Treatment of Patellar Dislocation in Children

Petri Sillanpää
MD PhD Orthopaedic surgeon
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Pirkanmaa Hospital District
Disclosure

Paid consultant: Bioretec Oy, Tampere, Finland
Patellar instability in skeletally immature

Recent textbooks are saying:

- Lateral release
- Medial reefing
- Musculotendinous transfers
- Realignment procedures
Patellar instability in skeletally immature – what to do?

**Anatomical surgery**

Aim at “normalizing” anatomy rather than creating secondary pathoanatomies
The most common the etiology is nontraumatic in kids

Bony pathoanatomies such as patella alta, trochlear dysplasia, and hyperelasticity

Pathoanatomies are bony not amenable to surgical correction because of open physes
Anatomical surgery
For skeletally immature patients

MPFL reconstruction
When surgery is indicated in skeletally immature patient?

The number of **dislocation episodes** perhaps less important –

Time period between dislocations:
full recovery (episodic) vs. persistent complaints
(anterior knee pain + giving ways)
Prior surgery in skeletally immature

Assess any possible muscle imbalances or weaknesses
- PF patients may have significant problems with their lower limb control
- needs to be addressed prior consideration of surgery
Patellar instability in children
Principals of surgical correction

Osseus surgery is contraindicated

Avoid medial reefing—poor results!

Patella alta: Imbrication of the patellar tendon
MPFL reconstruction is the preferred method in skeletally immature

Most anatomical option

**Needs to be noted:**
No drilling allowed at the physis!
Small patella

Recommended surgical techniques:
Adductor tenodesis *(Sillanpää, Avikainen)*
Adductor sling technique *(Ellera-Gomez, Arendt)*
Semitendinosus sling through the MCL *(Deie)*
Double Bundle MPFL Reconstruction with Adductor Magnus Autograft for Skeletally Immature

Femoral drilling is contraindicated in skeletally immature!
Double Bundle MPFL Reconstruction with Adductor Magnus Autograft for Skeletally Immature

Adductor graft harvesting
Double bundle reconstruction with adductor graft: **Proximal bundle** runs from femur to medial patella.
Double bundle reconstruction with adductor graft

**Distal bundle** is attached at anatomic MPFL femoral insertion
With the patella centered in the trochlear groove at 30° knee flexion, there should be neither slack nor tension in the graft.
Results of MPFL reconstruction in skeletally immature

Patient’s anatomy may be very challenging!

22 patients with no additional surgery >2 year f-up (age 10-17)
2 redislocations, single episodes, no reoperations required so far
Patellar instability in skeletally immature

Conclusion

MPFL reconstruction has promising results
Seem to be sufficient for mild to moderate abnormalities

Indication for surgery is a failure of proper, well monitored, aggressive 6-12mo, nonoperative rehabilitation program
Happy knee makes a happy smile!