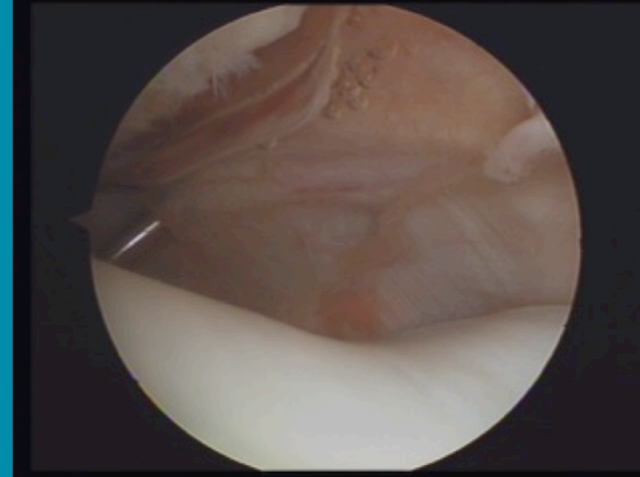


MPFL Reconstruction and Tibial Tubercle Transfer in the Adolescent Patient



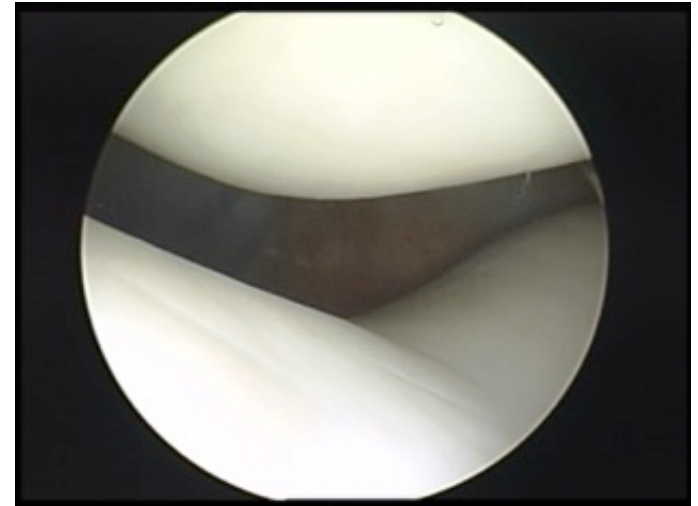
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Updated March 4, 2022

Anatomy

- **Patella** = “knee cap”
- **Trochlea** = “groove”
- Cartilage cushion on surface of bones
 - Often injured with dislocation
- **MPFL (medial patellofemoral ligament)** = ligament that keeps knee cap in place
 - Torn/stretched with dislocation



Without surgery....

- Torn/stretched ligament **won't heal**
- Knee cap will continue to pop out
- More damage to cartilage
- *Increased* **arthritis**
- *Poor* long term **function**
- *Decreased* return to sport



Main Goals for Surgery

Restore Stability

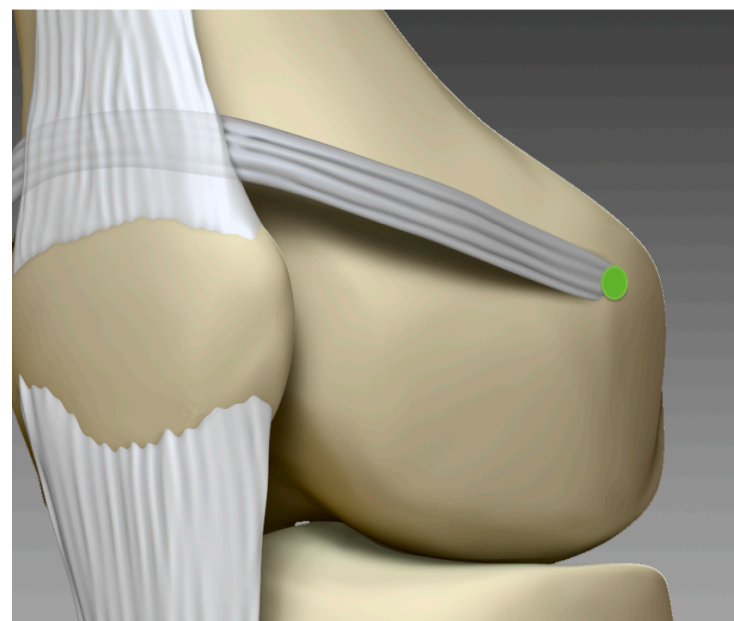
- Decrease arthritis
- Improve function

Return to Sport



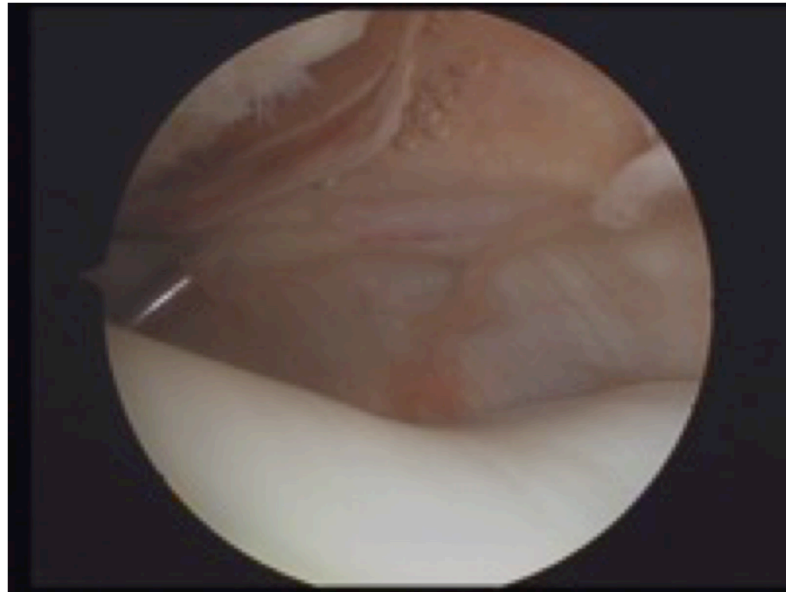
Patella Realignment and MPFL Reconstruction

- **Inpatient** surgery (stay in hospital for 1 night then go home next day)
- **General anesthesia** (asleep the whole surgery and won't feel anything)
- 3 Parts
 - Knee arthroscopy to remove injured tissue ("clean up")
 - Realign knee cap
 - Reinforce torn/stretched MPFL



Treatment Algorithm – Part # 1

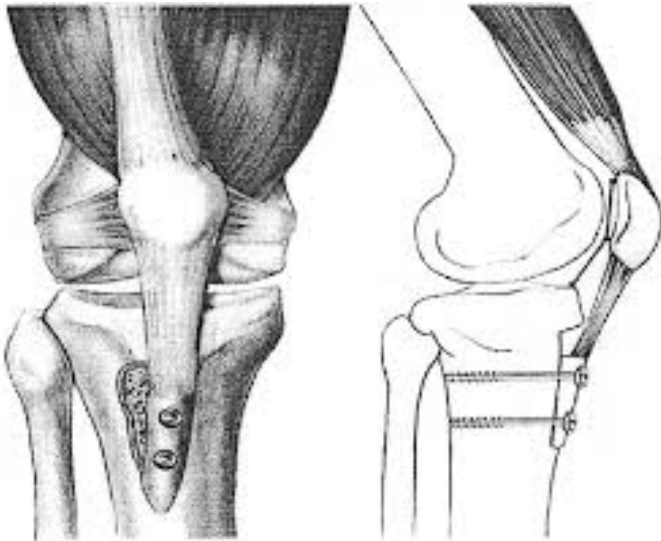
- **Arthroscopic evaluation**
 - Remove or repair injured tissue



Treatment Algorithm – Part # 2

- **Patella Realignment**

- Lateral release with repair to get knee cap in center of groove
- Tibial tubercle transfer



A Modified Osteotomy for Anteromedialization of the Tibial Tubercle

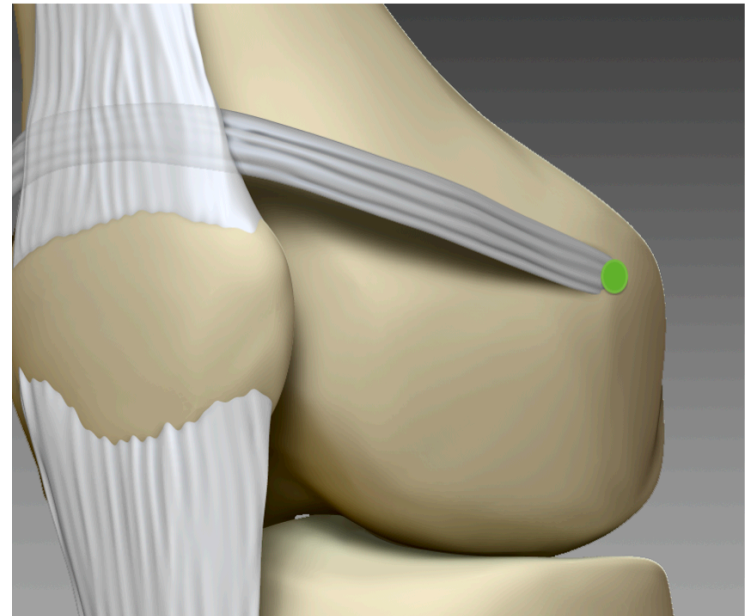
Michael G. Saper, D.O., Benjamin A. Cox, D.O., and David A. Shneider, M.D.

[https://www.arthroscopytechniques.org/article/S2212-6287\(17\)30088-9/addons](https://www.arthroscopytechniques.org/article/S2212-6287(17)30088-9/addons)

Treatment Algorithm – Part # 3

- **Stabilize Patella**

- MPFL reconstruction
- Cadaver hamstring (allograft) tendon is used to replace the torn MPFL



Complications and Considerations

- Anesthesia
- Bleeding
- Nerve injury
- Infection
 - Deep joint infection can require hospitalization, IV antibiotics, multiple surgeries, removal of the graft.
- Stiffness
- Return to Surgery*
 - Screw removal (32%)
 - Arthroscopic debridement (6%)
 - Deep infection (2%)
 - Superficial infection/wound dehiscence (2%)
 - Stiffness (2%)
 - Tibial tubercle fracture (2%)
 - Tibial tubercle nonunion (2%)
- Failure to return to sport

Rehabilitation and Return to Sports

- Toe-touch weight-bearing for 6 weeks
- Physical therapy starts 3-4 days after surgery
- Knee brace until adequate quad strength regained
 - Usually 6 weeks
- Encourage **range-of-motion** exercises
- **Healing** typically at **3 months**
- Running at 4 months
- Rehab Progress Assessment at 6 months
- **High-loading / return to sport activities at 6-12 months**
 - Strict criteria for return to sport *clearance*