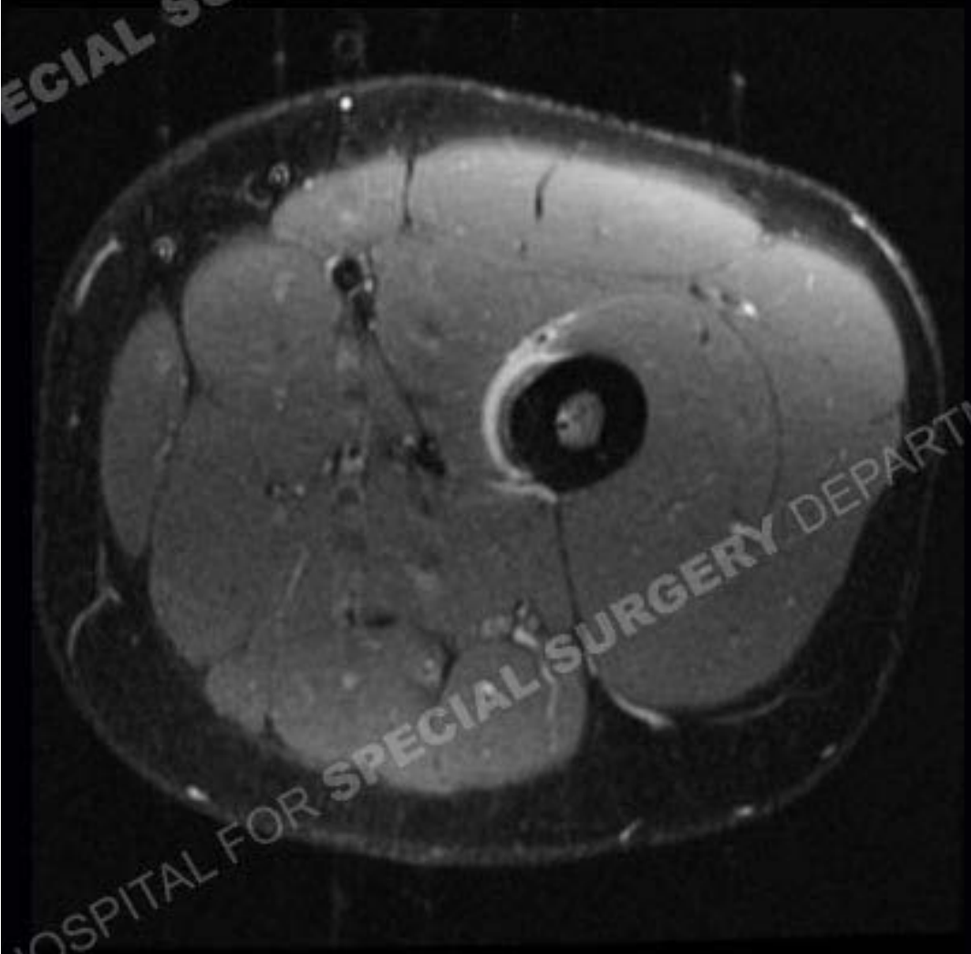
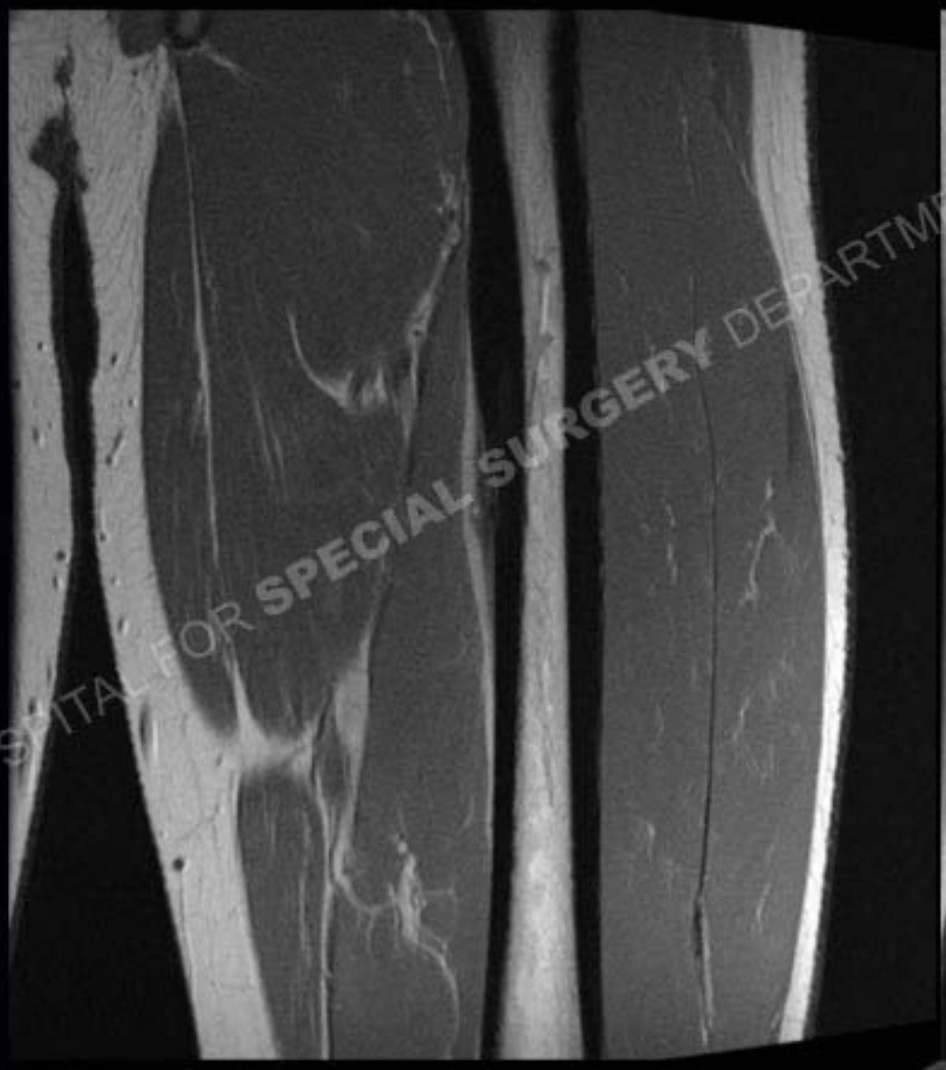
Axial IR and PD images through area of interest



Axial IR and PD images through area of interest

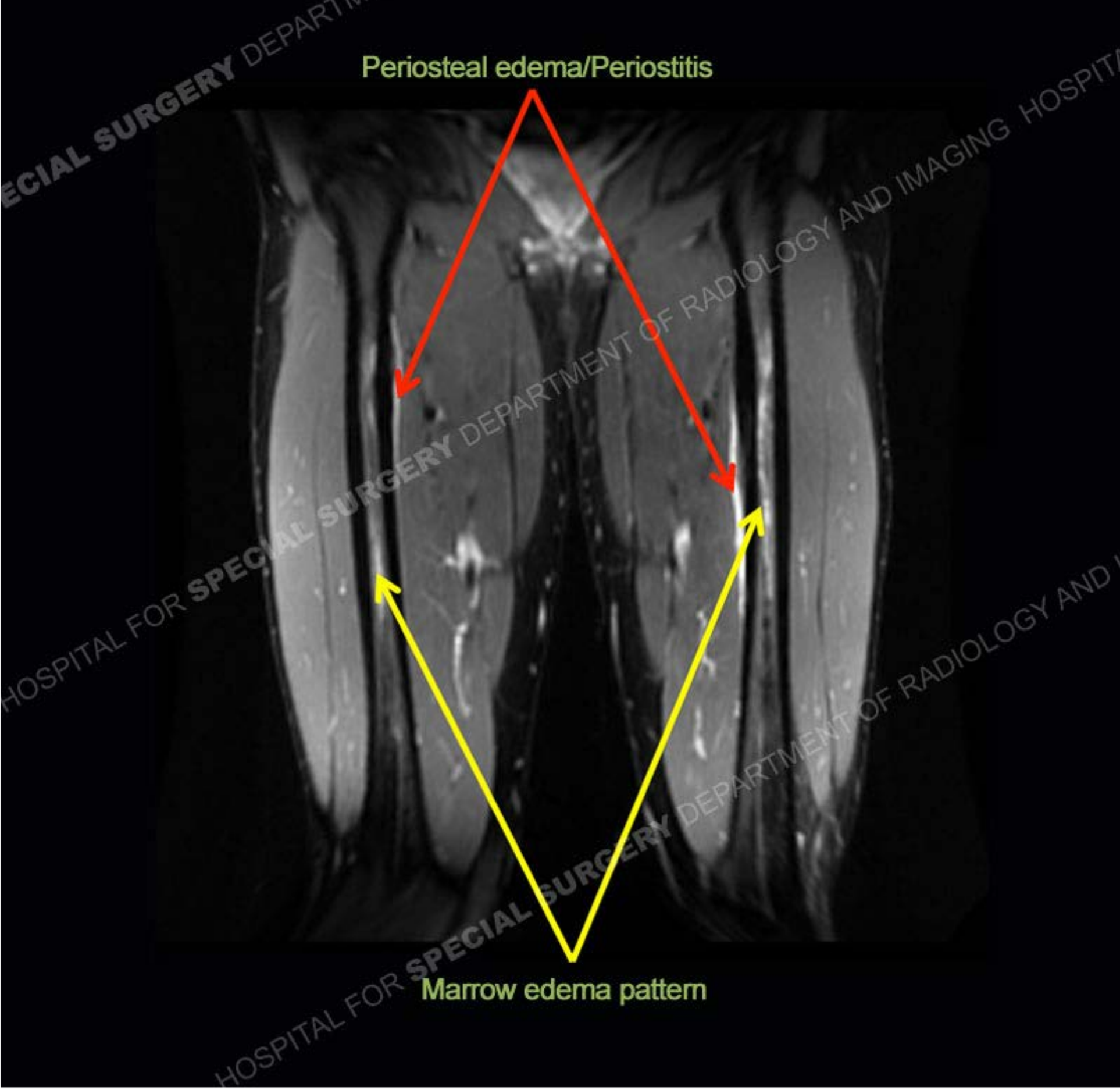


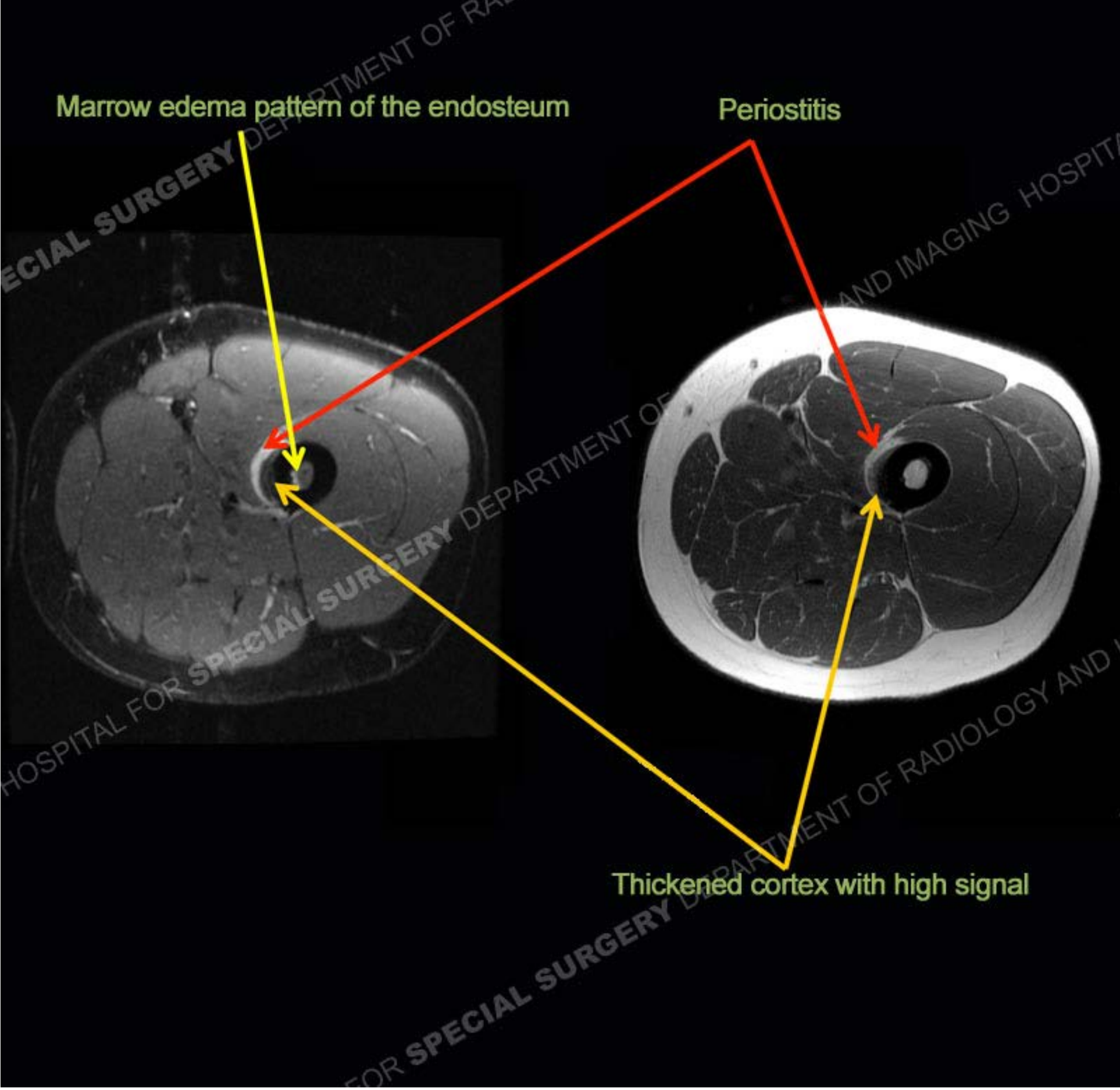
Coronal PD images

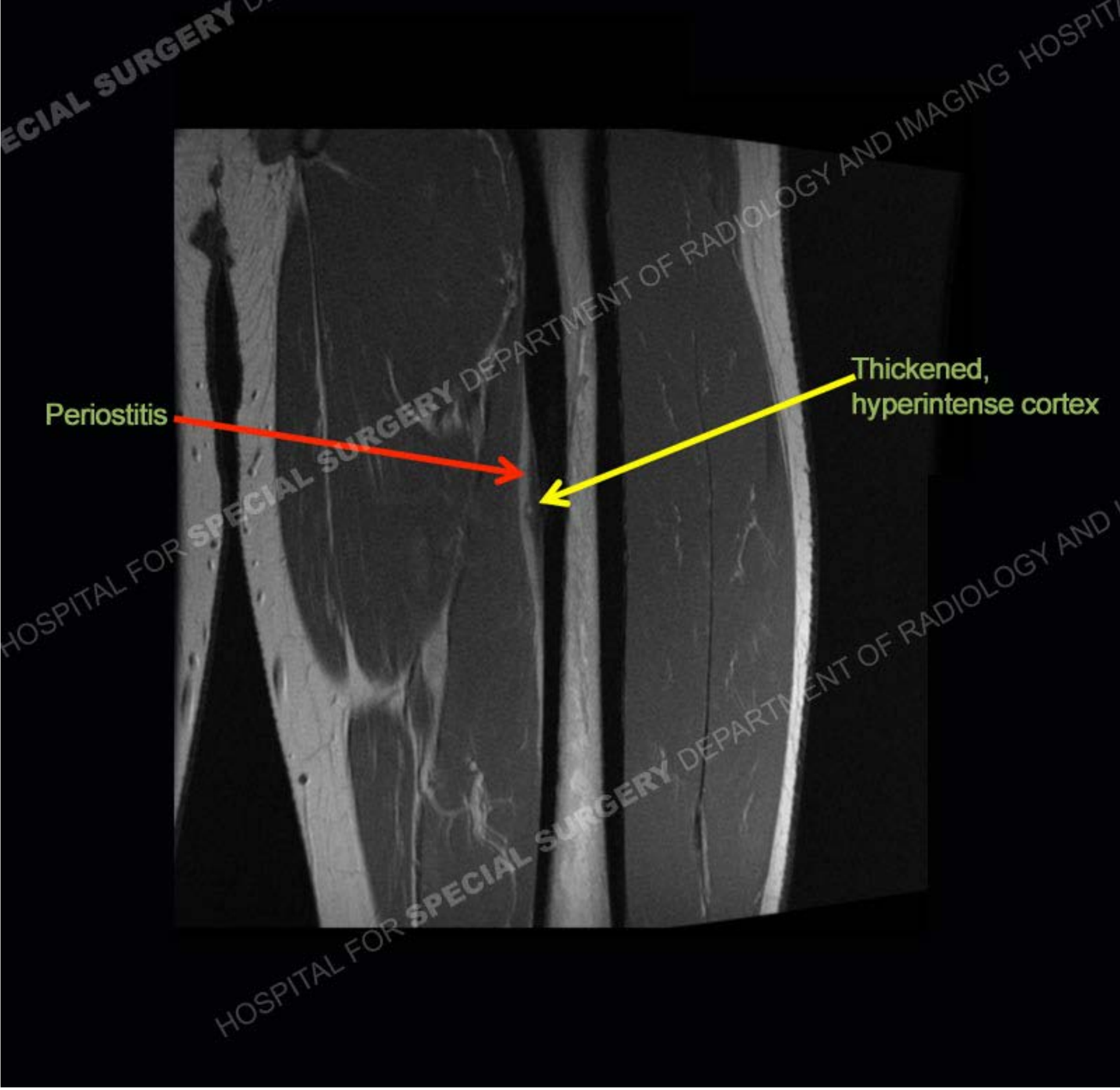


Findings

Along the medial aspect of both proximal femoral shafts extending to the mid shaft, there is periostitis and a mild marrow edema pattern. Particularly of the left femoral shaft additionally well shown is a thickening of the cortex that demonstrates areas of abnormal high signal.


Periosteal edema/Periostitis
Marrow edema pattern

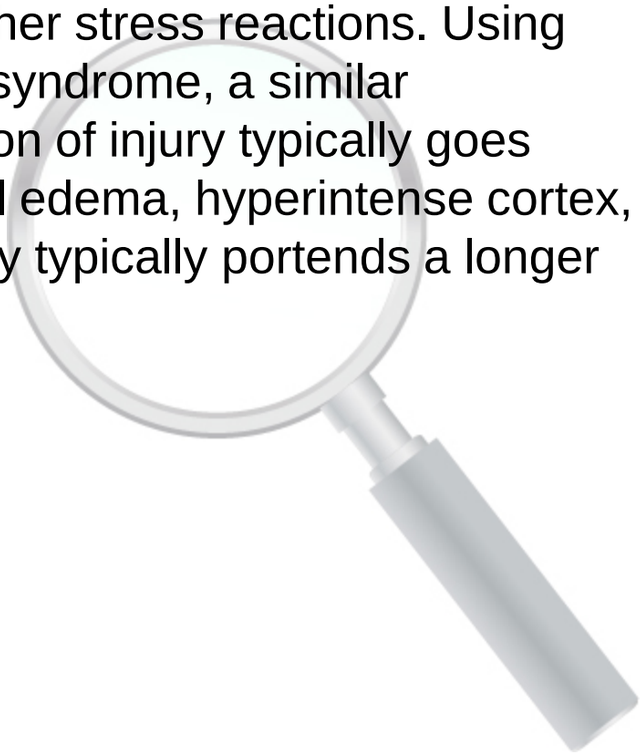

Marrow edema pattern of the endosteum
Periostitis
Thickened cortex with high signal


Periostitis
Thickened,
hyperintense cortex

Diagnosis: Thigh splints/Adductor insertion avulsion syndrome

Thigh splints is a correlative phenomenon to the much more common shin splints. Both represent an overuse type stress process with particularly insertional stress. In thigh splints this relates to the insertion of the adductor longus and brevis along the medial aspect of the proximal to mid shaft of the femur. This is seen typically in runners or high level athletes with sports involving a significant amount of running.

As with other overuse injuries these are brought on by activity and relieved by rest. These may go on to frank fractures as in other stress reactions. Using the paradigm established for medial tibial stress syndrome, a similar evaluation can be employed here. The progression of injury typically goes from periosteal edema, marrow edema/endosteal edema, hyperintense cortex, and then fracture. The greater the degree of injury typically portends a longer degree of rest for healing.



Resources

Adductor insertion avulsion syndrome (thigh splints): spectrum of MR imaging features.Anderson MW, Kaplan PA, Dussault RG. Am J Roentgenol. 2001 Sep;177(3):673-5.

http://radiopaedia.org/cases/fredericson-mri-classification-of-medial-tibial-stress-syndrome