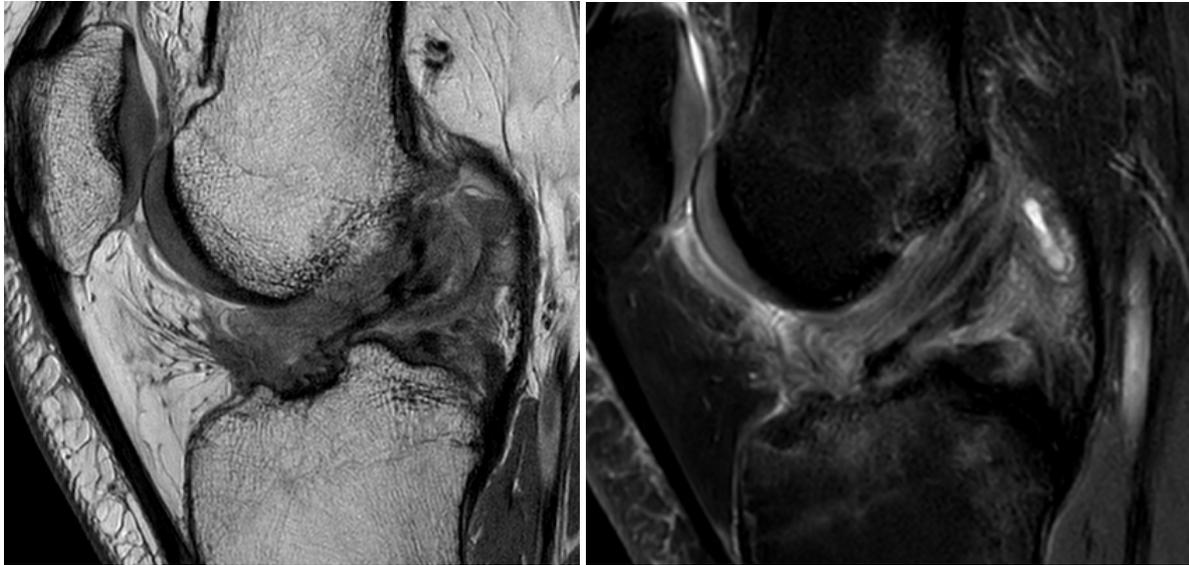


**19-year-old female C/O inability to extend knee 6 weeks post ACL reconstruction**



**Fig.1** Sagittal PD, demonstrates isointense soft tissue lesion anterior to the patent ACL graft

**Fig. 2** Sagittal PD SPAIR, further displays the moderately intense soft tissue lesion anterior inferior ACL graft



**Fig. 3** Coronal PD, shows mildly heterogenous almost isointense ovoid soft tissue lesion attached to the lateral inferior ACL graft

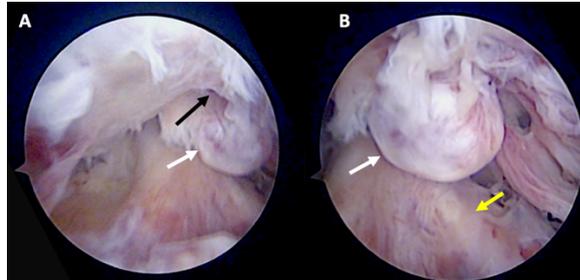
### **MRI Findings:**

- Moderately well-circumscribed ovoid soft tissue lesion contiguous with the anterior lateral surface of the ACL graft. Lesion is separate from the tibial plateau. Scarring and contraction of the posterior portion of the infrapatellar fat pad.

**Discussion:**

- **Definition**

- Also known as localized anterior arthrofibrosis. Painful anterior knee mass arises as a complication of ACL reconstruction, rarely been reported in patients with ACL injuries that have not been reconstructed.



- 
- Moniker of “cyclops lesion” was given based on the arthroscopic appearance of fibrous nodule and vessels that resemble an eye.
- The triggering insult stimulating the formation is unclear with theories including an inflammatory response to drilling debris from the tibial tunnel, remnants of the native ACL, from scar tissue and piling up of graft fibres arising from repeated graft impingement.

- **Aetiology**

- Multifactorial and incompletely understood. Inciting trauma, surgery, or infection results in healing response. Migration of inflammatory cells, proliferation of fibroblasts, release of cytokines, growth factors, reactive oxygen and nitrogen species.
- Failure to terminate healing response, persistent inflammation of synovial tissue trigger tissue fibrosis via the transformation of fibroblasts.
- Fibroblast proliferation results in accumulation of extracellular matrix which impairs blood flow and results in local hypoxia.

- **Clinical**

- Pain or limited extension with an eventual audible and palpable “clunk”, occurring typically 8 to 32 weeks (16 weeks on average) after ACL repair.

- **Imaging findings**

- MRI soft-tissue mass located anteriorly or anterolaterally in the intercondylar notch adjacent the tibial insertion of the reconstructed ACL. Because of its fibrous content, a cyclops lesion typically has intermediate to low signal intensity with all pulse sequences.

- **Differential diagnosis**

- Remnants of native ACL.

- **Management**

- Arthroscopic excision.

**Further reading:**

Recht MP, Kramer J. MR imaging of the postoperative knee: a pictorial essay. *Radiographics*. 22 (4): 765-74.

Mayr HO, Weig TG, Plitz W. Arthrofibrosis following ACL reconstruction – Reasons and outcome. *Arch Orthop Trauma Surg*. 2004.

Haklar U, Ayhan E, Ulku TK, Karaoglu S. Arthrofibrosis of the Knee. In: Doral M, Karlsson J, eds. *Sports Injuries*. Berlin, Heidelberg: Springer Berlin Heidelberg; 2014:1-20. doi:10.1007/978-3-642-36801-1\_100-1