

Is There Still A Place For Patellectomy?



Daniel C. Wascher, M.D.
University of New Mexico

Disclosures

Fellowship Support – Arthrex

Fellowship Support – Smith & Nephew

**Associate Editor – Orthopaedic
Journal of Sports Medicine**

**Editorial Board – American Journal of
Sports Medicine**

Editorial Board – Journal of Knee Surg.

Patellectomy

**“A Well-Done
Patellectomy
Is Better Than
A Bad Patella”**

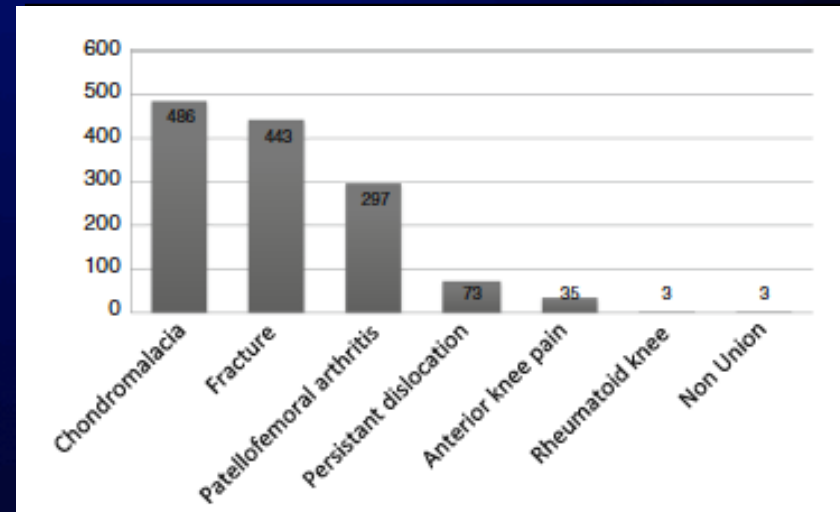


Ficat & Hungerford, 1977

Advantages

Pain Relief

69%
“Good or Excellent”
In Recent
Systematic Review



Cavaignac, KSSTA 2014

Advantages

**Better Long-Term
Pain Relief
In Patients
With Fracture
Or
“Anterior Knee Pain”**

Table II. Number (percentage) of patients who experienced symptoms at follow-up after patellectomy

	Anterior knee pain (n=52)	Osteoarthritis (n=25)	Fracture (n=6)
Severe pain	4 (8)	12 (48)	0 (0)
Crepitus	15 (29)	5 (20)	1 (17)
Swelling	29 (56)	14 (56)	1 (17)
Giving way	34 (65)	12 (48)	3 (50)

Lennox JBJS-B 1994

Disadvantages of Patellectomy

Weakness

Instability

Future TKA Results

Cosmesis



Gunal, CORR 2001

Weakness

**Full Extension
Requires 30%
Increase in
Quadriceps Force**

**Most Patients
Had Weakness/Lag**



**Kaufer, JBJS 1971
Sutton, JBJS 1976
Watkins, JBJS 1983**

Weakness

**Loss of Mechanical
Advantage**

**Loss of Quadriceps
Musculature**

**30-40% Loss of
Strength**

17 Yr F/U

	Operated knee	Normal knee	Percentage difference
Concentric torque (Nm)	81 (55)	118 (60)	30
Eccentric torque (Nm)	107 (58)	164 (85)	35
Concentric work (J)	156 (122)	253 (159)	38
Eccentric work (J)	212 (107)	339 (233)	37
Concentric angle (degrees)	60 (19)	60 (13)	
Eccentric angle (degrees)	54 (17)	54 (15)	

Lennox, JBJS-B 1994

Advanced Techniques

Tendon

Advancement

Moderate Decrease
In Quad Function

Tendon Shortening

Mean Lyshom = 77

Better Results With

Reinforcement



Ziran, CORR 1994

Asopa, JOSR 2015

Cavaignac, KSSTA 2014

Instability

**Patellectomy
Performed
When There Is
Trochlear Dysplasia
Can Result in
Extensor Mechanism
Instability**



Ackroyd, Knee 2004

Effect on Future TKA

**Worse Function
In TKA Patients
With Prior
Patellectomy**

KSS 137 vs 161



Yao, CORR 2013

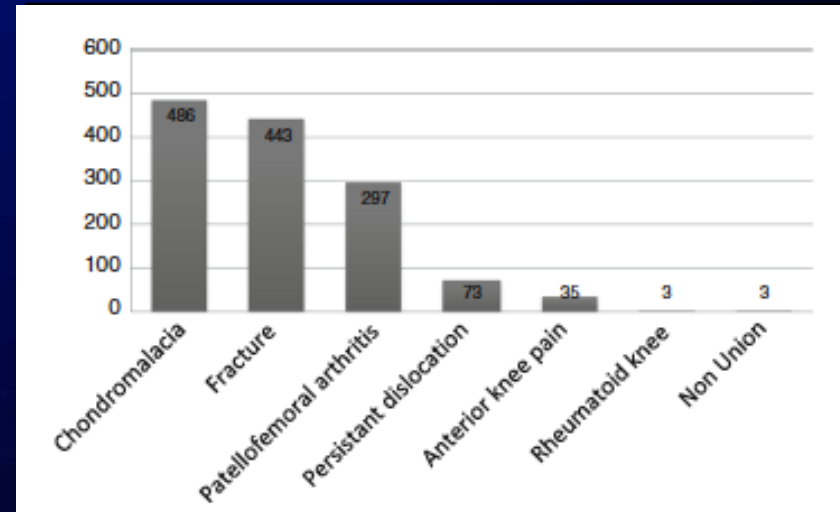
Cosmesis

**Not Frequently
Discussed in
Articles
But Often
A Concern for
Patients**



Indications for Patellectomy

Pat-Fem Arthritis
Comminuted Fxs
Chondromalacia
Pat-Fem Instability
Fracture Post TKA
Infection
Tumors



The Real Question

**Are There
Other Options
That Are Better
Than a
Well-Done
Patellectomy?**



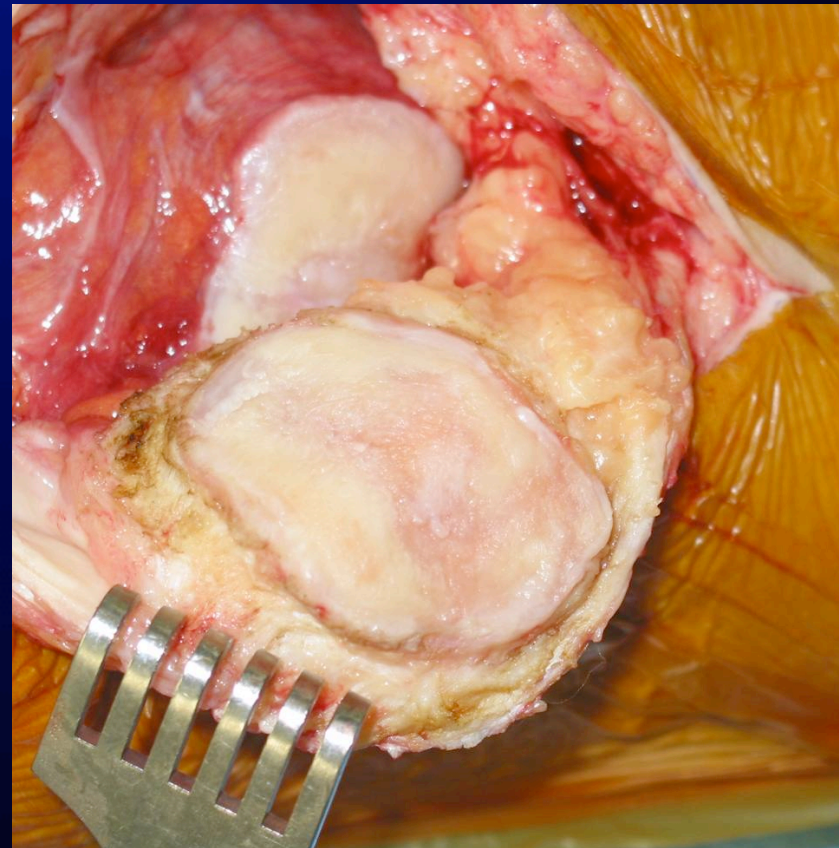
Patellofemoral Arthritis

Lateral Facetectomy

Anteromedialization

Pat-Fem Arthroplasty

TKA

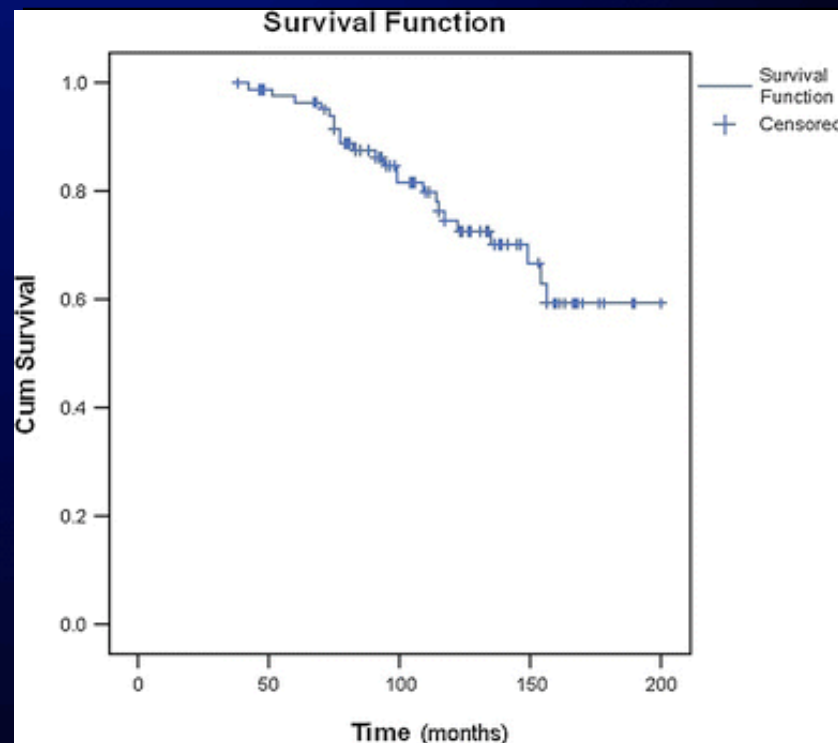


Lateral Facetectomy

**Mean Survival
13 Years**

Tibiofemoral Arthritis

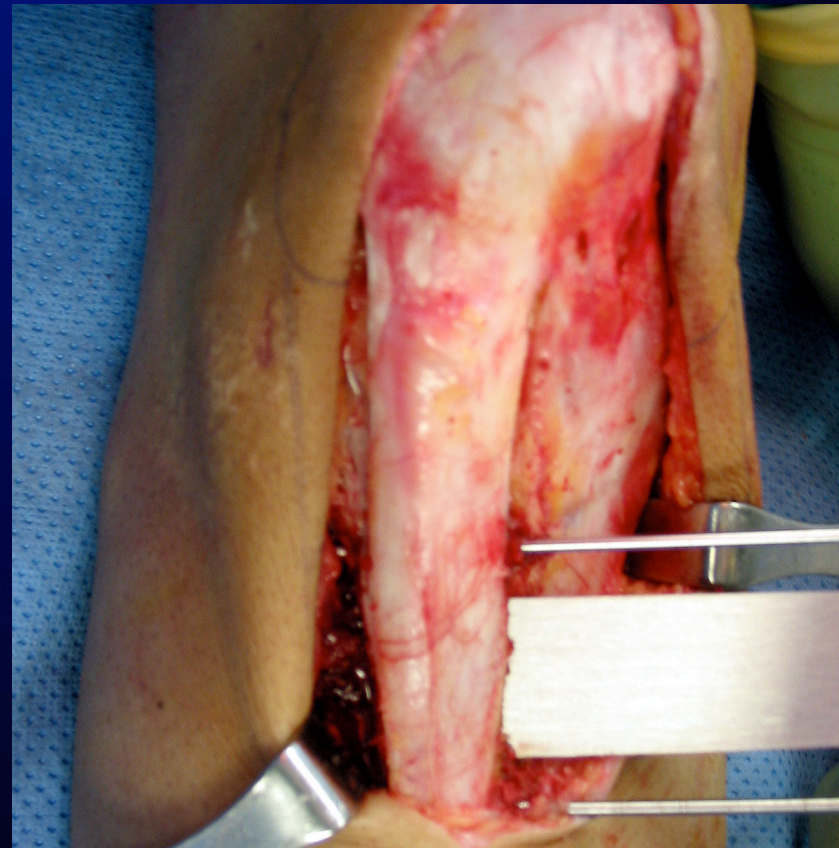
**Easily Converted
To TKA or PFA**



Yercan, Clin Orthop 2005
Montserrat, KSSTA 2014

Anteromedialization

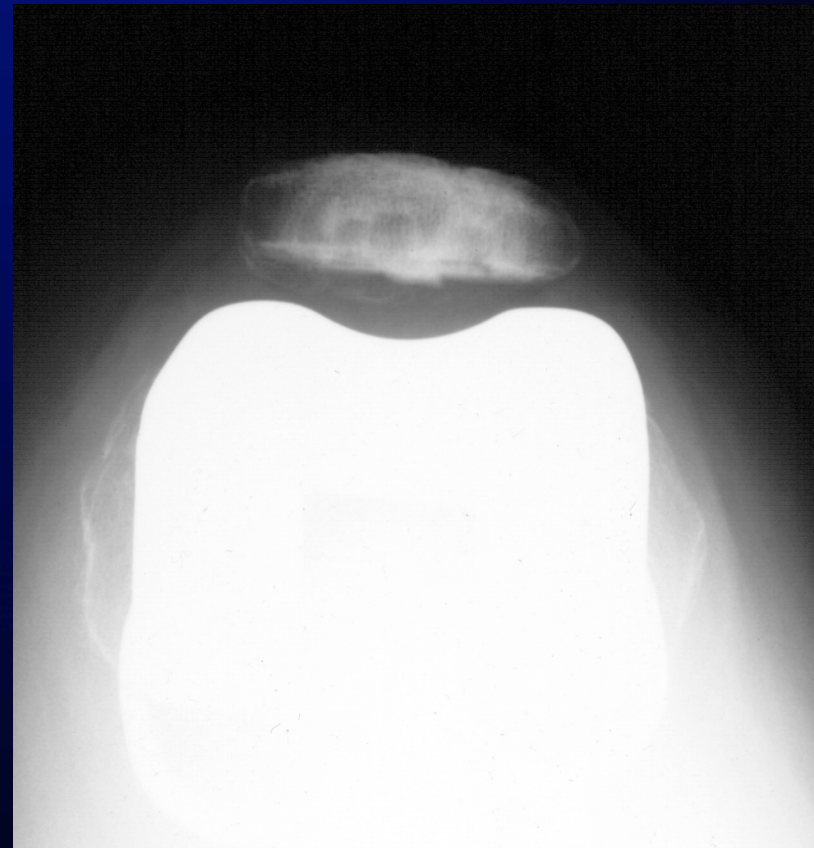
**Sliding
Osteotomy
Transfers Tubercle
Anterior and
Medial Shifts
Loads Superior
And Medial**



Fulkerson, AJSM 1990

Total Knee Arthroplasty

**Provides
Good Pain Relief
And
Improved Function
In Most Patients
> 55 y.o.**



Laskin, Clin Orthop 1999

Total Knee Arthroplasty



Parvizi, Clin Orthop 2001
Mont, J Bone Joint Surg 2002

Patellofemoral Arthroplasty

**0 – 15% Revision
At 5 - 7 Years**

**20 – 30%
Tibiofemoral Arthritis**

**Results Better
In Trochlear Dysplasia**



**Nicol, Knee 2006
Ackroyd, JBJS-B 2007
Odumenya, JBJS-B 2010
Dahm, KSSTA 2014**

Patellar Arthroplasty (PFA) vs. TKA

Equal Pain Relief

**Higher Function
&
Less Morbidity
In PFA**



Dahm, Am J Ortho 2010

Comminuted Fractures

Cerclage Wiring

Partial Patellectomy

Patellar Ring

Mesh Plate



Liu, Eur J Ortho Surg Trauma 2013
Taylor, J Ortho Trauma 2014

Mesh Plate

**Low-Profile
Locking Plate
2.4 or 2.7 mm Screws**

**Early Results are
Promising**



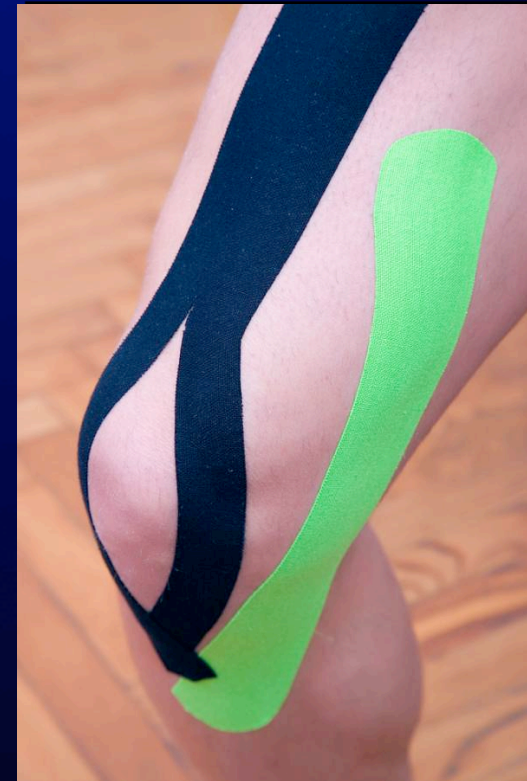
**Taylor, J Ortho Trauma 2014
Lorich, J Ortho Trauma 2015**

Chondromalacia

Rehabilitation

Rehabilitation

Rehabilitation



Busch, Clin Sports Med 1989

Lack, Sports Med 2014

Patellofemoral Instability

MPFL

Reconstruction

Tubercle Transfer

Trochleoplasty

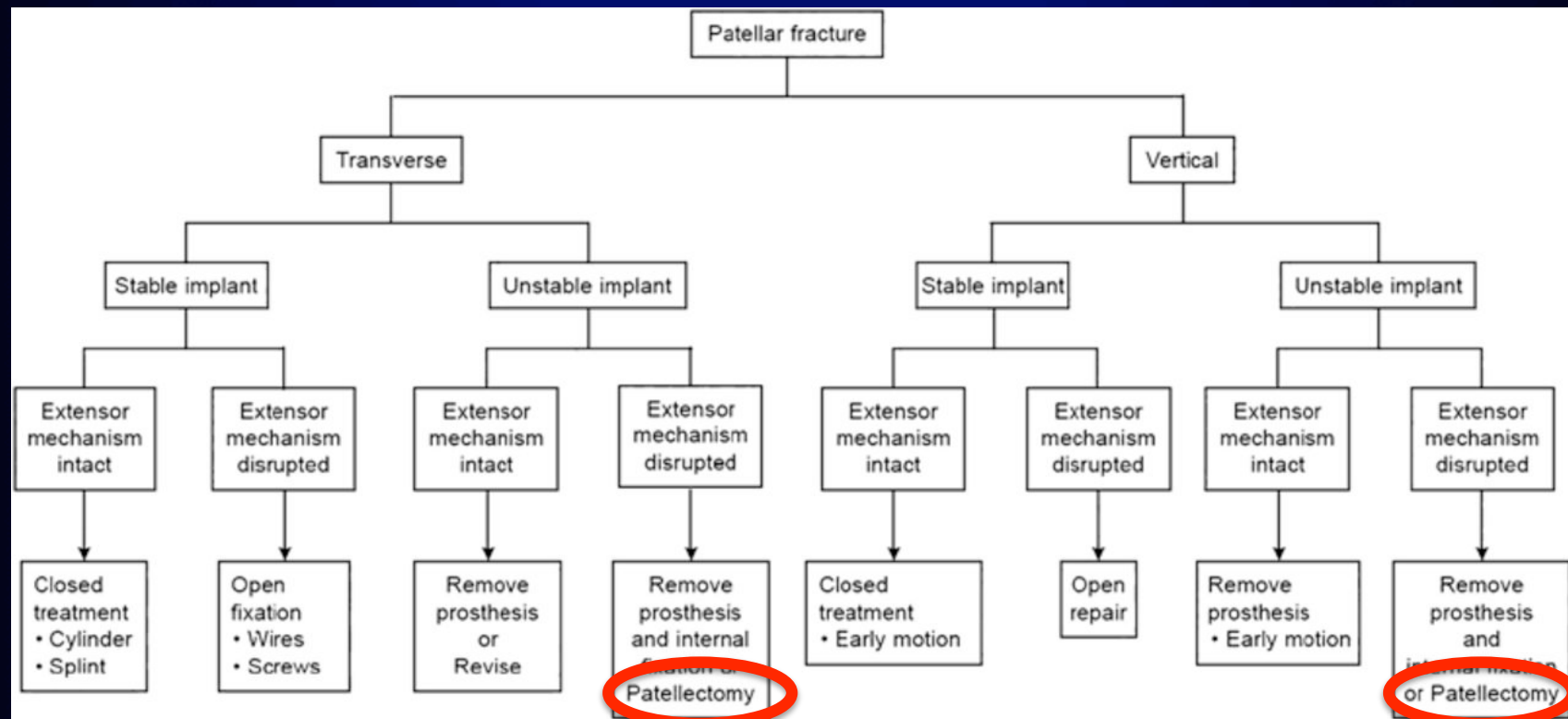


Banke, KSSTA 2014

Williams, Arthroscopy 2016

Sanchis-Alfonso, Sports Health 2016

Fracture Post-TKA



Parker, JAAOS 2003
Nam, JBJS 2014

Infection

**Majority of
Case Reports
Are of TB**

**Majority Treated
Successfully With
Anti-TB Therapy**



Mittal, Knee 2006

Goyal, Bull Hosp Jt Dis 2013

Tumore

Majority are Benign

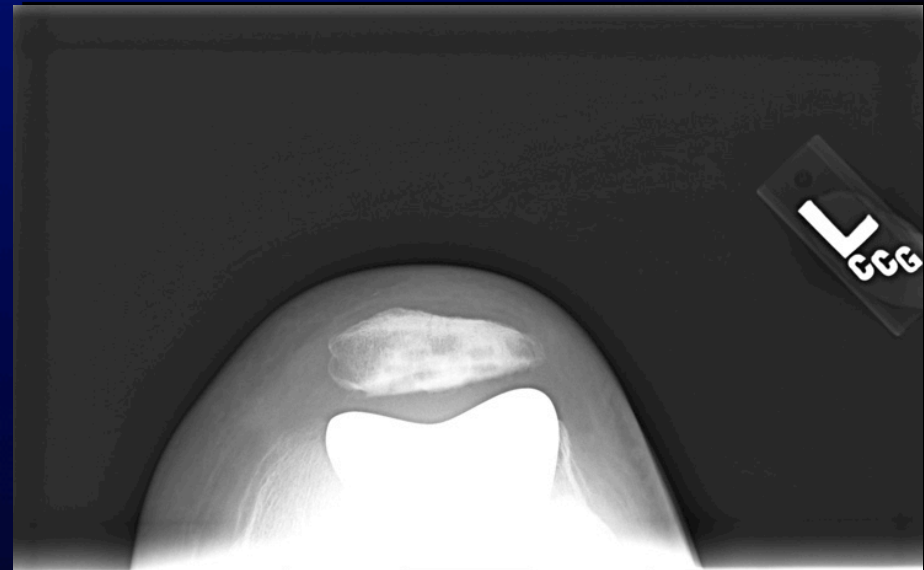
**Giant Cell Tumor and
Malignant Tumors
May Require
Patellectomy**



**Mercuri, CORR 1991
Bhagat, J Knee Surg 2008**

Take Home Point

**There Are
Much Better
Alternatives to
Patellectomy
For Almost
All Indications**



Take Home Point

**Patellectomy
Should Be
Reserved Only
For Difficult Tumors,
Some Infections,
And Patella Fx
With Loose Implant**



Thank You !!



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