Introduction

• Some controversy in ACL reconstruction technique
  • Femoral tunnel (anteromedial portal vs. transtibial)
  • Graft (patellar tendon vs. hamstring)
  • Allograft vs. autograft

• My Technique of choice:
  ⇒ AM portal with BTB auto or allograft
    – Skeletally immature: Intra-epiphyseal w hamstrings

• We will discuss anatomical features of ACL reconstruction

ACL Anatomy

Anteromedial bundle: tight in flexion
Posterolateral bundle: tight in extension
My Roadmap: Remnant tissue & Topography

ACL Terminology:
ACL Anatomy is described with knee in 90 degrees of flexion

Anatomical Dissection
- Center points of AM and PL bundles are identified
- Intercondylar (Resident’s ridge) => upper border ACL
- Bifurcate ridge => separates the AM & PL bundles
3D Topography:

- Intercondylar ridge
  - Continuation of posterior femoral cortex
  - ACL inserts on the lower 1/3rd of the wall

Optimizing Femoral Tunnel Reaming

- 3D point cloud model: we achieve virtual placement of a Curved Guide
- To optimize 1) Footprint coverage 2) Posterior Wall thickness
  - Place the guide and ream at 110 degrees of knee flexion
  - Rotate the guide 10 degrees cephalad relative to the horizontal plane

Femoral Tunnel Reaming

- Goal: cover 75-85% of the ACL footprint
- Guide through AM portal -> positioned posterior to bifurcate ridge and just below intercondylar ridge
Tibial Dissection:

- AM & PL bundle fovea
  - A Ridge separates the two bundle centerpoints

Tibial Tunnel Preparation

- Guide through anteromedial (or transpatellar) portal
- Place on the midpoint between AM & PL bundle origins
- Guide typically set between 55 and 65 degrees

Tibial Tunnel Reaming

- Capture the guide wire with a large curette
- Bevel the posterior aspect of the tunnel (raise your hand)
ACL Arthroscopy Portals

- AL → 'high' or view of tibia ACL footprint
- Transpatellar → view of the femoral ACL footprint
- AM portal → reaming the femoral tunnel

ACL Technique Video

THANK YOU!