ACL Graft Choices: The Case for Autogenous Patellar Graft

2015 CU Fall Sports Symposium
Disclosures

- I have no conflicts to disclose in relation to this talk
My Charge

- Convince you that Autogenous Patellar graft is the best choice for ACL reconstruction......
- ............which should be easy as it is the “Gold Standard” for a reason!
Pros of Autogenous Patellar Grafts

- Tried and True
  - The longest f/u of any graft options used
  - Popularized in the mid-1980’s
    - I was 6 y/o
  - 30+ years of study
  - Other graft option merits are always weighed against a BTB graft
  - That’s why this is the gold standard option!!
Pros of Autogenous Patellar Grafts

- **Bone to Bone Healing**
  - Consolidation occurs by 6wks
  - Soft tissue in contrast takes 12wks
    - Caveat: regardless of this, the graft itself is usually maturing at 3mo postop and weak at this time point
    - ...but, at least early failure d/t slippage in tunnel is decreased once the graft heals to the tunnel walls
Pros of Autogenous Patellar Grafts

- Strong aperture fixation
  - Less tunnel widening & graft motion
    - Fixation is the weak link early postop, NOT graft strength
      - ALL time zero graft strengths exceed native ACL at that point
  - Controversy on using interference screws with soft tissue grafts in ACL surgery
Pros of Autogenous Patellar Grafts

- Consistently large graft size
  - Graft diameter is usually avg 10mm (9-11mm range)
  - May even fill some bone defects in revision operations
Pros of Autogenous Patellar Grafts

- Subjectively feels more solid
  - Personal Bias
  - Soft tissue grafts
    - More play in the fixation of the system
    - Tendon viscoelastic properties

- Begets the question, is this better??????
Advantages over other graft choices....

- **Autogenous Hamstring**
  - Small Graft size
  - Higher Infection risk
  - Hamstrings resist anterior tibial translation

- **Autogenous Quad Tendon**
  - Similar to the BTB but only one bone plug available

- **Allograft**
  - Cost & Availability
  - Disease Transmission Risk
  - Re-tear risk
Concessions

- Skeletally immature
- Patellar tendinitis risk
- Kneeling pain
- Patellar fracture risk
- Graft tunnel mismatch
  - ...actually makes a surgeon think!
- Less cosmetic scar
Summary

- **Advantages:**
  - Gold Standard
  - Bone to bone healing
  - Strong aperture fixation
  - Consistent graft size
  - Subjectively feels more solid
    - I.e., less viscoelastic

- **Cons:**
  - Skeletally immature
  - Patellar tendinitis risk
  - Kneeling pain
  - Patellar fracture risk
  - Graft tunnel mismatch
    - …actually makes a surgeon think!
  - Less cosmetic scar

- **All grafts have a time and place but……**

  - Personal bias:
    - In the absence of a contraindication as noted on the left, this is my ideal go to graft in higher level athletes
Questions