



6th Advanced Course on Knee Surgery

January 31st – February 5th, 2016 Val d'Isère - France

Indications for MPFL Reconstruction *without dislocation*

Mike Carmont

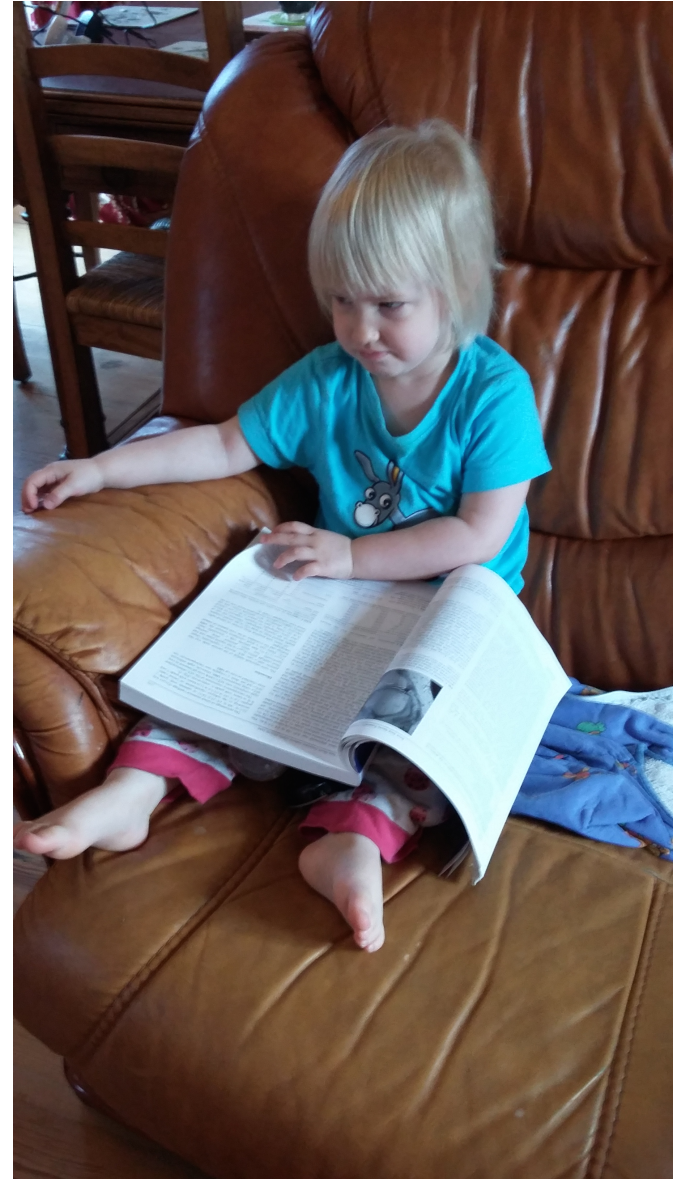


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Indications for Medial Patellofemoral Ligament Reconstruction: A Systematic Review

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(e-mail: dpeters@mcmaster.ca).

- *Recurrent patellar dislocation* most common isolated MPFL reconstruction 82.1%
- Reasons not performing isolated MPFL recon
 - Bony mal-alignment 51.8%
 - Trochlea dysplasia 30.4%
 - Patella Alta 23.2%

Yeung M et al. Indications for medial patellofemoral ligament reconstruction: a systematic review. J Knee Surg epub ahead of print

Indications for Medial Patellofemoral Ligament Reconstruction: A Systematic Review

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- Literature search 1029 articles
- Refined to 105 articles
- Indications MPFL unclear
 - *Symptomatic PF instability associated pain* 8.9%
 - *Positive physical examination findings* 16.1%
 - *Positive imaging studies* 8.9%

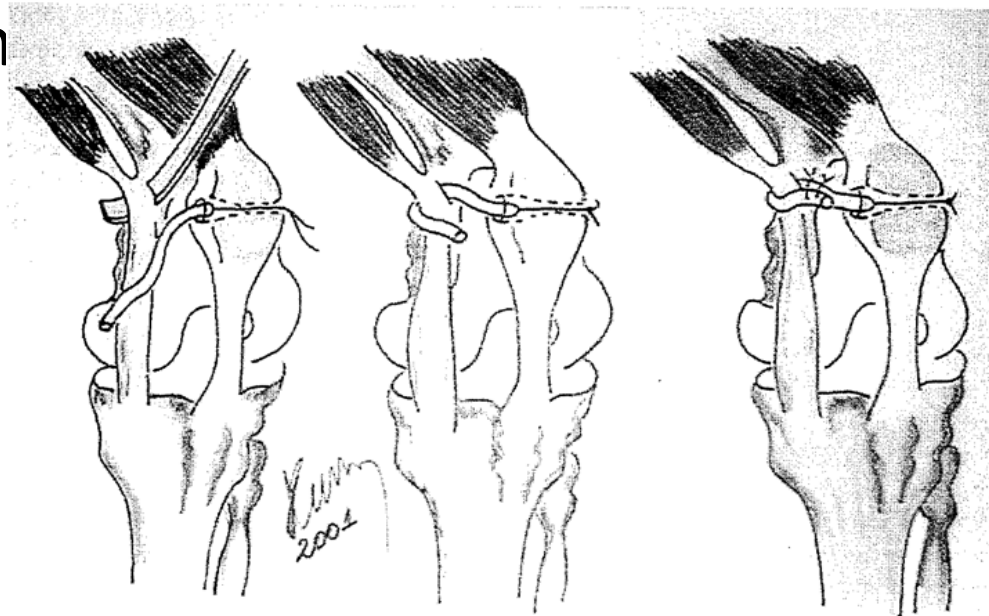
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Symptomatic PF instability associated pain

Medial Patellofemoral Ligament Reconstruction With Semitendinosus Autograft for Chronic Patellar Instability: A Follow-up Study

João Luiz Ellera Gomes, M.D., Ph.D., Luiz Roberto Stigler Marczyk, M.D., M.Sc.,
Paulo César de César, M.D., and Carlos Francisco Jungblut, M.D.

- 1992-1996
- 15 patients 16 knees
- >5yrs
- Dislocation/Subluxation
 - +ve Apprehension test
- Crosby Insall 15 Ex/
Good
- Absence pain, normal
tracking & -ve
Apprehension test



Symptomatic PF instability associated pain

The Docking Technique for Medial Patellofemoral Ligament Reconstruction

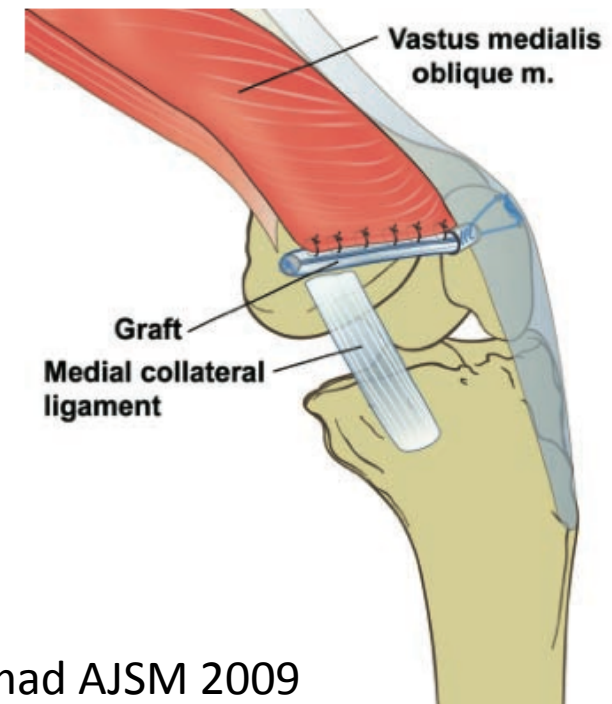
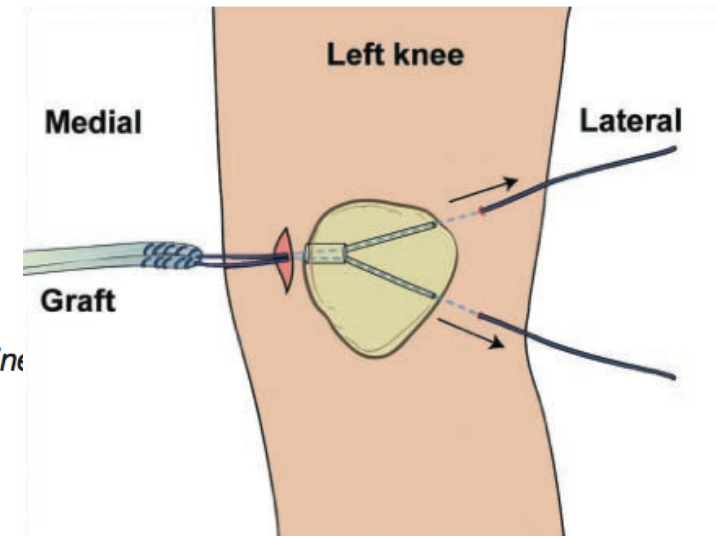
Surgical Technique and Clinical Outcome

Christopher S. Ahmad,^{*,†} MD, Gabriel D. Brown,[†] MD, and Beth Shubin Stein,[‡] MD
From [†]Department of Orthopaedic Surgery, Center for Shoulder, Elbow, and Sports Medicine, Columbia University, New York, New York, and the [‡]Hospital for Special Surgery, New York, New York

- 20 patients- heterogenous
 - 2 recurrent subluxation with pain
 - No episodes subluxation
 - Trans 3.5>1.5 P<0.001

TABLE 4
Subjective Knee Evaluation Questionnaires^a

	Preoperative	Postoperative
IKDC	42.1	82.3
Kujala	49.9	88.2
Lysholm	49.5	88.7
Tegner	3.6	5.6



Ahmad AJSM 2009

Symptomatic PF instability associated pain



■ KNEE

Medial patellofemoral ligament reconstruction for patellar instability in patients with hypermobility

A CASE CONTROL STUDY

**N. R. Howells,
J. D. Eldridge**

Hypermobility is an acknowledged risk factor for patellar instability. In this case control study the influence of hypermobility on clinical outcome following medial patellofemoral

- Case control study
 - Hyper-mobility with instability and instability
 - 25:50 patients, 25 yrs, follow up 15 months
 - Joint hypermobility not contra-indication to recon and improved significantly but not as much as controls
 - Higher on-going & recurrent symptoms

Symptomatic PF instability associated pain



■ KNEE

Medial patellofemoral ligament reconstruction

A PROSPECTIVE OUTCOME ASSESSMENT OF A LARGE SINGLE CENTRE SERIES

N. R. Howells,
A. J. Barnett,
N. Ahearn,
A. Anšari,
J. D. Eldridge

We report a prospective analysis of clinical outcome in patients treated with medial patellofemoral ligament (MPFL) reconstruction using an autologous semitendinosus graft. The technique includes superolateral portal arthroscopic assessment before and after graft placement to ensure correct graft tension and patellar tracking before fixation. Between October 2005 and October 2010, a total of 201 consecutive patients underwent

- 2005-2010, 201 patients
- 193 patients (26yrs) followed up 16months
- Indications
 - Atraumatic recurrent dislocation 141
 - Traumatic recurrent dislocation 50
 - Pain with subluxation 14
 - Single dislocation & persistent instability 4
- Endobutton & femoral screw
- No recurrent
- 5 metalwork removal
- IKDC 75
- Kujala 81
- No difference outcome based indications

Howells JBJS 2012

Symptomatic PF instability associated pain

- 19 patients
- Indications
 - Symptomatic patella instability recurrent subluxations
 - Increased lateral translation
 - +ve Apprehension sign
- 16months
 - Kujala 92
 - Tegner 5
 - 89% satisfied/very satisfied
 - 95% Good/Excellent

Anatomical two-bundle medial patellofemoral ligament reconstruction with hardware-free patellar graft fixation: technical note and preliminary results

Stefan Hinterwimmer · Andreas B. Imhoff ·
Philipp Minzlaff · Tim Saier · Nikolaus Rosenstiel ·
Wolfried Hawe · Matthias J. Feucht



Hinterwinner KSSTA 2013

Symptomatic PF instability associated pain

A minimally invasive medial patellofemoral ligament arthroscopic reconstruction

Jian-Wei Zhou · Cheng-Hai Wang ·
Gang Ji · Long-Fei Ma · Juan Wang ·
Feng Zhang · Jiang-Tao Dong · Fei Wang

- 2008-2010
- 32 patients, 21yrs
- Indications- recurrent lateral patellar instability
- 2 transverse patella tunnels
- Followed up 18months
- Kujala 63 > 91
- 93% Excellent/Good



Zhou Euro J Orthop Surg Traumatol 2014

Positive clinical examination findings

Patellar Instability Factors in Isolated Medial Patellofemoral Ligament Reconstructions—What Does the Literature Tell Us?

A Systematic Review

Marc A. Tompkins,^{*†} MD, and Elizabeth A. Arendt,^{*†‡} MD

Investigation performed at University of Minnesota, Minneapolis, Minnesota, USA

- 24 studies
- Lateral patella translation 42%
 - Apprehension sign 9
 - Quadrant translation 7
- Patella height 75%
- Trochlea dysplasia 83%
- TT TG 42%
- Homogenous populations 67%
- Heterogenous population 33%



Positive physical examination findings

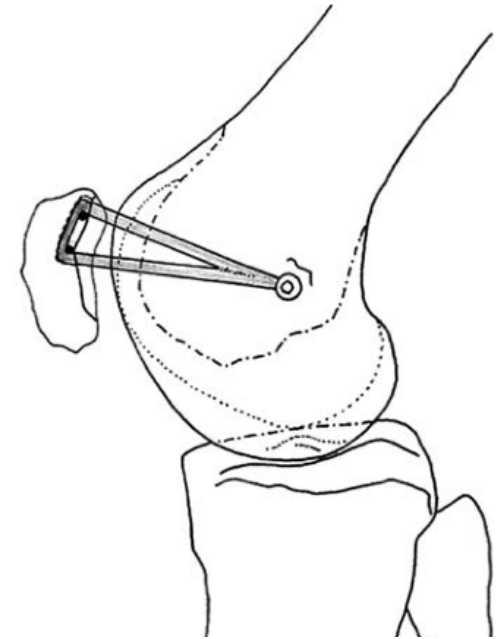
Knee Surg Sports Traumatol Arthrosc
(2005) 13: 516–521

KNEE

DOI 10.1007/s00167-005-0659-0

PB Schöttle
SF Fucentese
J Romero

Clinical and radiological outcome of medial patellofemoral ligament reconstruction with a semitendinosus autograft for patella instability



- 15 knees
 - 8F
 - Mean age 30yrs
- Indications
 - ≥ 2 dislocation
 - 1 dislocation & +ve Apprehension sign
- 8 TTTG $> 15\text{mm}$ $>$ transfer
- Subjective
 - 86% excellent /good
- Kujala $53.3 > 85.7$ $P < 0.001$
- Apprehension $14 > 3$

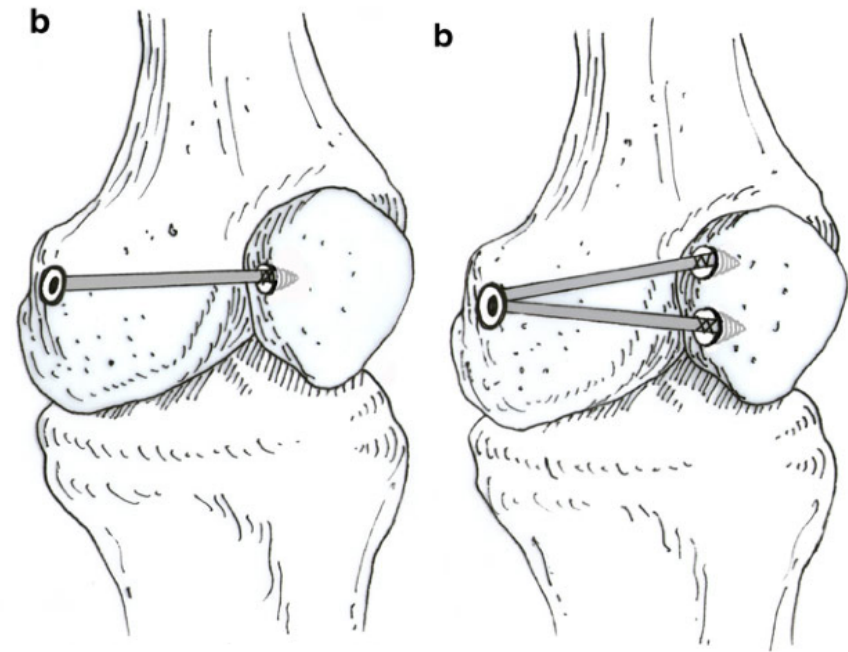
Schöttle KSSTA 2005

Symptomatic PF instability associated pain & +ve physical findings

- Retrospective cohort comparison study
- 2004-2008
- Single bundle n=21, 14F
- Double bundle n=37, 21F
- Followed up 12 month
- S Kujala 57 > 87
- D Kujala 61 > 91
- No re-dislocations, no apprehension sign

Double-bundle anatomical versus single-bundle isometric medial patellofemoral ligament reconstruction for patellar dislocation

Cheng-hai Wang • Long-fei Ma • Jian-wei Zhou •
Gang Ji • Hao-yu Wang • Fei Wang • Juan Wang

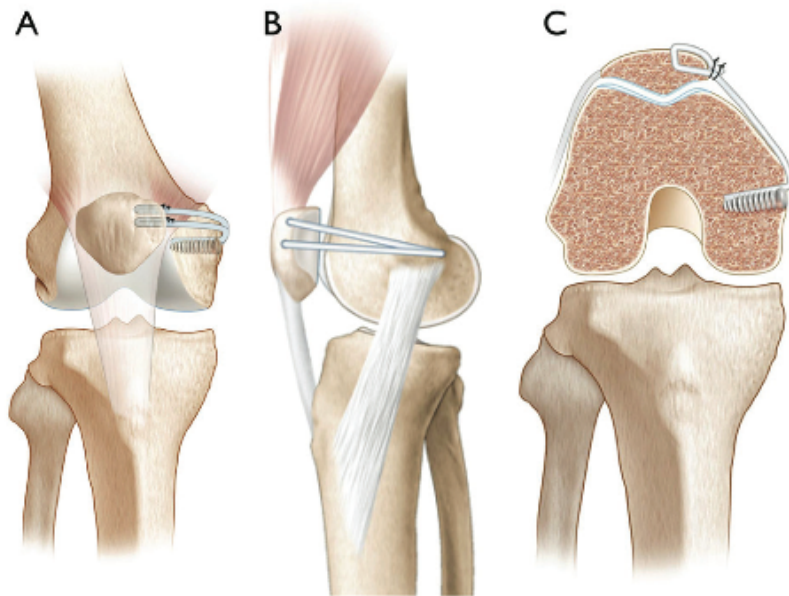


Positive physical examination findings

Femoral Tunnel Enlargement After Medial Patellofemoral Ligament Reconstruction

Prevalence, Risk Factors, and Clinical Effect

Jean-Baptiste Berard,* MD, Robert A. Magnussen,^{†‡} MD, Grégoire Bonjean,* MD, Soner Ozcan,[§] MD, Sebastien Lustig,* MD, PhD, Philippe Neyret,* MD, and Elvire Servien,* MD, PhD
Investigation performed at Hôpital de la Croix-Rousse, Lyon, France



Berard AJSM 2013

- 59 patients, 37F
- Cohort comparison study tunnel enlargement vs. no enlargement
- +ve Apprehension sign
- 60% knees 3.7 yrs
- IKDC 83
- No difference +ve App test

Positive imaging studies

MRI but not arthroscopy accurately diagnoses femoral MPFL injury in first-time patellar dislocations

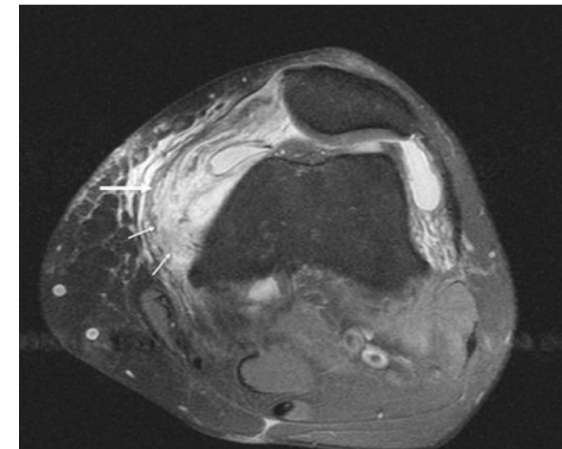
Peter Balcarek · Tim Alexander Walde ·
Stephan Frosch · Jan Philipp Schüttrumpf ·
Martin Michael Wachowski · Klaus Michael Stürmer

Table 1 Classification of MPFL injury patterns according to Balcarek et al. [2]

Type I	MPFL tear at the patellar insertion
Type II	MPFL midsubstance injury
Type III	MPFL tear at the femoral origin
Type IV	Combined injury

- 10 patients MRI then Ax
- Concluded MRI pre-primary repair

Balcarek KSSTA 2012

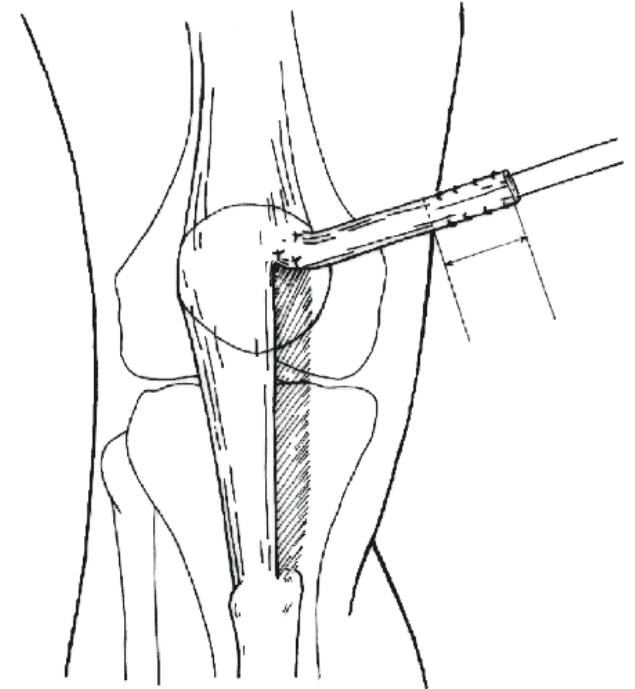


Positive imaging studies

Traumatic Patellar Dislocation

Nonoperative Treatment Compared With MPFL Reconstruction Using Patellar Tendon

Alexandre Carneiro Bitar,^{*†} MSc, Marco Kawamura Demange,[‡] MSc,
Caio Oliveira D'Elia,[†] MSc, and Gilberto Luis Camanho,[‡] PhD
Investigation performed at Instituto Vita and IOT-HCFMUSP, São Paulo, Brazil



- 39 patients Mean 24.2yrs
- MRI confirmation of diagnosis \pm chondral/loose bodies
- Randomized
 - Non-op & Pty
 - MPFL Recon & Pty
- 2 year follow up
- MPFL 88.8 vs 70.8 Kujala ($P < 0.001$)
- No dislocations vs. 4 recurrences & 3 subluxations
- MPFL 71.4% excellent/good

Bitar AJSM 2012

Summary isolated MPFL produces good results

- Symptomatic recurrent instability
- Positive clinical findings
 - Apprehension test
- Positive imaging findings
 - MRI based MPFL injury
- Excluding bony mal alignment, trochlea dysplasia & patella alta



Merci de votre
attention