

# Patellar Instability: Make It Simple



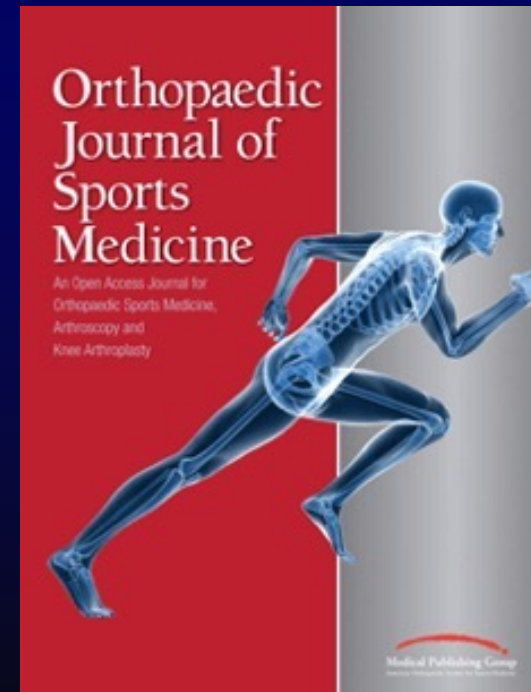
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University of New Mexico**

# Disclosures

- **Fellowship Support**
  - **Arthrex**
- **Editorial Board**
  - **AJSM**
  - **J of Knee Surgery**
- **Board of Directors**
  - **ISAKOS**

## Associate Editor



# Patellar Dislocation

**Incidence**  
**5.8/100,000/year**

**Younger**  
**More Active**



# Recurrent Instability

**Recurrence Rates**

**15 - 80%**

**After 2<sup>nd</sup> Dislocation**

**> 50%**



**Fithian, AJSM 2004**  
**Palmu, JBJS 2008**

# Forces Acting on Patella

## Lateral Forces

Quad Tendon

Patellar Tendon

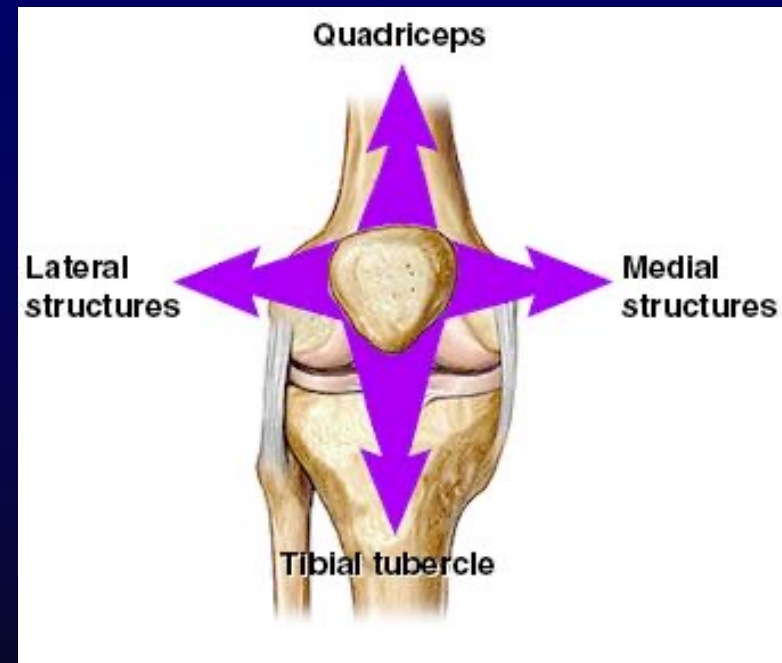
Lateral Retinaculum

## Medial Forces

MPFL

VMO

Trochlea



# Risk Factors for Patella Instability

**Trochlear Dysplasia**

**Elevated TT-TG**

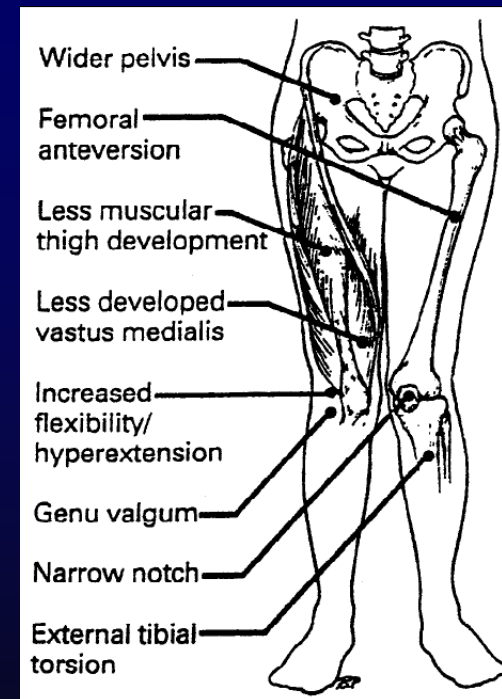
**Patella Alta**

**Tight Lateral Retinaculum**

**Valgus Alignment**

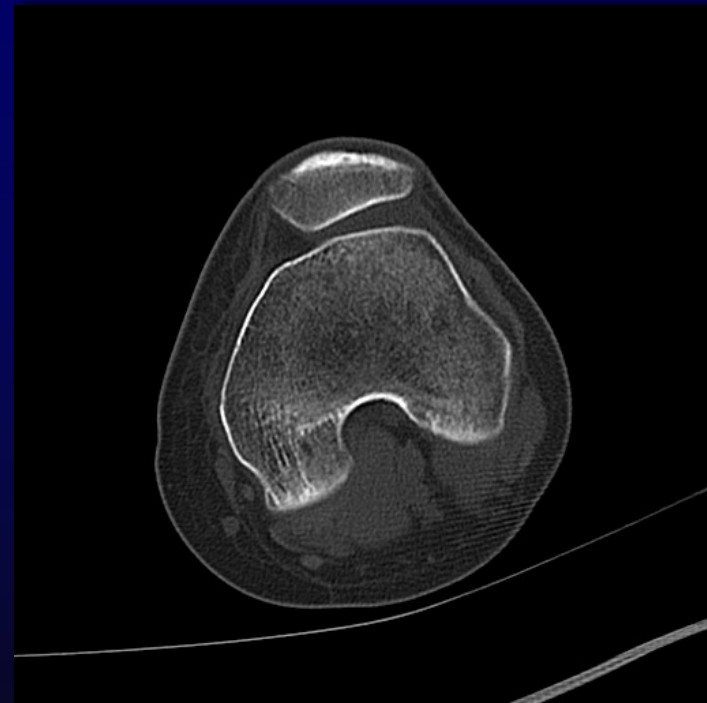
**Femoral Anteversion**

**External Tibial Torsion**



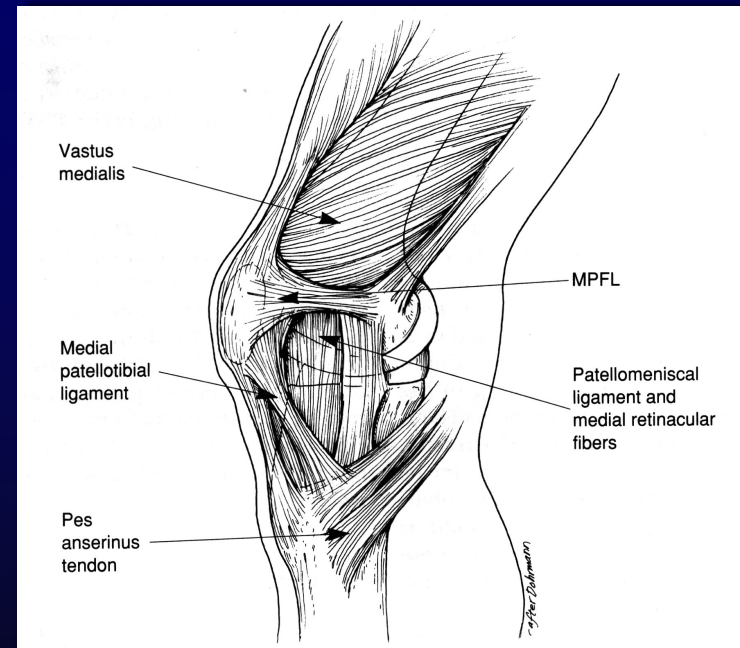
# Trochlear Dysplasia

Occurs in  
96% of Patients  
With Patellar Instability  
Vs.  
3% of Controls



# MPFL Injury

MPFL is Torn in  
100% of Patients  
With Patellar  
Dislocation  
Patella > Femur

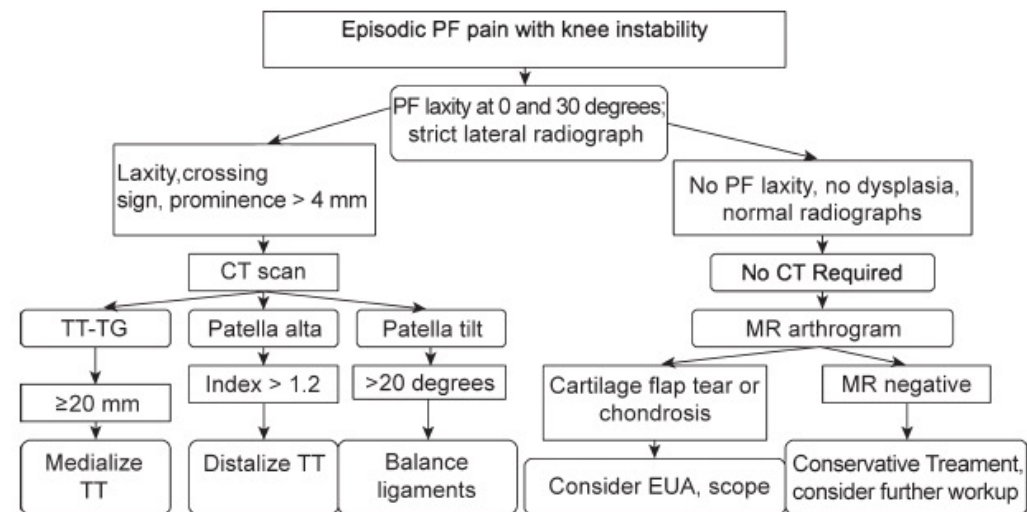




# “A la Carte” Surgery

## Patellar instability: the Lyon experience

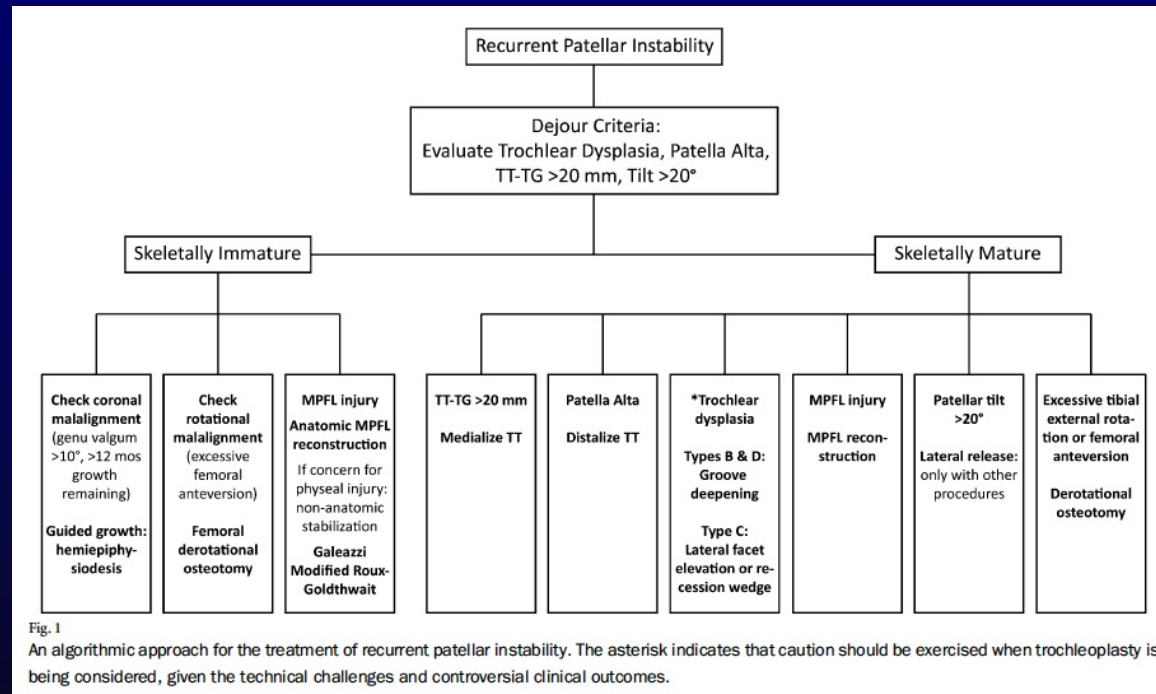
Donald C. Fithian<sup>a</sup>, Philippe Neyret<sup>b</sup> and Elvire Servien<sup>b</sup>



Fithian, Curr Ortho Prac 2008

# An Algorithmic Approach to the Management of Recurrent Lateral Patellar Dislocation

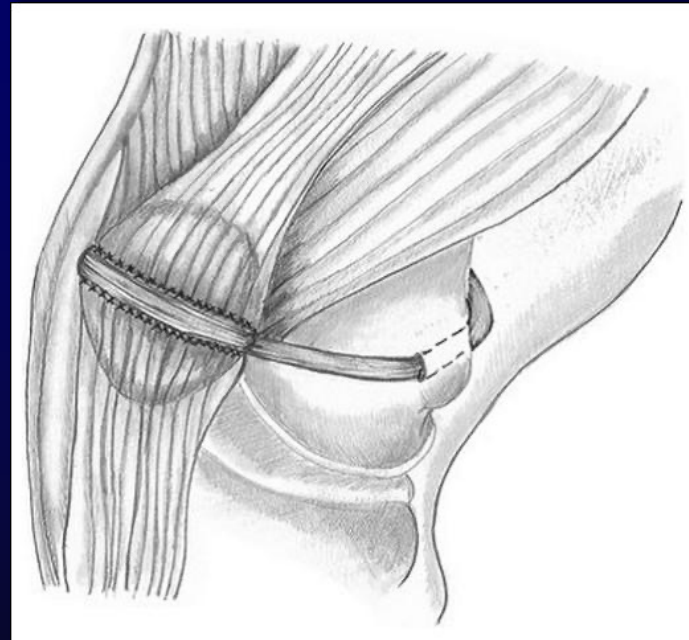
Alexander E. Weber, MD, Amit Nathani, MD, Joshua S. Dines, MD, Answorth A. Allen, MD, Beth E. Shubin-Stein, MD, Elizabeth A. Arendt, MD, and Asheesh Bedi, MD



Weber, JBJS 2016

# Surgical Treatment

The Past 10 Years  
Has Seen a Trend  
In the USA  
To Perform  
Isolated MPFL Surgery  
To Treat  
Patellar Instability



# Important Principle

The Vast Majority  
Of Patients With  
Recurrent Instability  
Were Stable  
**UNTIL**  
They Tore Their MPFL



# MPFL Reconstruction

Allograft or Autograft  
Gracilis or Semi-T

Two Suture Anchors  
In Patella

Tunnel In Femur



# MPFL Reconstruction

## Is Diagnostic Arthroscopy at the Time of Medial Patellofemoral Ligament Reconstruction Necessary?

Christopher L. Shultz,<sup>\*†</sup> MD, Samuel N. Schrader,<sup>‡</sup> BS, Benjamin D. Packard,<sup>†</sup> MD,  
Daniel C. Wascher,<sup>†</sup> MD, Gehron P. Treme,<sup>†</sup> MD, and Dustin L. Richter,<sup>†</sup> MD

*Investigation performed at the Department of Orthopaedics & Rehabilitation, University of New Mexico Health Sciences Center, Albuquerque, New Mexico, USA*

**37 No Scope**  
**41 With Diagnostic Scope**  
**23 Targeted Scope**

**Kujala Scores  
Higher Without Scope**

**No Differences in  
Recurrence or  
Complications**

**Shultz, OJSM 2020**

# Isolated MPFL Reconstruction

## Clinical Outcomes After Isolated Medial Patellofemoral Ligament Reconstruction for Patellar Instability Among Patients With Trochlear Dysplasia

Joseph N. Liu,<sup>\*†</sup> MD, Jacqueline M. Brady,<sup>‡</sup> MD, Irene L. Kalbian,<sup>§</sup> BA, Sabrina M. Strickland,<sup>||</sup> MD, Claire Berdelle Ryan,<sup>¶</sup> MD, Joseph T. Nguyen,<sup>#</sup> MPH, and Beth E. Shubin Stein,<sup>||</sup> MD

*Investigation performed at Hospital for Special Surgery, New York, New York, USA*

**121 Patients**  
**Mean f/u 44 Months**  
**92% Trochlear Dysplasia**  
**Most Had TT-TG  $\leq$  20**  
**Most Had C=D  $\leq$  1.4**

# Isolated MPFL Reconstruction

**Kujala Score**

**55 ⇒ 90**

**Return to Sport**

**94.5%**

**2.5% Recurrence**

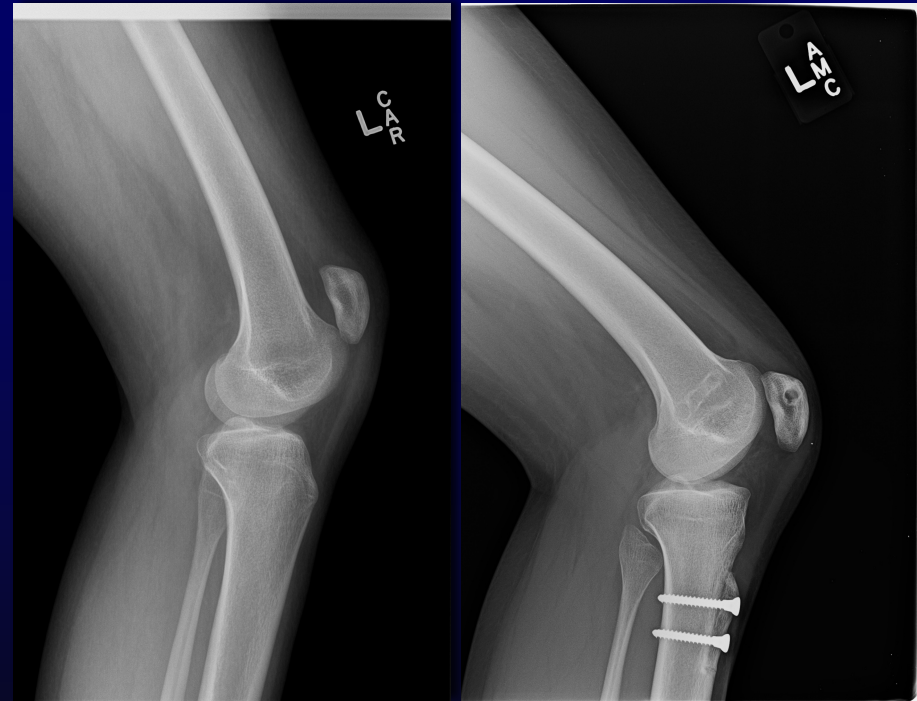
**TABLE 2**  
Patient-Reported Outcome Measures<sup>a</sup>

	Score, Mean (SD)		<i>P</i> Value <sup>b</sup>
	Preoperative	Postoperative	
Kujala	55.0 (23.1)	90.0 (11.8)	<.001
TT-TG <15	56.0 (26.4)	85.7 (16.0)	<.001
TT-TG ≥15	60.7 (20.4)	91.5 (10.3)	<.001
CD <1.2	57.7 (23.8)	87.9 (12.7)	<.001
CD ≥1.2	58.7 (25.8)	87.4 (17.5)	.001
Dejour normal/A	69.3 (22.5)	89.4 (11.1)	.052
Dejour B	60.5 (22.4)	92.9 (7.0)	<.001
Dejour C	55.1 (20.9)	86.1 (17.2)	<.001
Dejour D	51.8 (24.8)	90.3 (10.6)	<.001



# Isolated MPFL Reconstruction

What About  
Patients With  
Patella Alta  
Or  
 $TT-TG > 20$  mm??



# Isolated MPFL Reconstruction

## Isolated Medial Patellofemoral Ligament Reconstruction for Patellar Instability Regardless of Tibial Tubercle–Trochlear Groove Distance and Patellar Height

### Outcomes at 1 and 2 Years

Brandon J. Erickson,<sup>\*†</sup> MD, Joseph Nguyen,<sup>‡</sup> BS, Katelyn Gasik,<sup>‡</sup> ATC, Simone Gruber,<sup>‡</sup> MS, Jacqueline Brady,<sup>§</sup> MD, and Beth E. Shubin Stein,<sup>‡</sup> MD  
*Investigation performed at Hospital for Special Surgery, New York, New York, USA*

**90 Patients**

**Mean f/u 2.2 Years**

**Excluded Patients With Daily Pain > 50%**

# Isolated MPFL Reconstruction

14 Patients With  
TT-TG > 20 mm

Kujala Score  
62  $\Rightarrow$  89

25 Patients With  
C-D > 1.2

Return to Sport  
90%

1% Recurrence

# Isolated MPFL Reconstruction

Patella alta is reduced following MPFL reconstruction but has no effect on quality-of-life outcomes in patients with patellofemoral instability

Laurie Anne Hiemstra<sup>1,2</sup>  · Sarah Kerslake<sup>1</sup>  · Mark R. Lafave<sup>3</sup>  · Allison Tucker<sup>4</sup>

**283 Patients**  
**Decrease in Patellar Height**  
**Effect Was Greatest in Those With Patellar Alta**  
**CD  $\geq 1.2$**   
**22.7%  $\Rightarrow$  9.2%**

# Recent Systematic Review

## Return to Sport After Medial Patellofemoral Ligament Reconstruction



### A Systematic Review and Meta-analysis

Brooks N. Platt,<sup>\*</sup> MD, Lucy C. Bowers,<sup>\*</sup> BS, Justin A. Magnuson,<sup>\*</sup> BA, Sean M. Marx,<sup>\*</sup> MD, Joseph N. Liu,<sup>†</sup> MD, Jack Farr,<sup>‡</sup> MD, and Austin V. Stone,<sup>\*§</sup> MD, PhD  
*Investigation performed at University of Kentucky, Lexington, Kentucky, USA*

**23 Studies**

**930 Patients**

**Isolated MPFL = 95%**

**MPFL + TTO = 87%**

**Platt, AJSM 2022**

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# Rebuttal

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# Isolated MPFL Reconstruction

## A Series of 211 Reconstructions With a Minimum Follow-up of 3 Years

Elliot Sappey-Marinier,<sup>\*†</sup> MD, Bertrand Sonnery-Cottet,<sup>†</sup> MD, Padhraig O'Loughlin,<sup>†</sup> MD,  
Herve Ouanezar,<sup>†</sup> MD, Levi Reina Fernandes,<sup>†</sup> MD, Biova Kouevidjin,<sup>†</sup> MD,  
and Mathieu Thaunat,<sup>†</sup> MD

*Investigation performed at Centre Orthopédique Santy, Hopital Privé Jean Mermoz,  
Groupe Ramsay-Generale de Santé Lyon, France*

**211 Patients**

**Mean f/u 5.8 Years**

**Kujala 56  $\Rightarrow$  89**

**4.7% Recurrence**

**C-D  $\geq$  1.3 is a Risk Factor**

# Advantages of Isolated MPFL

**Quicker Rehabilitation**

**Earlier Return to Activity**

**No Violation of Joint**

**No Risk of Fracture**





# My Approach

**Isolated MPFL  
For the Vast Majority  
Of Patients  
With Recurrent  
Patella Instability**



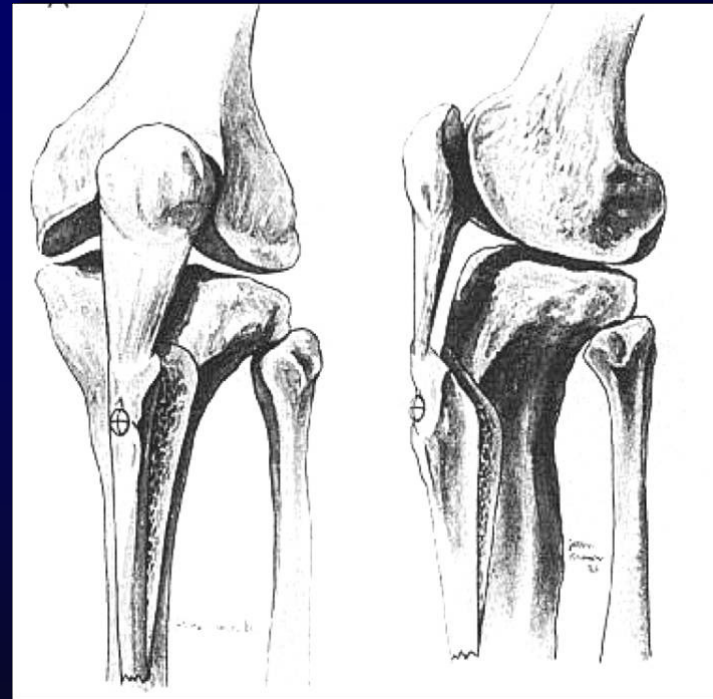
# My Approach

Tibial Tubercle  
Distalization  
For  
 $C-D > 1.3$



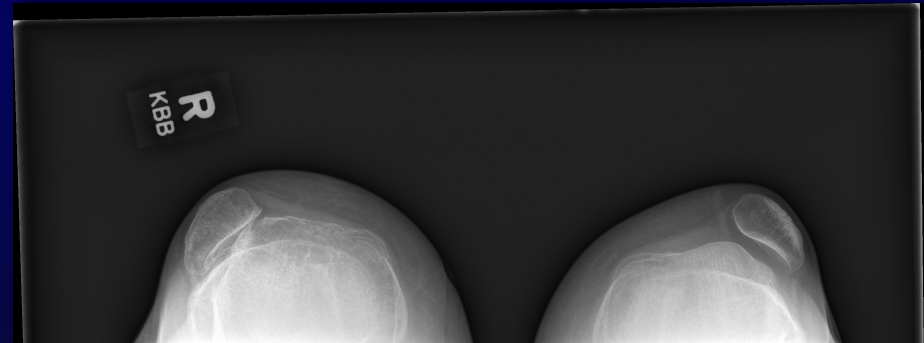
# My Approach

**Tibial Tubercle  
Anteromedialization  
For Those  
With Significant  
Pain or Arthritis**



# My Approach

**Lyon a la Carte  
Approach  
For Those  
With Chronically  
Dislocated  
Patella**



# Conclusion



# Merci Beaucoup!!

