Patella baja= difficult primary TKR?

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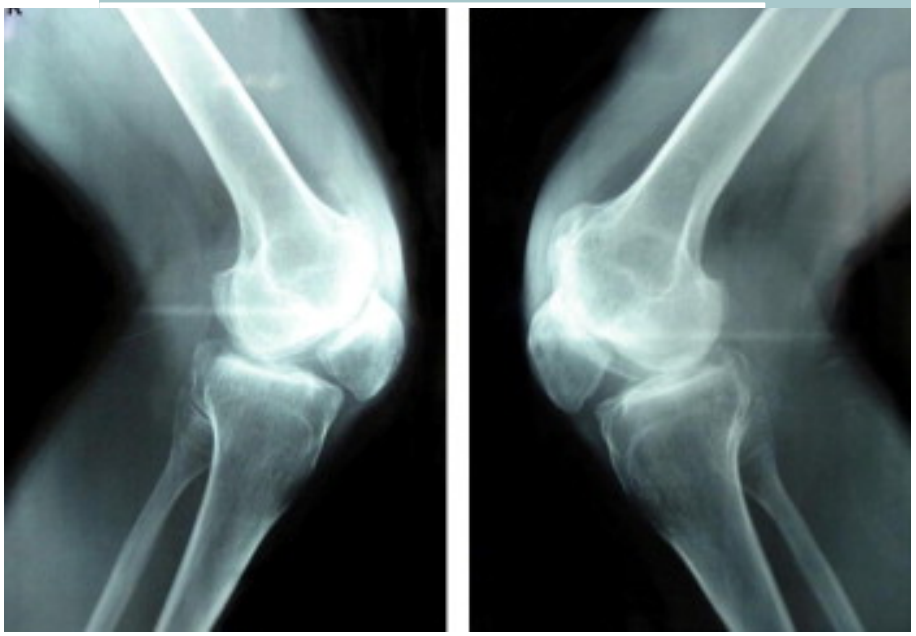


- The authors declared no conflicts of interest for this presentation.

Potential difficulties before TKR

- Axis
- Slope
- Stiffness
- Patella baja
- Ligaments…
- Bone
- Skin

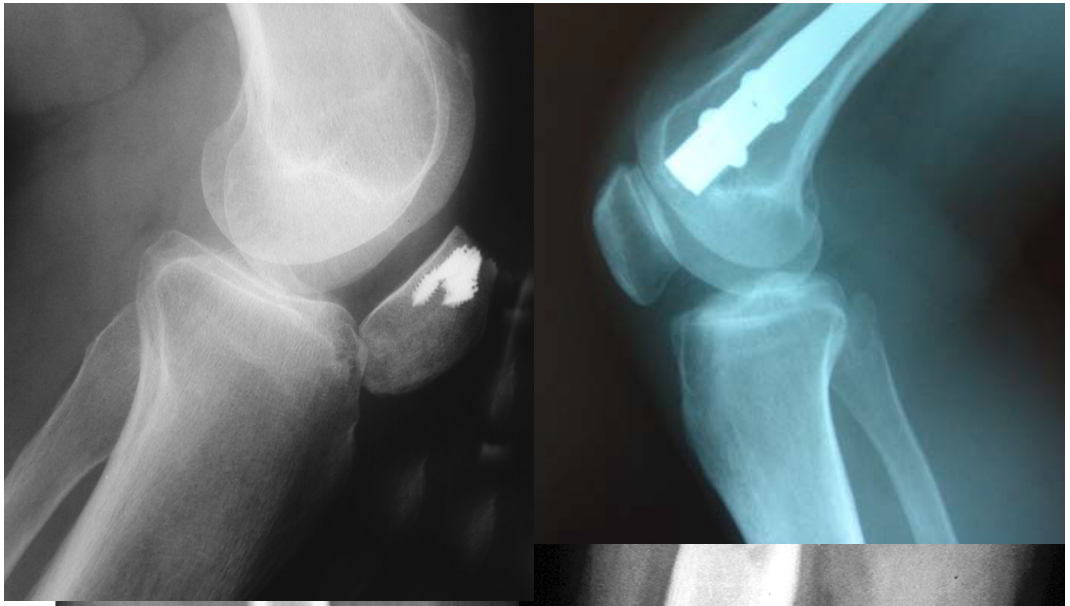
- Problem for Surgical exposure?

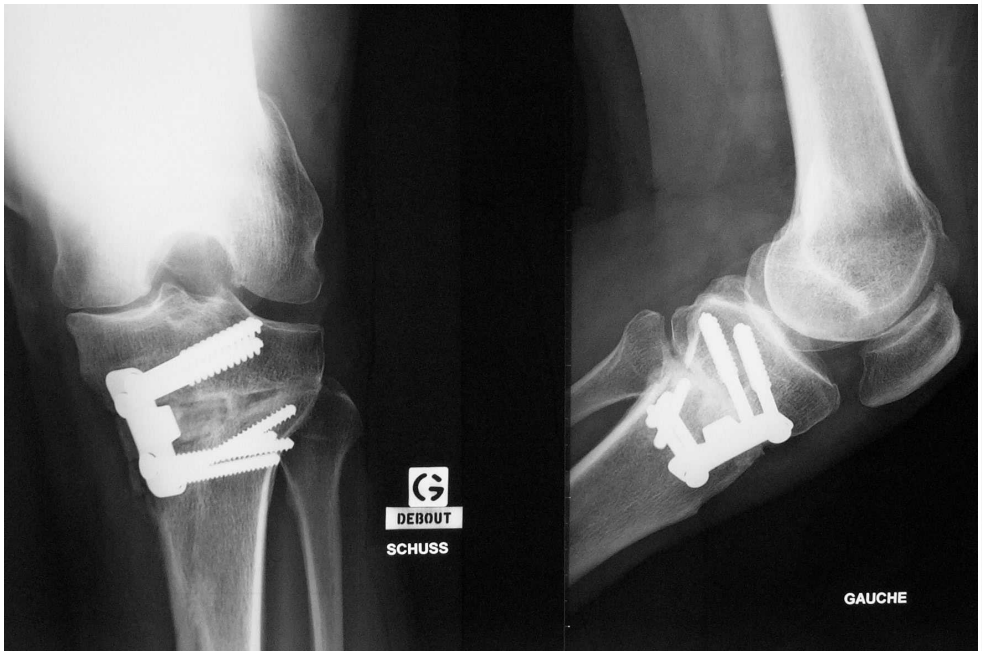
- Eversion/lateralisation of the patella

Patella baja

- Risk factors of patella baja:
- Surgery++++

- HTO
- Fracture
- Chronic Quad tendon rupture





What is called a patella baja/infera?

- Index
- Caton-Deschamps <0.6
- Blackburne- Peel < 0.54
- Insall-Salvatti < 0.8
- …
- Different measurements! Lot of controversies

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KNEE

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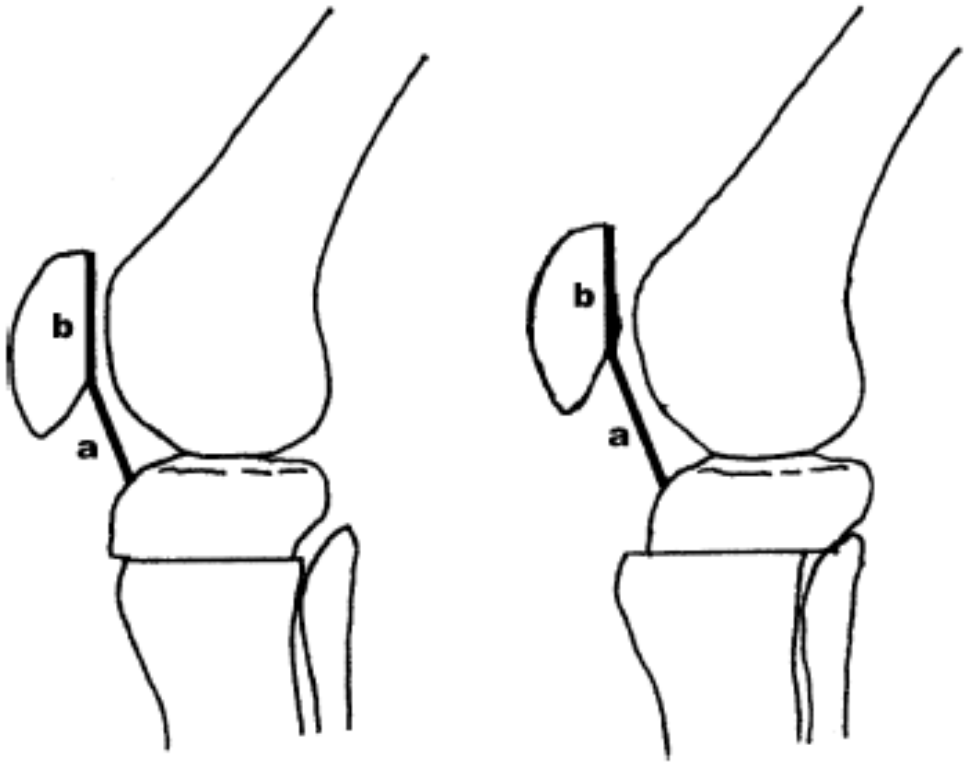
Evaluation of patellar height and measurement methods after valgus high tibial osteotomy

ISI (range)	1.05 (SD: 0.10) (0.83–1.39)
BPI (range)	0.80 (SD: 0.13) (0.60–1.23)
CI (range)	0.91 (SD: 0.14) (0.60–1.45)

What is it?

- Index
- Caton-Deschamps 1977

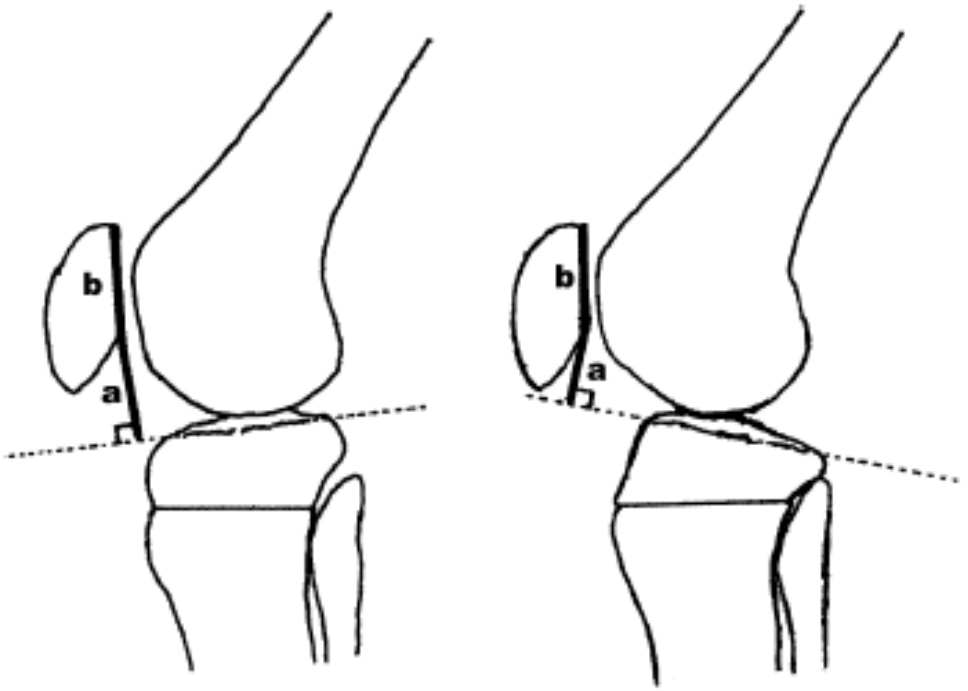
- Depends on translation if malunion (HTO)
- …
- Different measurements!



What is it?

- Index
- Blackburne- Peel 1977

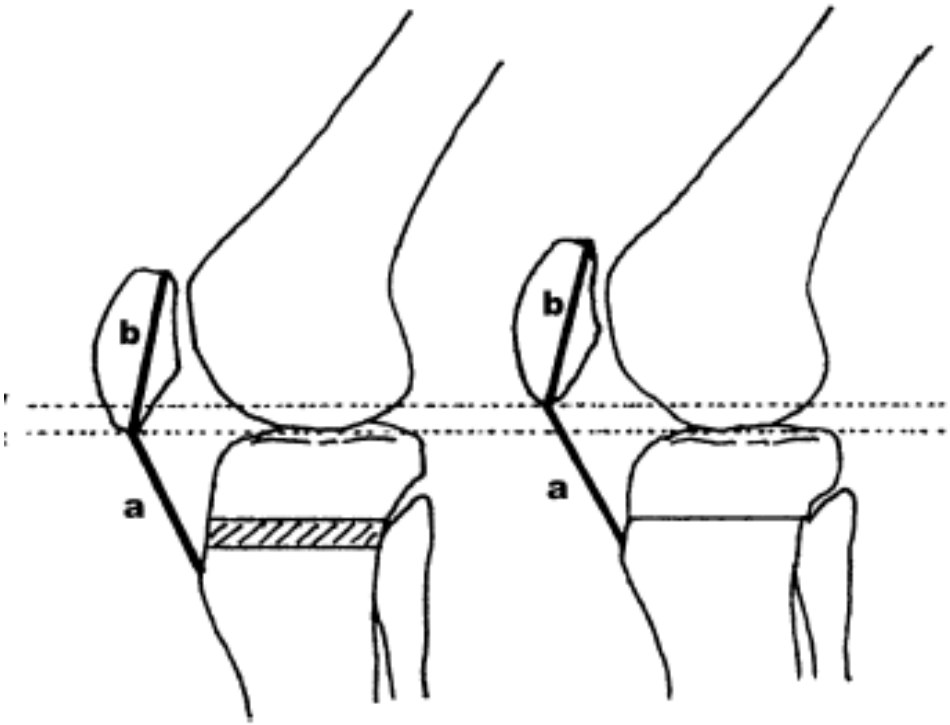
- Tibial slope!
- …
- Different measurements!



What is it?

- Index
- Insall-Salvatti 1971

- Depends patellar tendon length++
- …
- Different measurements!

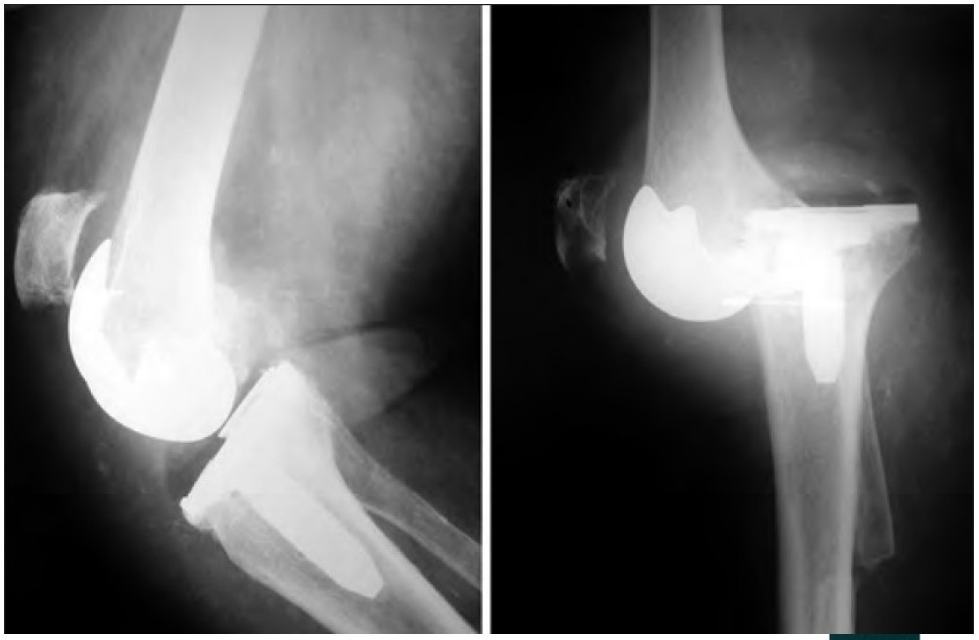


Is it important before TKR?

- Take clinical examination (stifness) and patellar height

- IF Loss of flexion (90°-100°)
- AND Patella baja:
- = Be careful!

- Highest risk= patellar tendon avulsion
- Rand JA Clin Orthop 1989

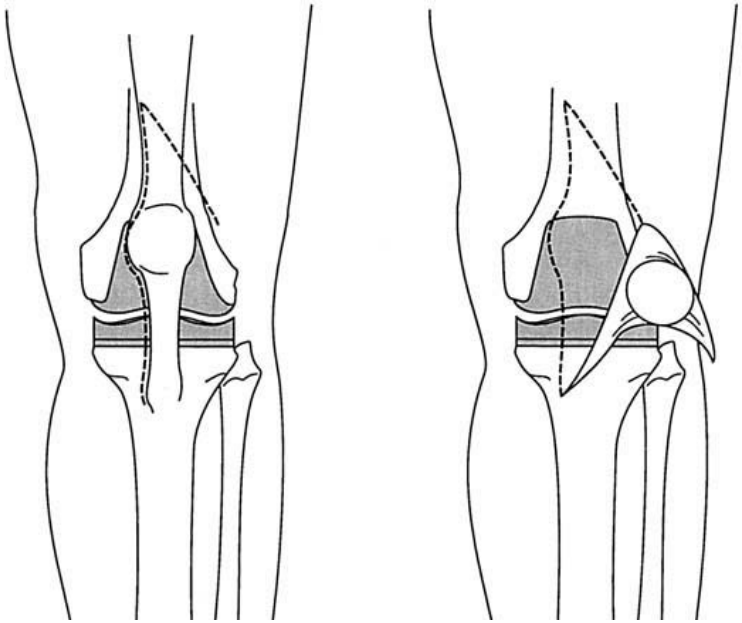


How to manage?

- Soft tissue procedures
- Bone

Quad Turn down

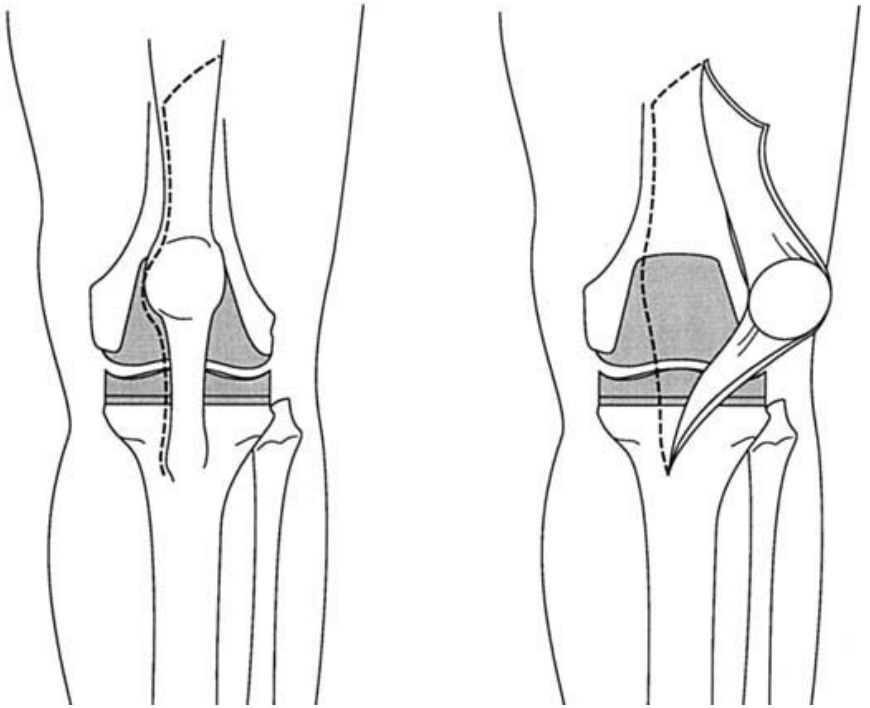
- VY
- Weaken extensor mechanism
- Delay rehabilitation



Campbell Orthop clin north am 1998

Rectus Snip

- 1943 Coonse and Adams
- 80's Insall (1984-95)
- Garvin Clin Orthop 1995: the evolution of the quadriceps snip

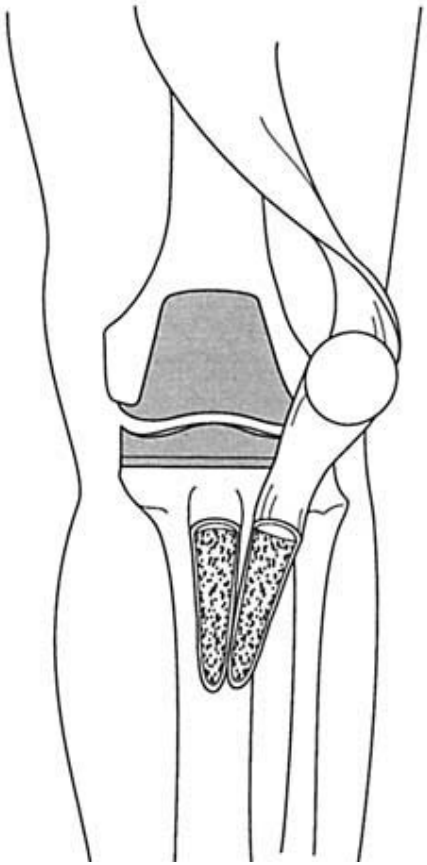


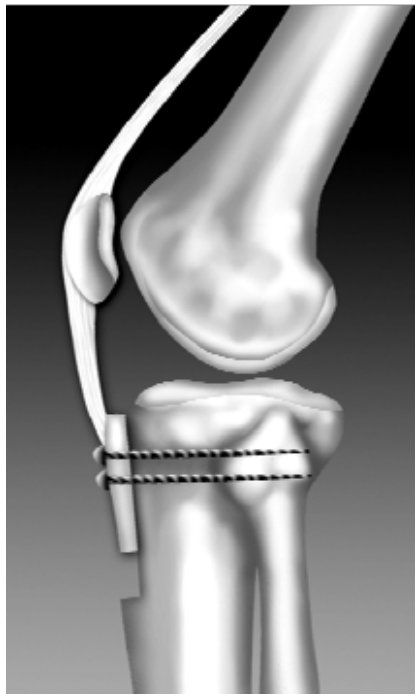
- Trousdale Clin Orthop 1993
- Hsu J Arthroplasty 2012
- … Poor results?

ATT Osteotomy

- Dolin JBJS 1983
- Whiteside Clin Orthop 1990
- Friedrich N Oper Orthop 1999

- Quad muscle preserved
- Avoid patellar tendon avulsion
- Vascular supply patella
- Bone healing





ATTO : Indications

- Patella Baja
- Loss of knee flexion: stiffness++
- Patellar subluxation +/-

- Debette C Servien E Neyret P

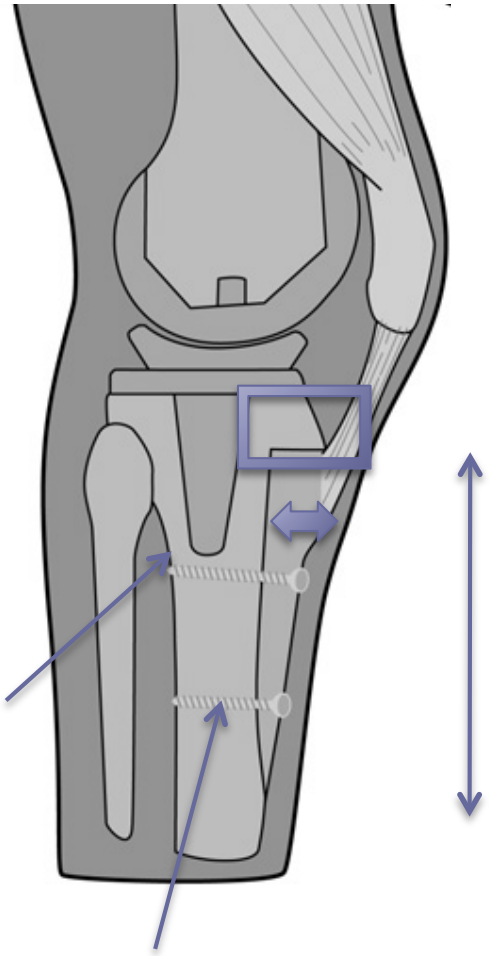
Int Orthop 2014
TKR and Stiff knee n=300

ATT Osteotomy in 8% knees

Technical key points

- >7cm
- Thickness 1cm
- Width 2cm

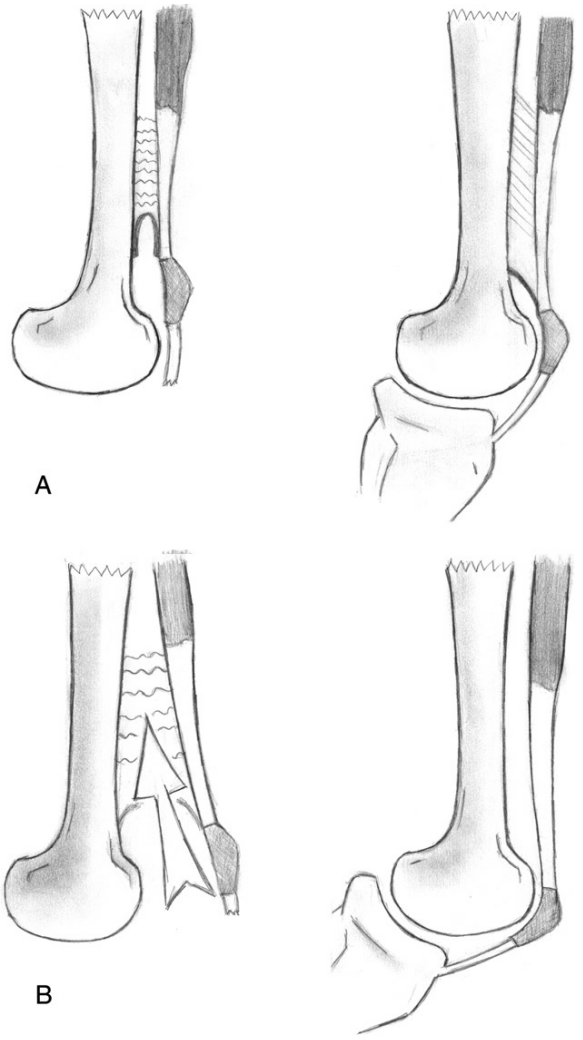
- Self locking
- Height: raise the patella?
- No Need for Stem
- 2 bicortical screws



Young J Arthroplasty 2008
Whiteside LA Clin Orthop 1990

Anterior quadriceps release

- Mean 34° knee flexion gain

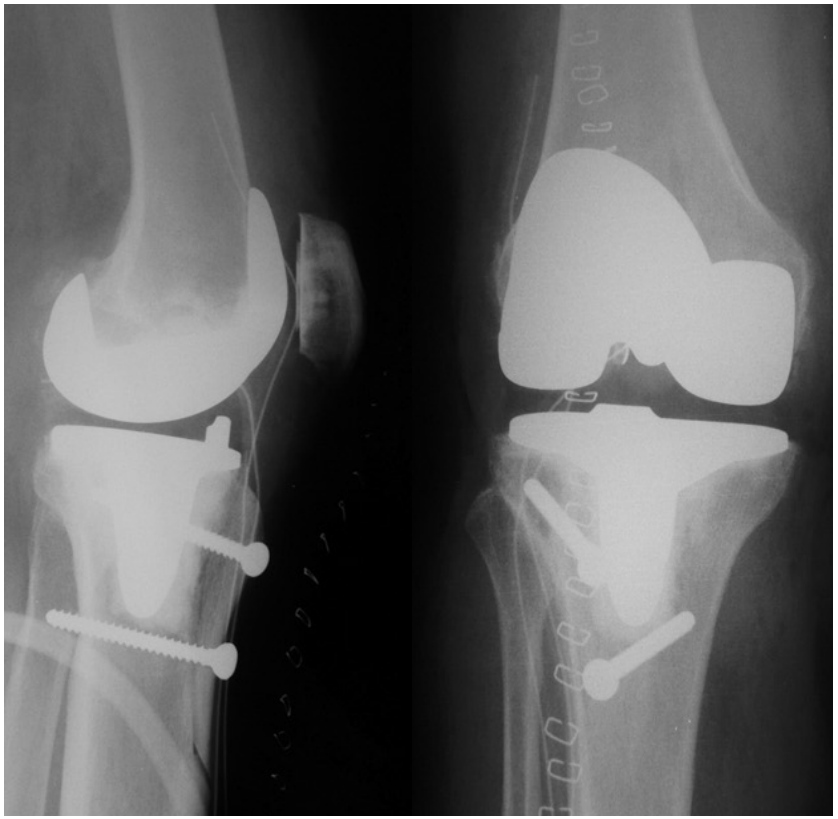


Tarabichi J Arthroplasty 2010

Results ATTO and TKR

Pre- and postoperative mean knee and function IKS scores

IKS SCORE		Group A	Group B	$p<0.05$*
Knee score	Preoperative	45	44	NS ($p=0.81$)
	Postoperative	91	91	NS ($p=0.84$)
Function score	Preoperative	54	54	NS ($p=0.84$)
	Postoperative	78	74	NS ($p=0.09$)

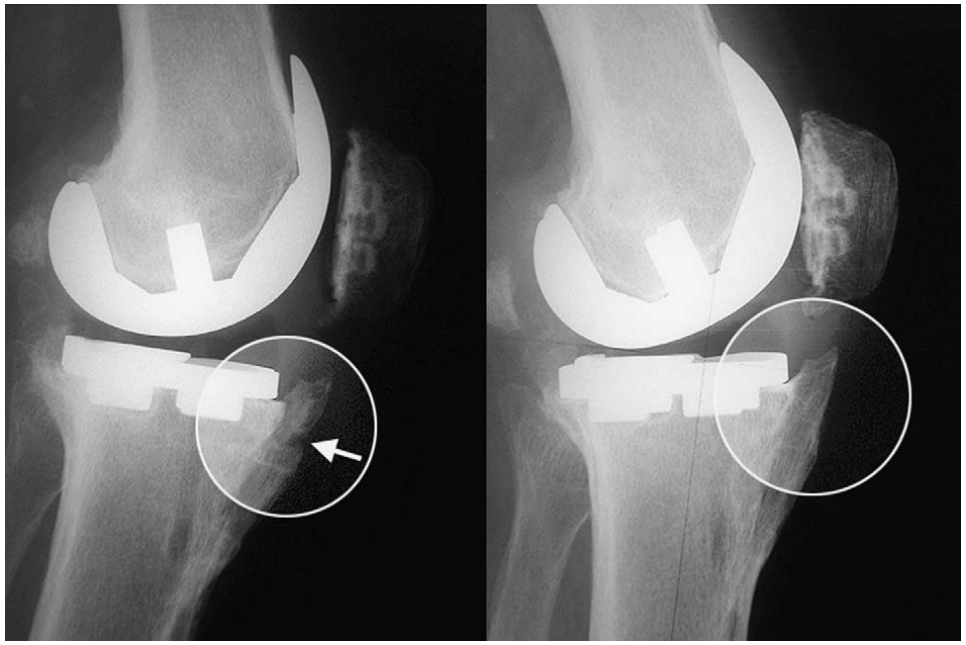


- N=113
- ATT fracture 2,38%
- Wound problems 3,18%
- Stiffness 4%

Piedade, Servien The Knee 2008

Results

- ROM : 73° ±34.9 to 88 ± 21.1 (mean gain of 15 ±23.1)
- 3/20 fractures conservatively treated



Tabutin Orthop Traumatol Surg Res 2011

Take Home Message

- Think about ATT osteotomy
- In difficult knees
- With patella infera
- And peroperative problems to mobilise patella

- Safe, reproducible
- Frequent minor complications
- Few major complications