



11th

Advanced Course
on Knee Surgery

How I do a single bundle PCL-R



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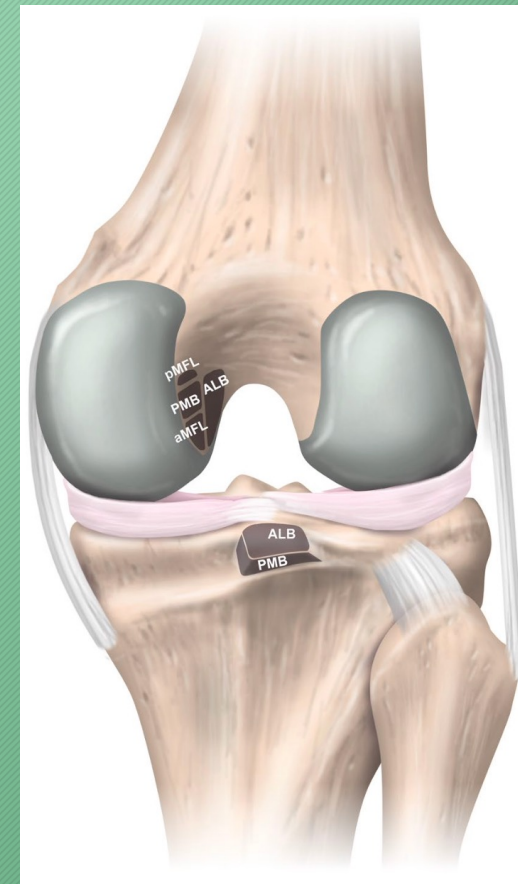
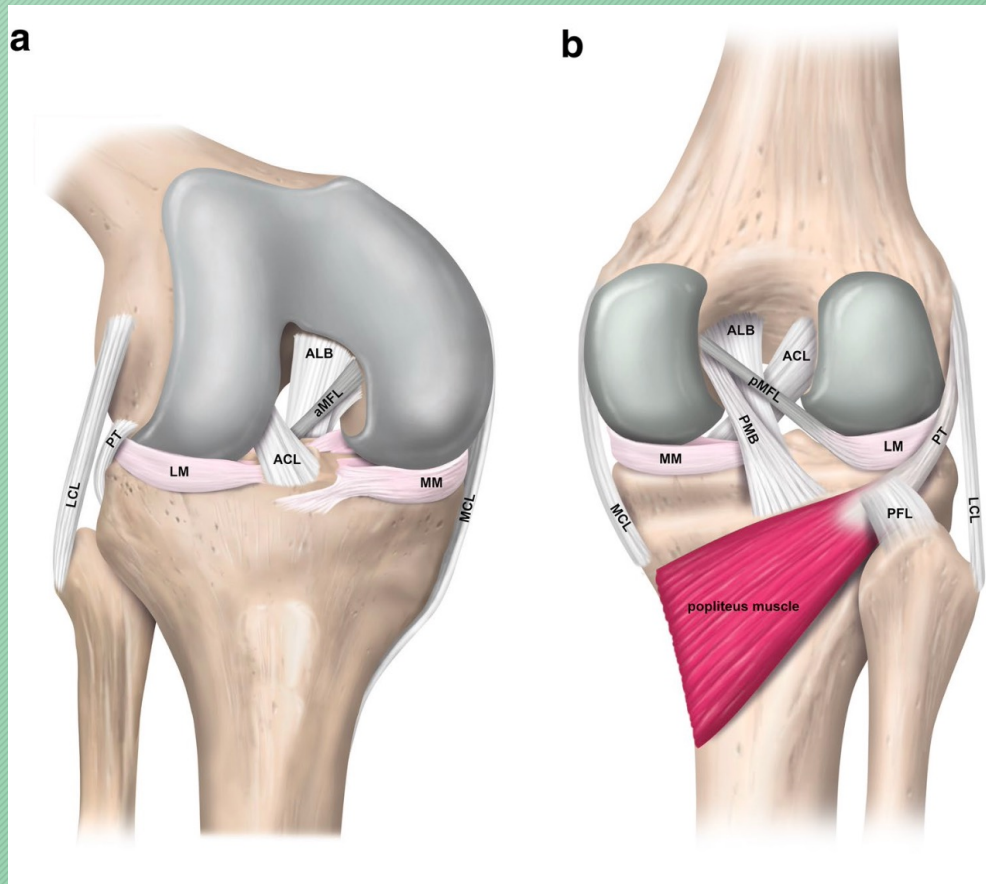
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Disclosures

- No relevant disclosures



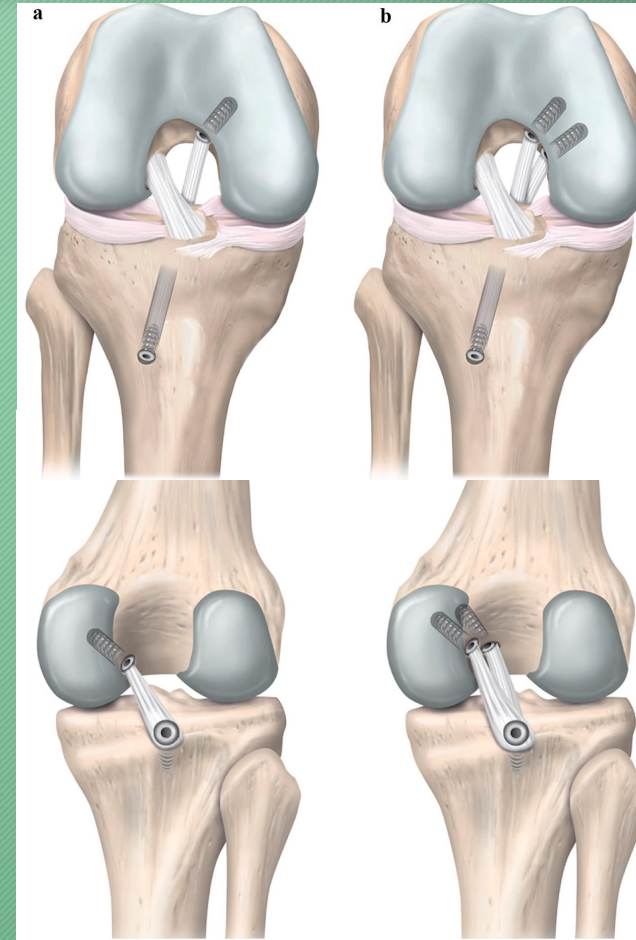
Anatomy



Surgical Techniques and Variables



- Arthroscopic vs. open
- SB vs. DB
- Transtibial vs. Tibial Inlay
- Graft choice
- Fixation
- Concomitant injuries
- Tibial Slope
- Primary vs. revision surgery
- Isolated vs. Multiligament



Femoral tunnel Drilling Technique



1. Low AL portal
2. 11 o'clock L knee; 1 o'clock R knee
3. 5 mm from anterior articular cartilage
4. Preserve PM bundle
5. 11 mm tunnel



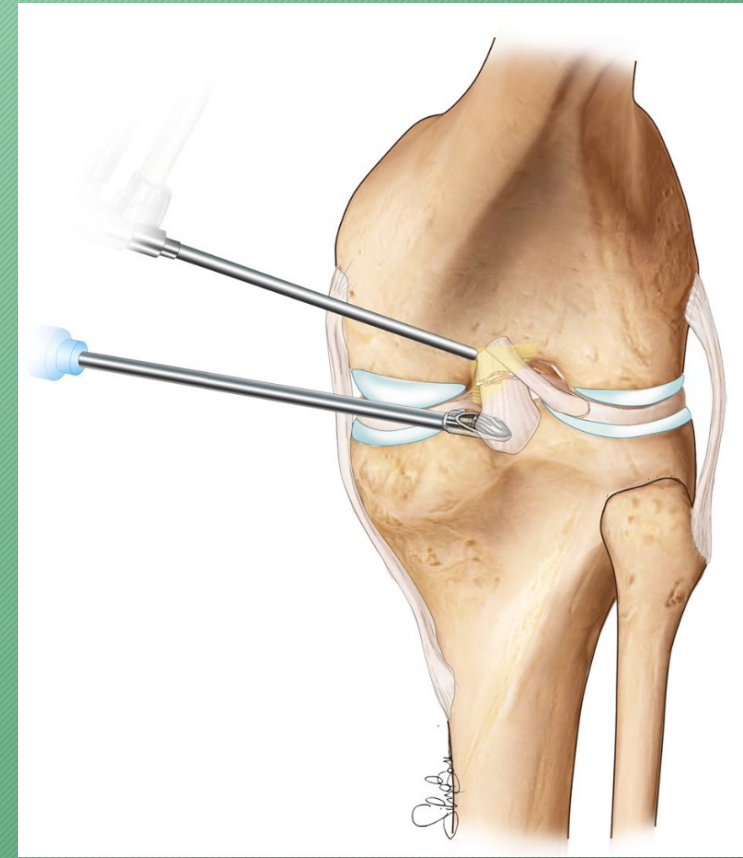
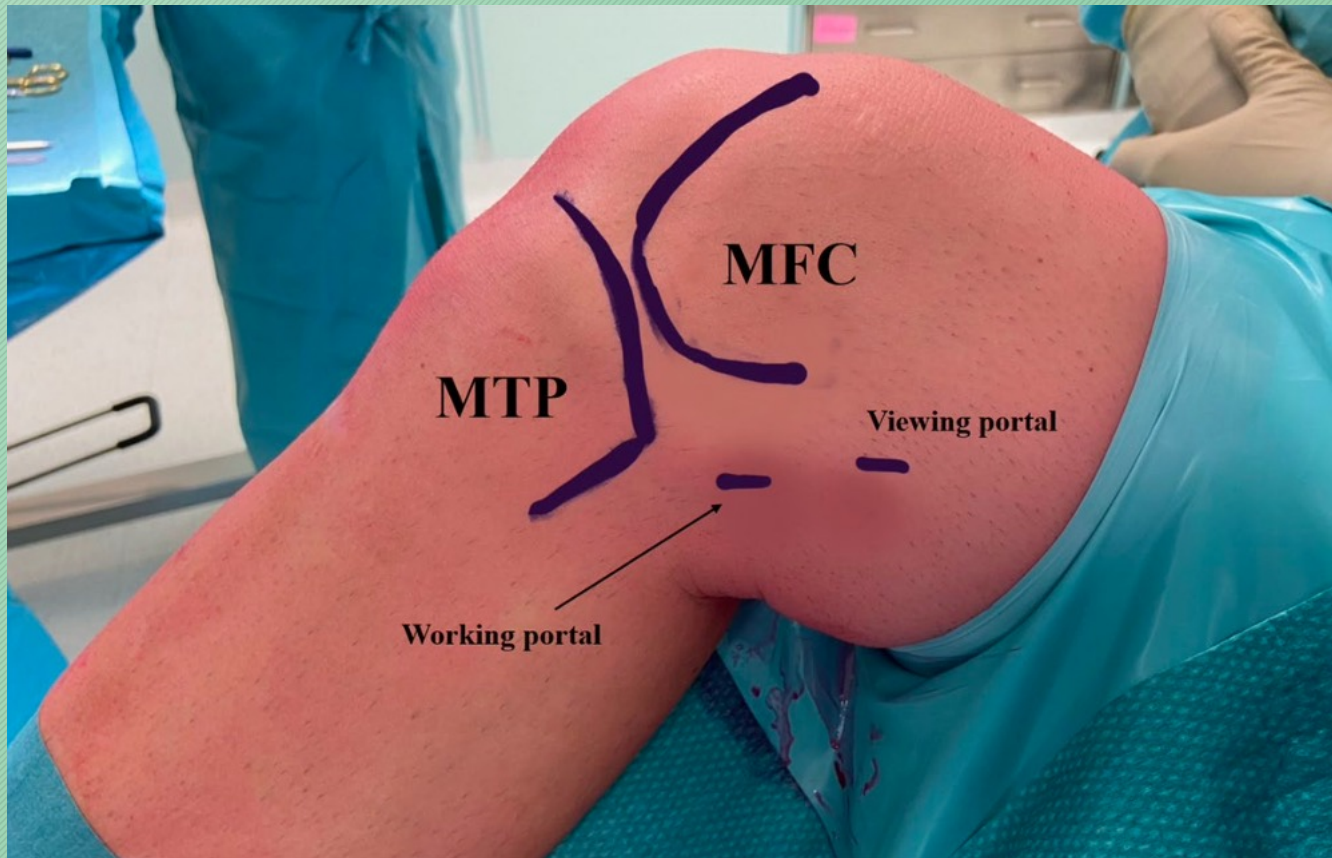
Tibial Footprint Preparation



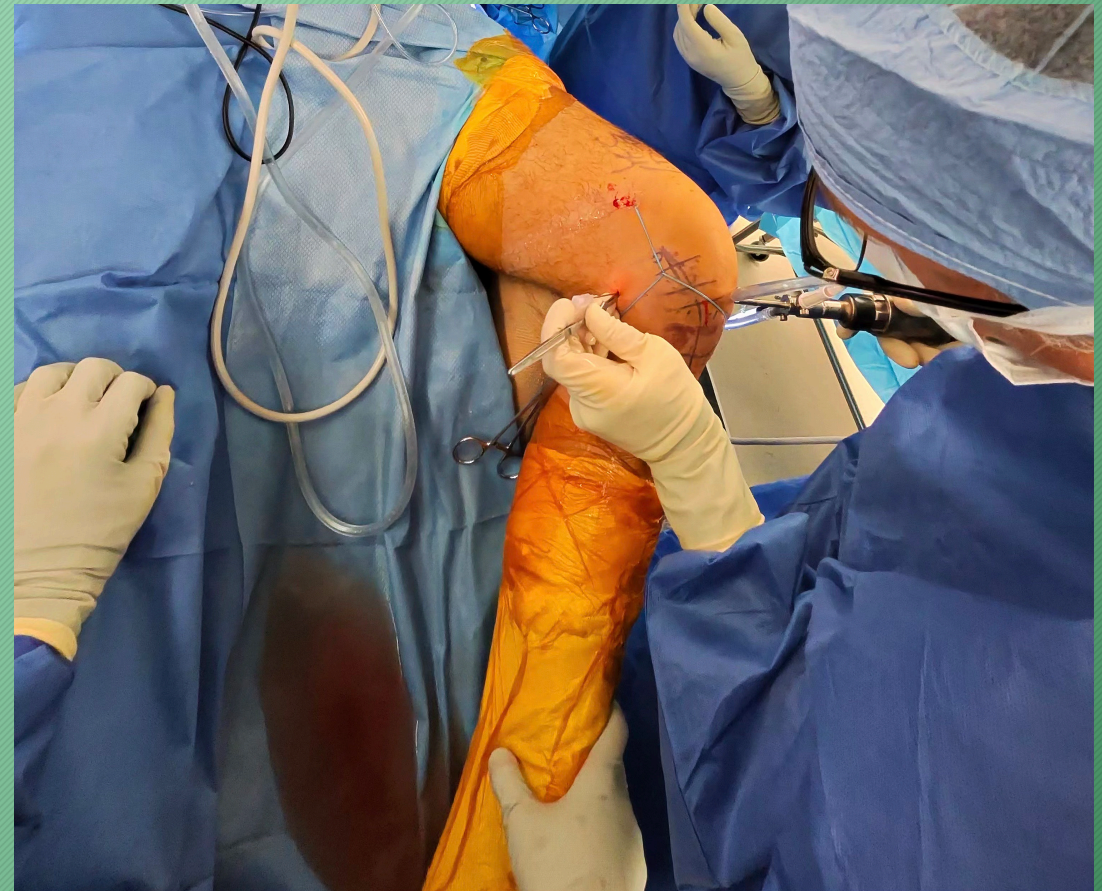
1. PM portal
2. Gillquist maneuver
3. 70 degree scope + fluoroscopy
4. Septum vs capsule
5. RF probe
6. 15 mm inferior to the joint line



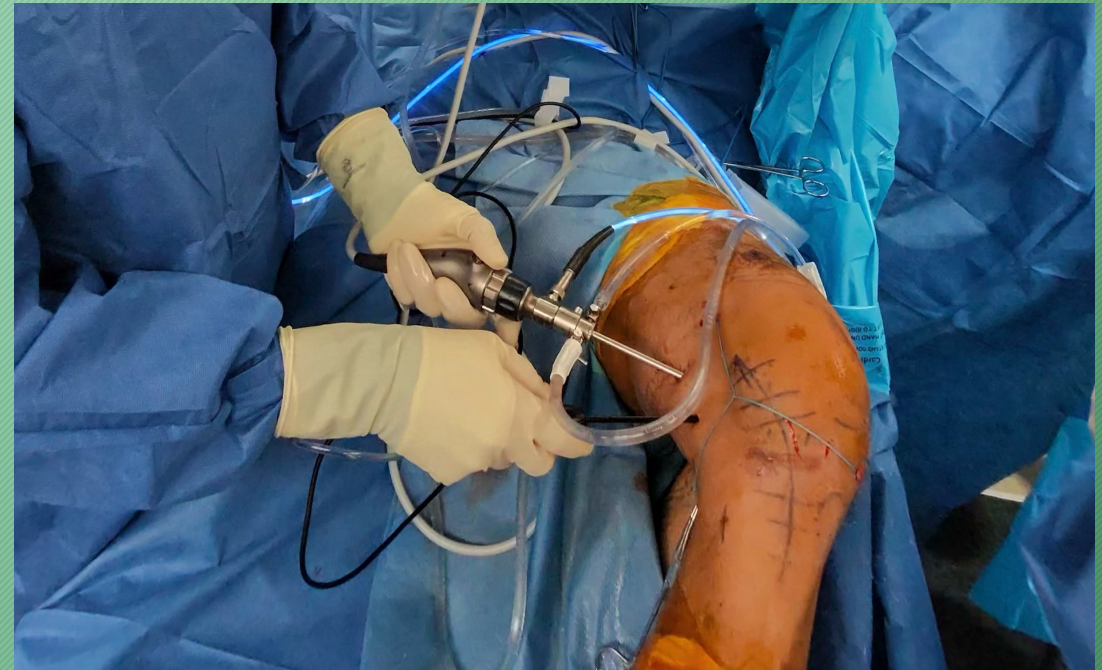
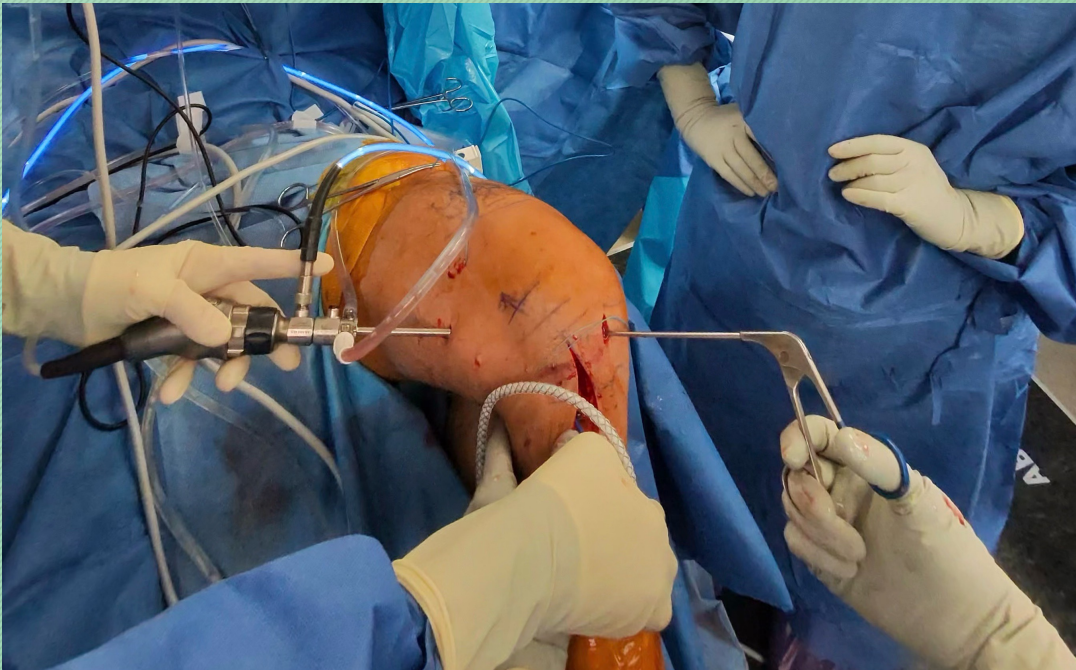
Double PM portals



Double PM portals



Double PM portals



Graft Passage - two “killer turns”



1. Through AM portal
2. Retrograde in tibia
3. Don't pull bone block past fem tunnel
4. Bone block in femur



Fixation



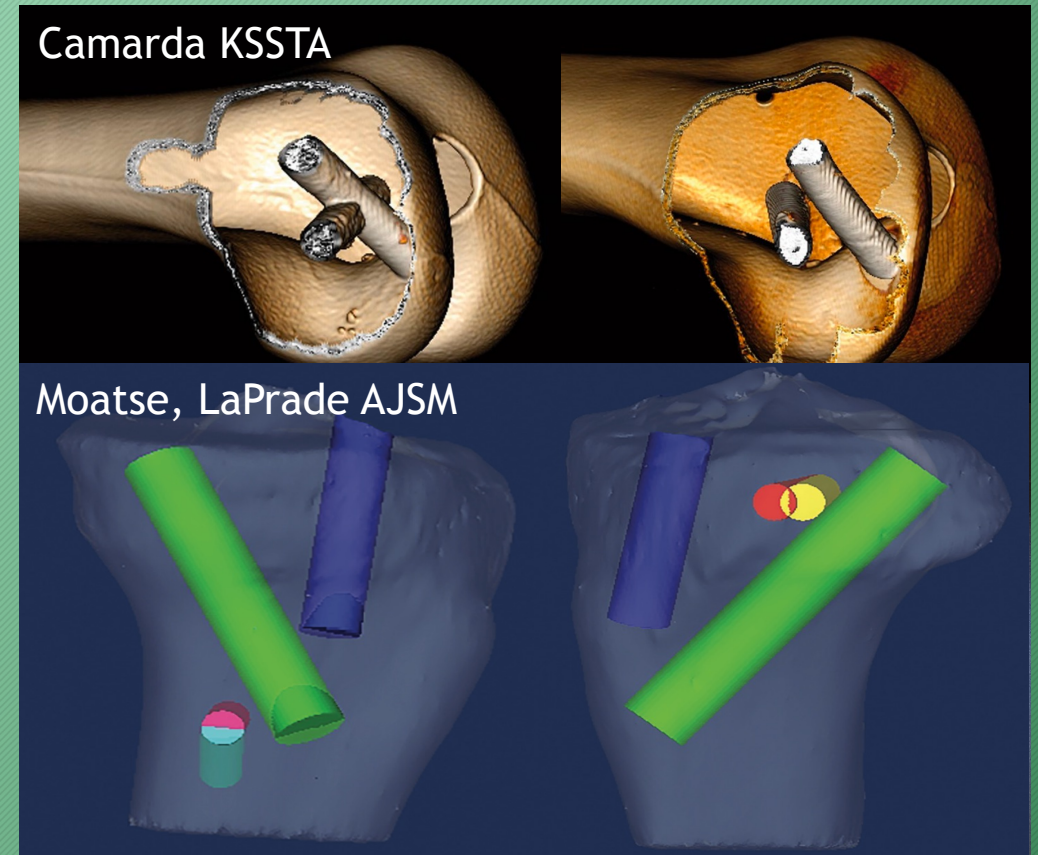
1. Femur: suspensory button
2. Tibia: IFS+/- suture post (4.5 mm)
3. @ 90° flexion
4. Max AD
5. After fixation, protect against posterior sag



Pitfalls



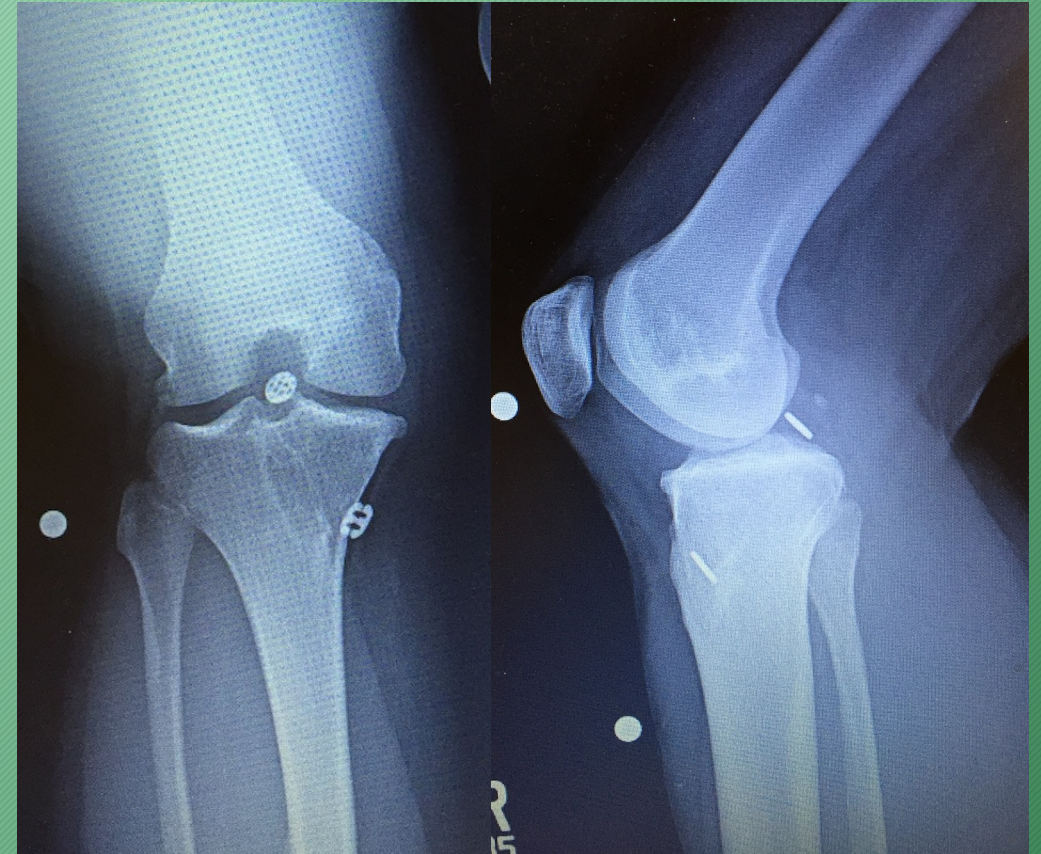
1. Medial condyle fx - shallow fem tunnel
2. Tunnel convergence - (MCL, POL)



Pitfalls



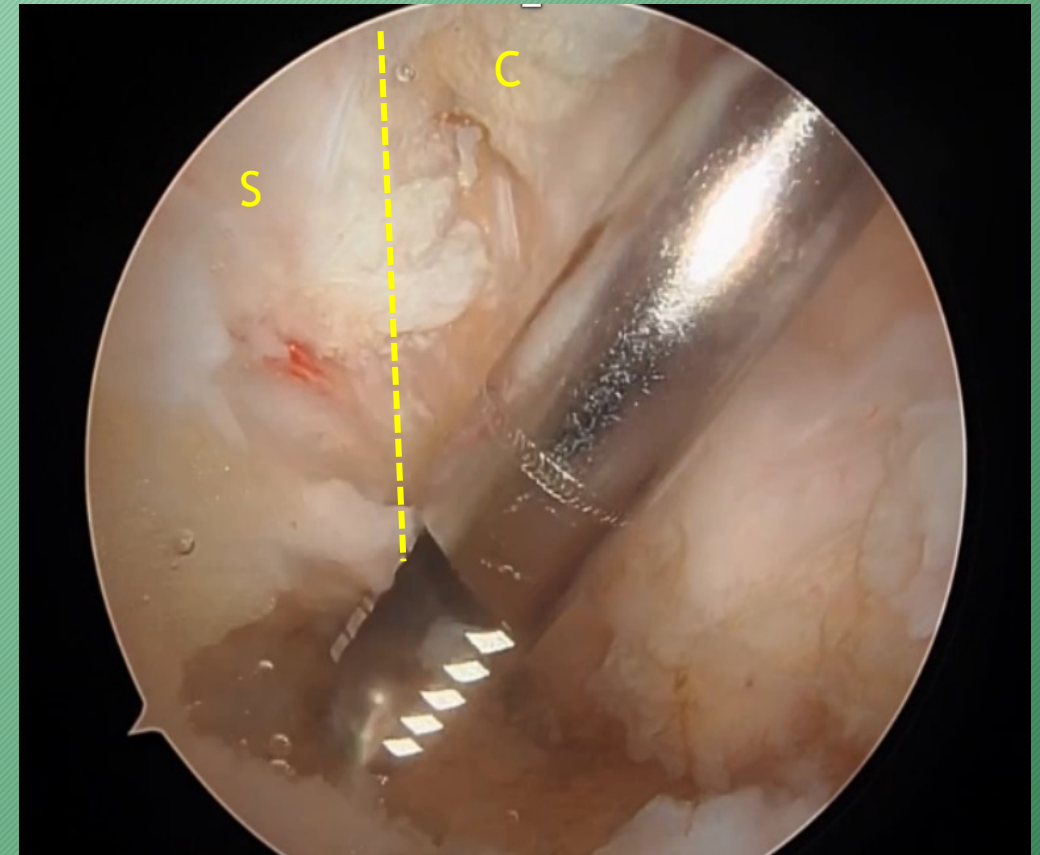
3. MM root avulsion - anterior tibial tunnel/medial tibial tunnel



Pitfalls



- 4. Septum vs. capsule - No suction near posterior capsule
- 5. Pop artery - tib tunnel (reamer plunge; cold weld guide pin to reamer)



Pitfalls



- 6. Graft passage - ough 😞
- 7. Loss of fixation in OR - failure to support tibia



Case T.D.



- 26M military with chronic R knee pain and recurrent varus instability
- Paresthesias Cpn
- Foot dorsiflexion weakness
- Anterior knee pain
- Pain with stair walking
- PCL/LCL-R 2 years prior



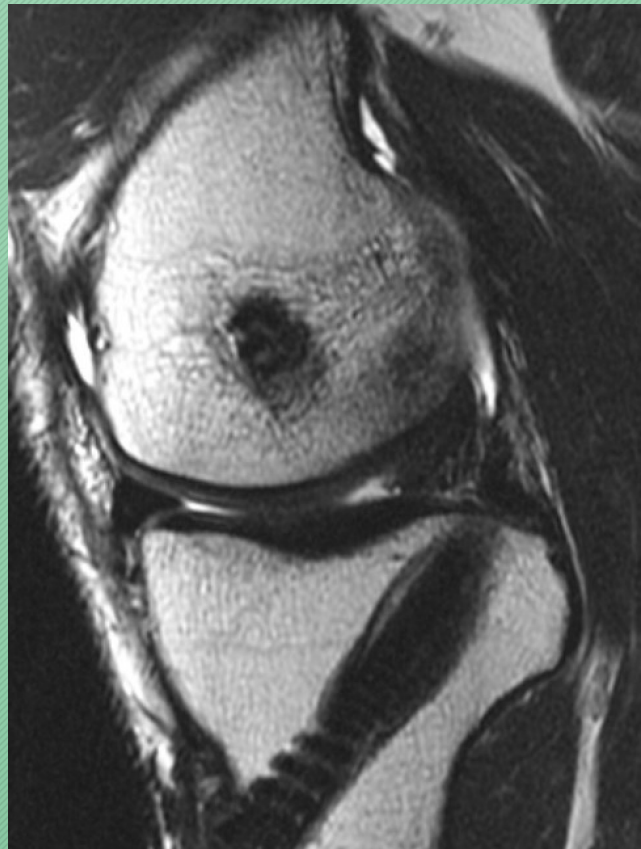
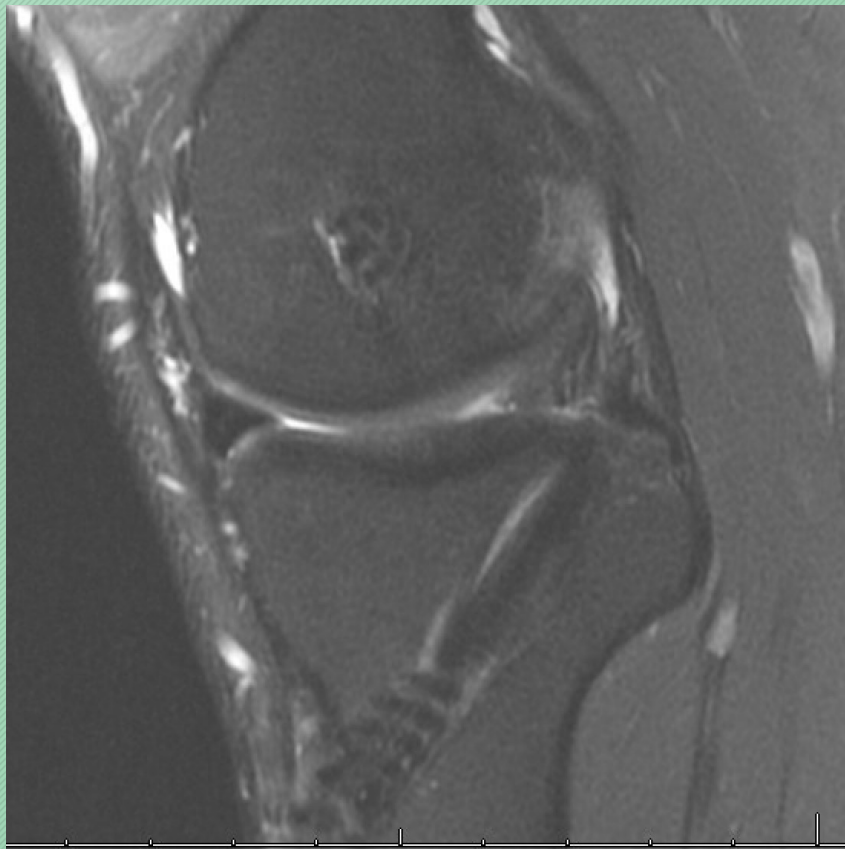
Case T.D.



- ROM 0-130°
- Bilateral varus alignment
- Gait: Varus thrust
- 2+ PD
- 2+ varus stress 0° and 30°
- Dial: 10+ at 30° and 90°
- Neuro: Decr sens dpn, 4/5 TA/EHL
- Vascular: 2+ DP/PT pulses



Case T.D.



Case T.D.





Case T.D. - 24mos FU



- Underwent removal of hardware and contralateral HTO
- Doing well, returned to skiing
- No effusion
- ROM -2-135°
- Good SLR
- 1A Lachman
- Grade 1 PD
- Stable varus



Rehabilitation - General Considerations



- Partial WB
- Knee brace in full extension → 3-6 weeks
- ROM exercises in **prone position** → prevent hamstring activity
- Advance to full WB
- Quad strengthening
- Jogging and sport specific exercises at 6 months
- **RTS**: full ROM, quad strength, firm PD end-point (up to 12 months)



Return to Sports



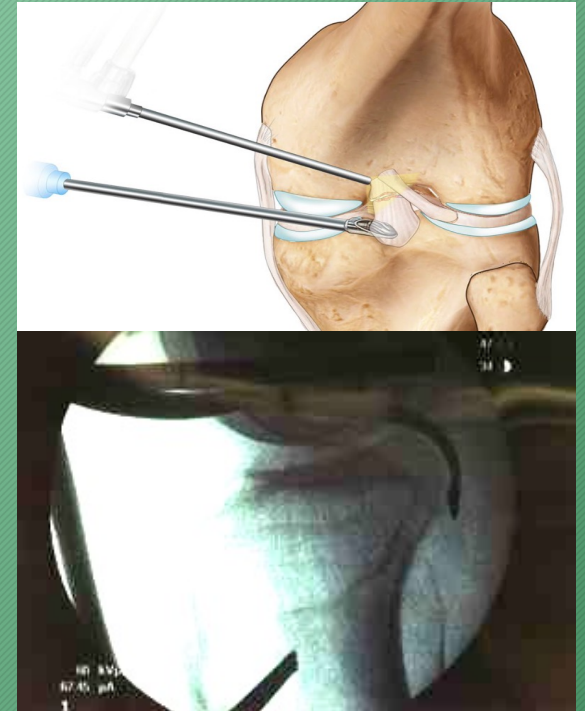
- Full, painless ROM
- No effusion
- Quadriceps and hamstring strength 90% of contralateral side
- Timeline
 - Month 6: Jogging
 - Months 6-7: Low-impact sports
 - Months 9-12: High-impact sports



My tips and tricks



1. Two camera screens
2. Mini C-arm
3. Wissinger switching stick
4. Two-PM-portal technique (Seil)
5. 70 deg RF probe
6. Tib tunnel parallel to PTFJ
7. Achilles allograft
8. Graft passage AMP



Summary



1. Complex cases with many potential complications and pitfalls
2. Timing of treatment important (concomitant injuries)
3. Coronal plane alignment - watch triple varus
4. Use allograft (QTB in athletes) & fluoroscopy



Summary



- 5. PCL reconstruction provides satisfactory functional outcomes, range of motion, and stability
- 6. Low slope predictor of PCL-R failure
- 7. The ability of patients to return to high demand sports is less predictable
- 8. Don't be rushed



Thank You!

