Abstract: The anterolateral complex (ALC) of the knee has received renewed research interest because of the potential role of this anatomic region in anterior cruciate ligament (ACL) tear biomechanics and surgical treatment outcomes. The primary structures of the ALC include the iliotibial band deep (Kaplan) fibers, the anterolateral ligament (ALL), and the capsulo-osseous layer (COL) of the iliotibial band, although there remains disagreement on the precise anatomic locations and biomechanical relevance of these structures. Sectioning studies in the ACL-deficient knee have revealed a contribution of the ALC in restraining tibial internal rotation and anterior translation. Biomechanical studies have revealed a potential role for lateral extra-articular reconstruction as an augmentation to ACL reconstruction in knees with combined ACL and ALC sectioning. Clinical studies have reported a reduced ACL reconstruction failure rate with both ALL reconstruction and lateral extra-articular tenodesis procedures.

Bibliography

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**Combined ACL and Lateral Extra-Articular Reconstruction**

**ANTEROLATERAL COMPLEX (ALC) OF THE KNEE**
- ALC structures include the anterolateral ligament/capsule (ALL), iliotibial band (ITB), Kaplan fibers, and capsulolosseous layer (COL) of the ITB.
- The ALC is a secondary stabilizer to the ACL.
- ALC injury may occur with ACL tears.

**LATERAL EXTRA-ARTICULAR RECONSTRUCTION**
- Common procedures include ALL reconstruction and lateral extra-articular tenodesis (LET).

**CLINICAL RELEVANCE**
- ACL Reconstruction (ACLR) augmented with lateral extra-articular reconstruction has been shown to reduce ACLR failure rate.

**POTENTIAL INDICATIONS FOR LATERAL EXTRA-ARTICULAR RECONSTRUCTION**

**Patient Factors**
- Generalized laxity
- High-grade pivot shift
- Knee hyperextension
- Increased posterior tibial slope

**Clinical Scenarios**
- Young athletes returning to a pivoting sport
- Soft-tissue ACLR grafts
- Revision ACLR

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**ALL RECONSTRUCTION**

- ALL graft
- FIBULAR collateral ligament

**LET (MODIFIED LEMAIRE)**

- Iliotibial band (ITB)
- ITB graft secured with a staple to the metaphyseal flare
- FIBULAR collateral ligament

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