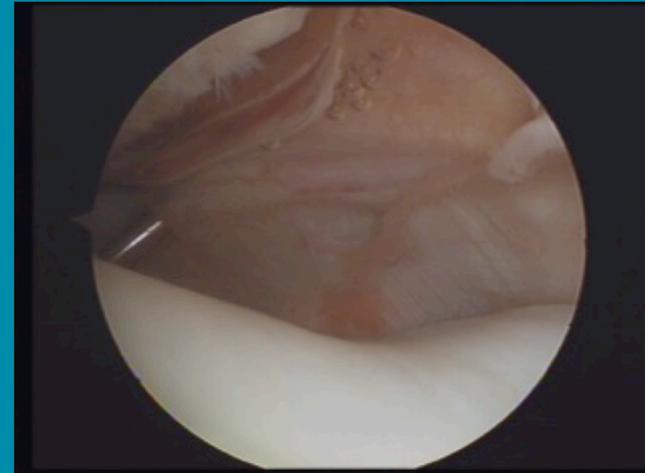


# MPFL Reconstruction and Tibial Tubercle Transfer in the Adolescent Patient



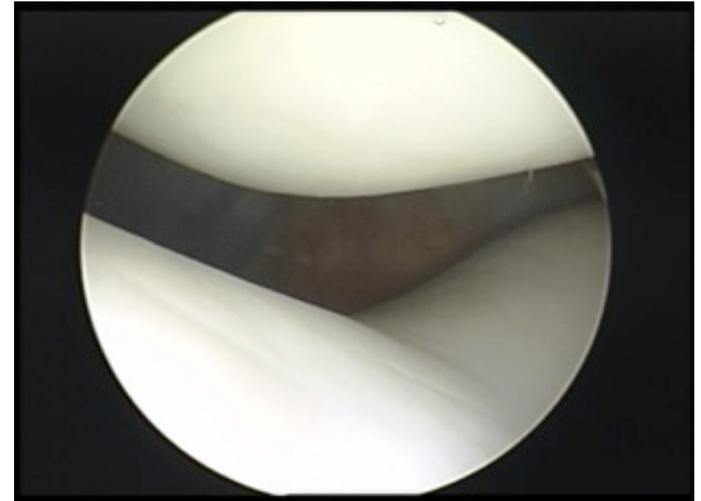
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Updated March 4, 2022

# 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

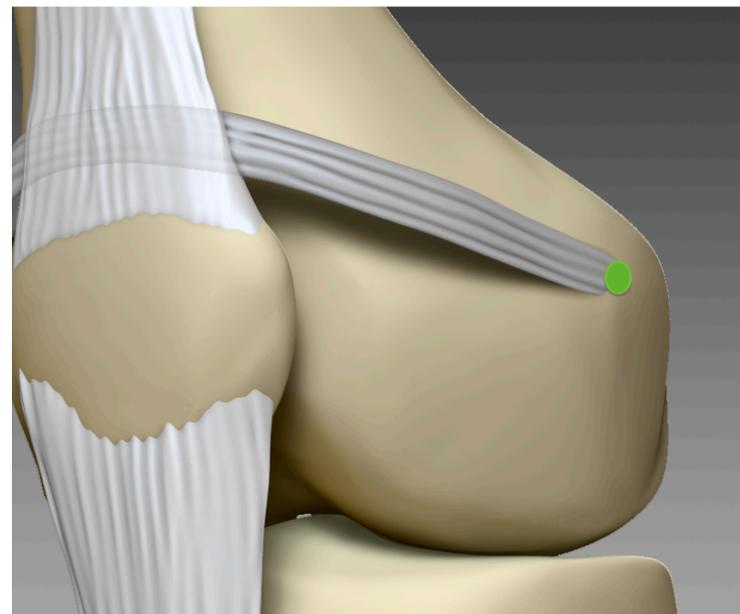
- Decrease arthritis
- Improve function

## Return to Sport



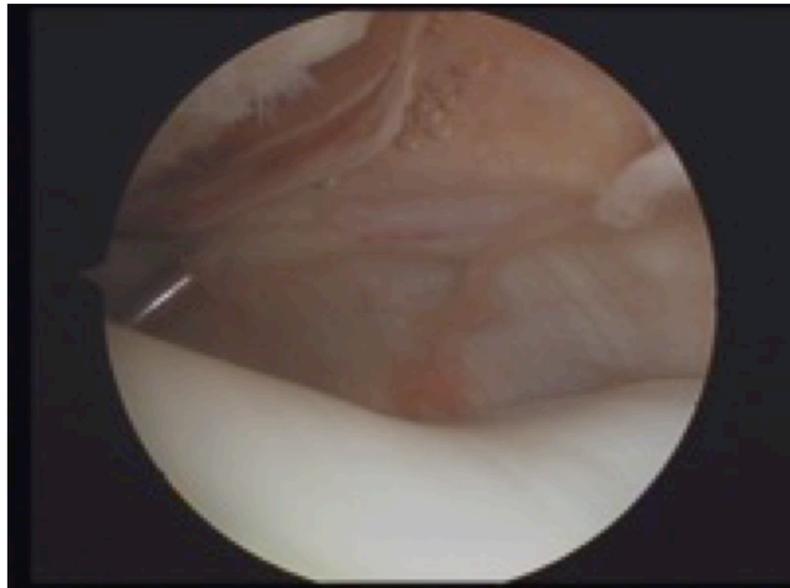
# Patella Realignment and MPFL Reconstruction

- **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

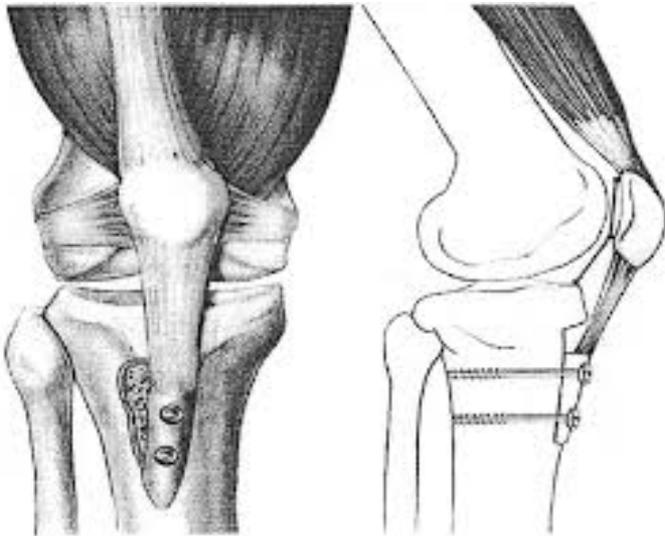
- **Arthroscopic evaluation**
  - Remove or repair injured tissue



# 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

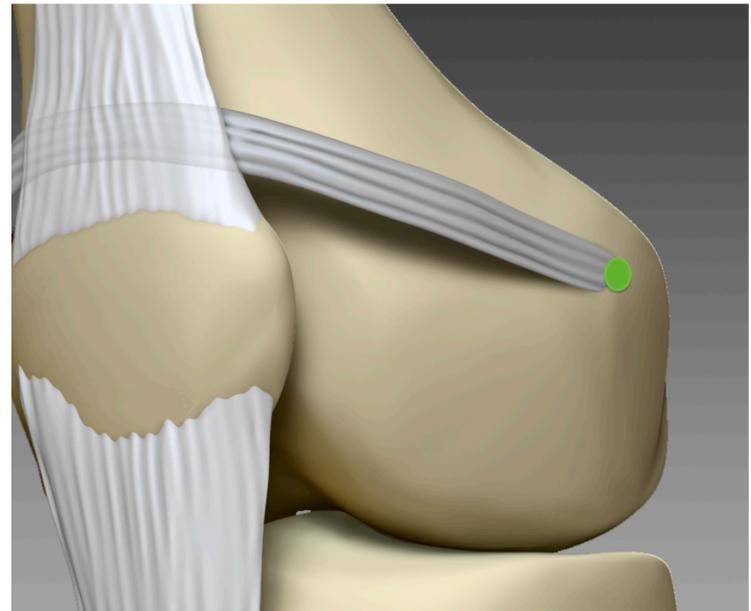
Michael G. Saper, D.O., Benjamin A. Cox, D.O., and David A. Shneider, M.D.

[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*