

MICOD – 04/06/2024

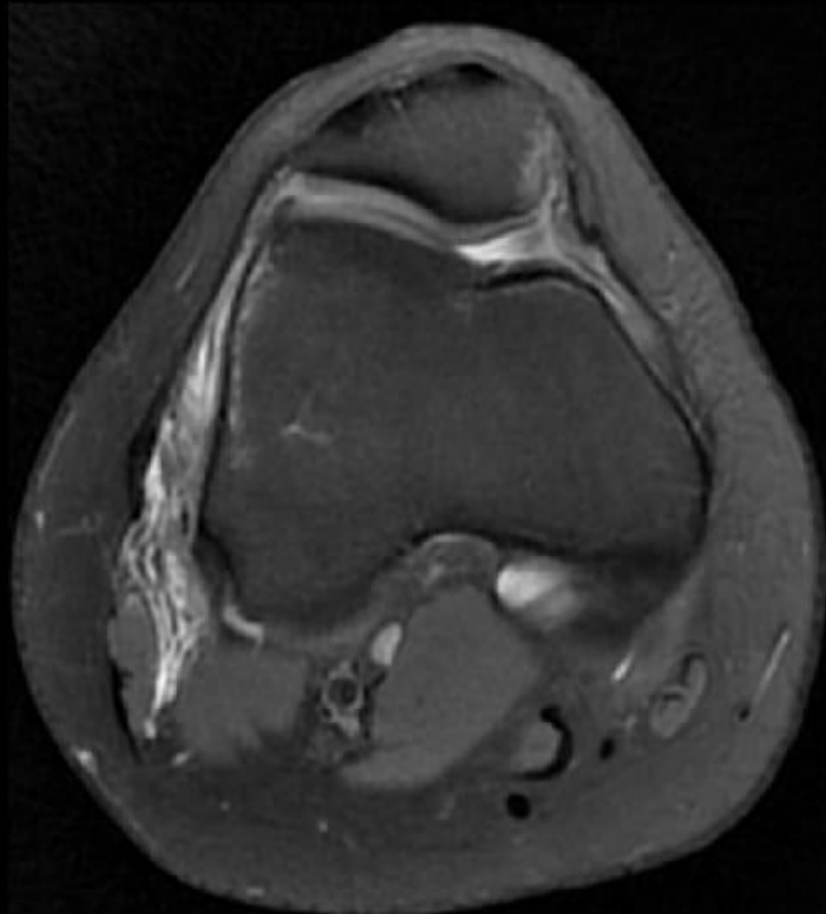
Case contributor – Dr. Dharmendra singh

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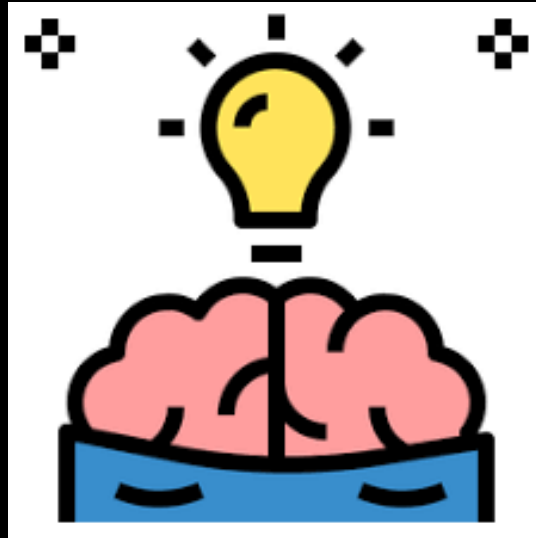
MSS INDIA- Case Of the Day



- 25 year female, history of knee rotational injury while playing badminton.
- Pain since 2 weeks.



ANSWER



ALL COMPLEX

The anterolateral ligament of the knee (ALL) is a ligament that is thought to aid with rotational stability of the knee joint.

Some think that its presence (or reconstruction) may result in better outcomes from ACL stabilization surgery .

Gross anatomy

Origin: prominence of the lateral femoral epicondyle, slightly anterior to the origin of the lateral collateral ligament.

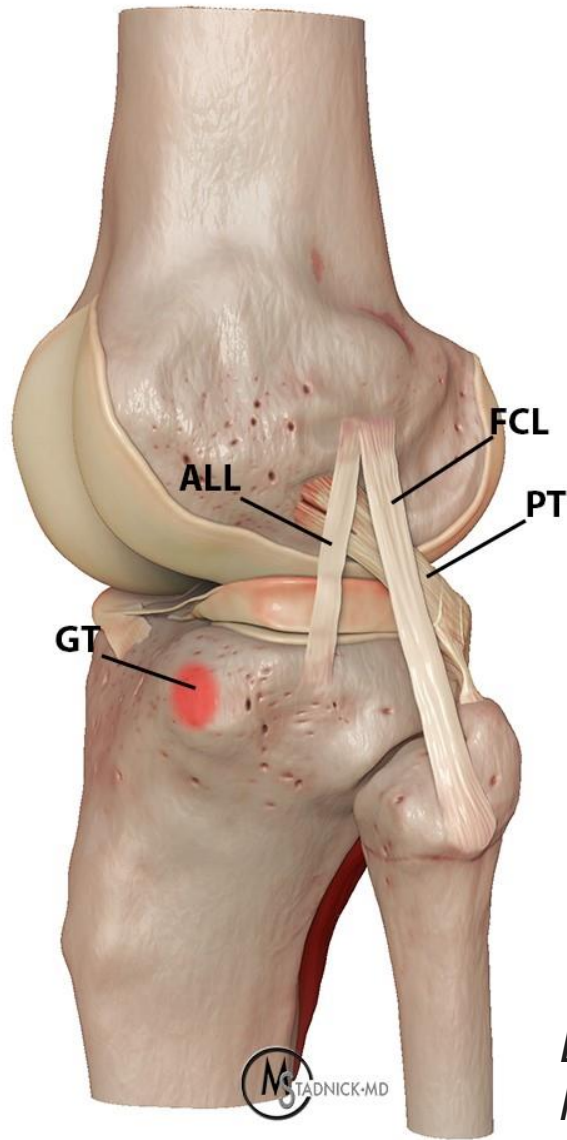
- proximal ALL fibers connect with LCL

Insertion: anterolateral aspect of the proximal tibia (between Gerdy's tubercle and the tip of the fibular head), with firm attachments to the lateral meniscus.

- The ALL is together with ACL involved in rotational stability of the knee, resisting internal tibial rotation and anterior tibial translation.
- Injury of the ligament is related to pivot-shift injuries with ACL tear, and can result in lateral meniscus tear and Segond fracture.

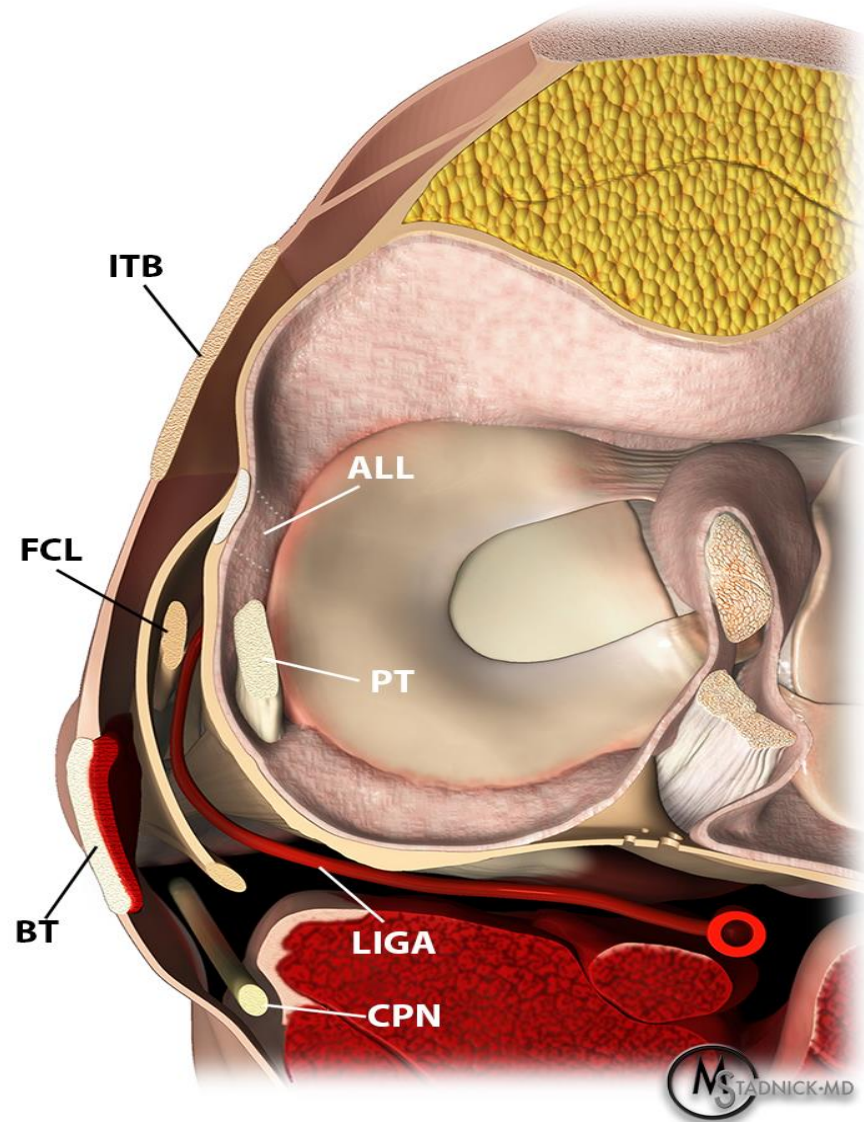
<https://radiopaedia.org/articles/anterolateral-ligament-of-the-knee>

- The ALL is easily distinguishable from the thinner joint capsule, located more anteriorly.
- In addition to the femoral and tibial attachments, the ALL also has meniscal attachment.
- Each of these three attachments can be considered when analyzing the anatomy of an ALL. The proximal attachment of the ALL is located at the lateral femoral condyle, slightly anterior and distal to the fibular collateral ligament (FCL).
- The posterior fibers of the ALL blend with the proximal portion of the FCL in the majority of cases.
- The middle portion of the ALL runs obliquely towards the anterolateral proximal tibia, with a strong connection to the periphery of the lateral meniscus mid body.



- The meniscal attachments can be divided into menisofemoral and meniscotibial attachments.
- The distal attachment of the ALL is located along the anterolateral tibia, forming a thick capsular insertional fold, approximately 5.4 mm distal to the tibial plateau, midway between the lateral border of Gerdy's tubercle and the anterior margin of the fibular head

Lateral knee anatomic rendering demonstrates the normal location and course of anterolateral ligament (ALL). The surrounding fibular collateral ligament (FCL), popliteus tendon (PT), and Gerdy's tubercle (GT) are also labeled.



Axial knee rendering demonstrates the normal intra-capsular course of anterolateral ligament (ALL) with the surrounding layered anatomy. The distal iliotibial band (ITB), fibular collateral ligament (FCL), biceps tendon (BT), popliteus tendon (PT), lateral inferior geniculate artery (LIGA), and common peroneal nerve (CPN) are also labeled.

- ALL tears are most commonly seen in conjunction with tears of the anterior cruciate ligament (ACL).
- While identifying the ALL can be challenging due to its small size, oblique orientation, and proximity to other structures, it is helpful to maintain a high index of suspicion for ALL injury when an ACL tear is present.
- An abnormal ALL is characterized by caliber changes, signal alterations, wavy, discontinuous, or irregular fibers.
- Tearing of the adjacent lateral capsule is also a common association, reported to coexist of cases.
- Lateral bone bruises are often present.

- Located just below the lateral plateau, superior and posterior to Gerdy's tubercle.
- The fracture results from excessive internal rotation and varus stress, and is highly associated with ACL tears and resultant anterolateral rotary instability.
- Because the distal attachment of the ALL is located close to Gerdy's tubercle (halfway between the fibular head and tubercle), ALL injuries are often present in the setting of a Segond fracture.
- Segond fractures are often easily seen on x-ray but can be more elusive on MRI.
- Maintaining a high index of suspicion is again helpful once an ACL tear is identified.

MRI Web Clinic - January 2023

Anterolateral Ligament Tear

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THANK YOU