

PF Instability: Surgical Results with Review of Literature

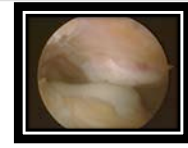
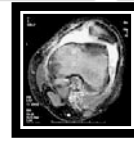
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Recurrent patellar instability can result from:

Osseous abnormalities
(patella alta, TTD
>15mm, trochlear
dysplasia, limb
alignment)

Soft tissue
abnormalities
(traumatic rupture
MPFL, weakness
VMO)



Literature

- Patient groups are heterogeneous !
- Patient groups include :primary dislocation and recurrent instability
- No difference in groups with or without osseous abnormalities



Conservative treatment ?

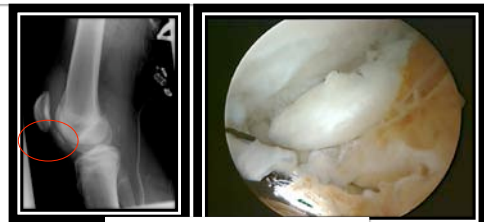
Cash 1988	Grath 1996	Mäenpää 1997
<ul style="list-style-type: none"> • retrospective • N=74, FU 8y • Cast / PT • 58 % good/excellent • 36 % rec.rate 	<ul style="list-style-type: none"> • retrospective • N=69, FU 2y • 39 primary, 30 recurrent • PT, bandage • 78% satisfied • 26 % rec. rate 	<ul style="list-style-type: none"> • retrospective • N=100, FU 13 y • Circular cast, splint or brace • 37 % satisfied • 38, 47, 57 % Rec.rate

Gold-standard in operative treatment ?



Indication operative treatment

- cases of refixation of osteochondral fracture



Lateral Release

Lattermann 2007: review 14 studies on LR in cases of PF instability, 63.5% satisfied at 4 y FU

Kolowich 1990, all 28 pts experienced re-dislocations after LR

Prospective studies Medial repair ± LR

Vainionpää 1990,
N=55, FU 2y, 80%
satisfied, rec.rate
9%

Harilainen 1993,
N=53, FU 6.5y, 60
% satisfied, rec rate
17%

Salley 1996, N=12,
FU 2y, 58% good/
42% moderate,
rec.rate 0%

Prospective studies Arthroscopic medial reefing ± LR

Nam 2005 / Ali 2007, both reported good/excellent clinical outcome and few rec rate (<4%)

Both studies had short/medium FU (N=23, 4.4 y and N=38, 51 months)

Operative (med repair±LR) / conservative treatment : RCT

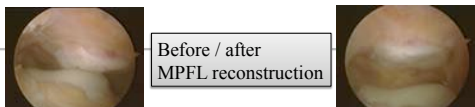
Nikku 1997/2005, N=55/70, FU 2 and 7 y, no clinical difference, no difference in rec rate

Palmu 2008, redislocation rate (± 70 %) similar in both groups (operative/conservative), at 14 y FU, no difference in clinical score

Medial Reconstruction

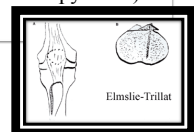


- Smith et al KSSSTA 2007, systematic review
- 8 papers assessing 186 MPFL reconstructions finally included for review
- MPFL reconstruction may provide favourable outcomes for PF instability
- No concensus with regard to choice of graft, graft position / tension, or static / dynamic rec.



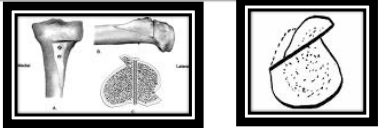
Tibial Tubercle Transfer

- Nakagawa et al 2002 Elmslie-Trillat procedure, N=45, FU 45 / 161 months, good/excellent result 91% / 64% , postop dislocations N=6, correlation between deg. changes / worse clinical results
- Comparable results reported in other studies (Carney AJSM 2005, Barber Arthroscopy 2008)



Tibial Tubercle Transfer

- Buuck and Fulkerson Op Tech Sports Med 2000: good / excellent results 74 % in 42 pts at mean 8.2 y FU
- Pidorianno AJSM 1997 :good/ excellent results 95 % in 36 pts (20 pts with PF instability), short/ medium FU
- Palmer CORR 2004, good/excellent results 80 % at 5.6y in 84 pts (55 % PF instability)



Tibial Tubercle Transfer

- Koëter JBJS 2007
- 30 pts at 2 y FU, good clinical results in all patients, no redislocations
- Transfer : medialisation ± distalisation



Prospective studies Trochleoplasty

- Several authors report on satisfactory results (small number of patients/ short FU)
- *Verdonk KSSSTA 2005 / Donell 2006 / Koeter KSSSTA 2007 / Utting 2008 / Schottle 2005*



Prospective studies Trochleoplasty

- Von Knoch 2006, trochleoplasty with medial reefing, ± MPFL reconstruction
- N=45, FU mean 8.3 y (range 4-14y)
- Good/excellent result (Kujala score 95), but no preop scores
- No redislocations
- Latest FU, OA grade 2 worse (according Iwano system) and 15 / 35 pts had progression of preoperative PF pain.

Conclusions

Recurrent rate after primary patellar dislocation is high, possibly due to osseous/soft tissue deformity

Primary patella dislocation could be treated conservatively (cast / brace / PT)

Operative treatment in cases of refixation of osteochondral fracture

In recurrent instability, treatment of osseous abnormalities should be considered (patella alta, TTD>15mm, trochlea dysplasia, rot. malalignment)

Without osseous abnormalities MPFL reconstruction (allograft/autograft) seems the best treatment

No indication to perform a isolated LR

Discussion

No gold-standard operation described

Normal TTD ? 15mm or 20mm?

Tension / position / knee flexion angle in MPFL reconstruction?

Long term result of trochleoplasty ?

Results of operative correction rotational malalignment ?

