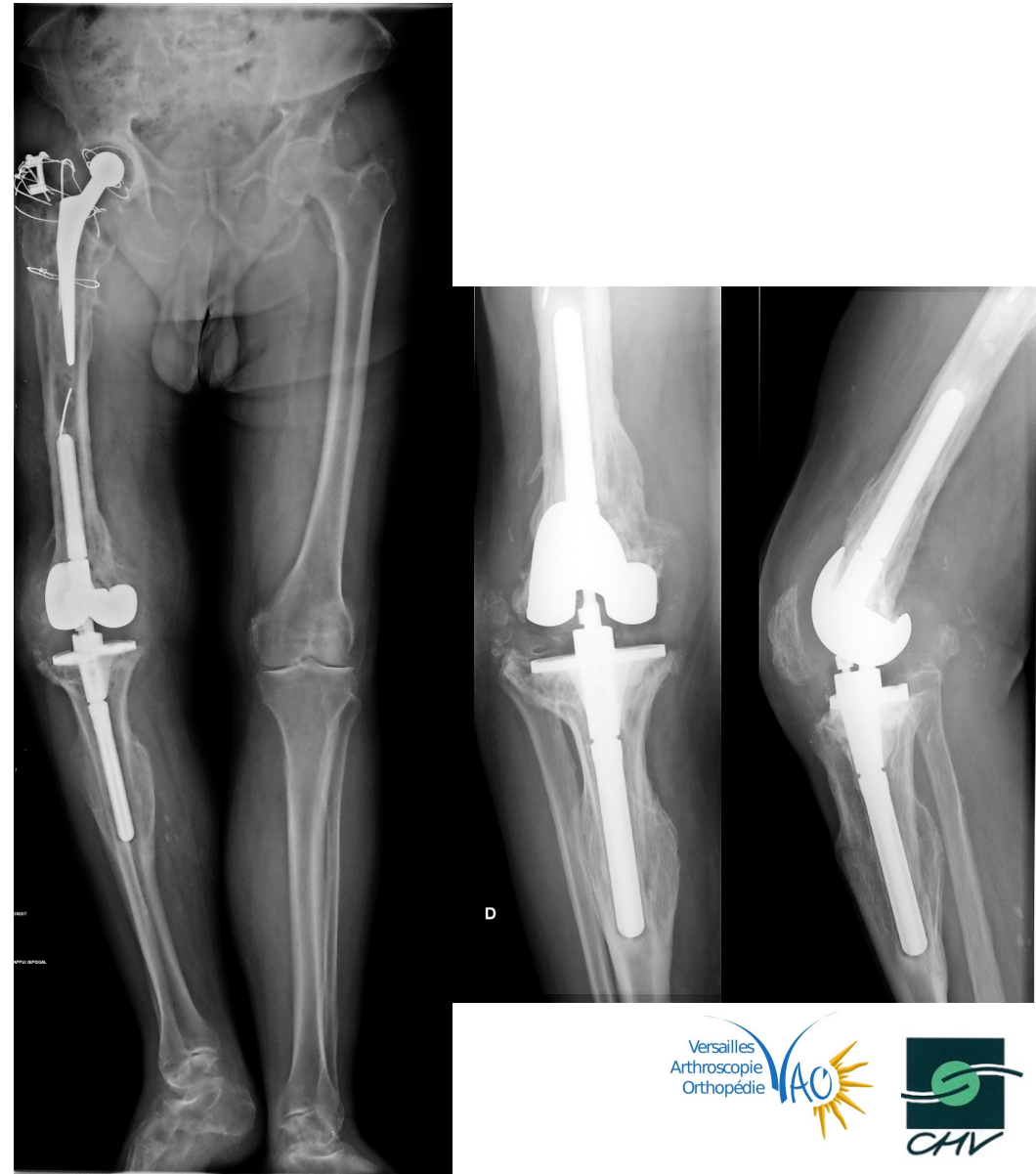
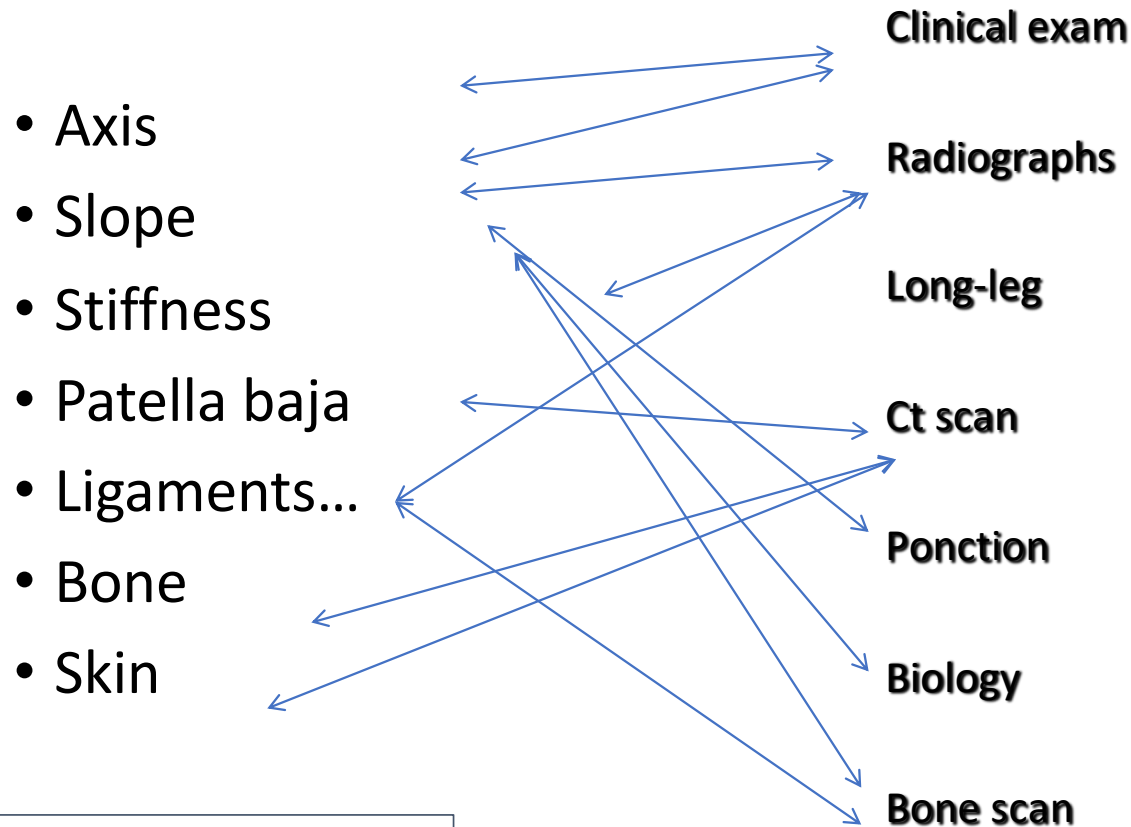


REVISION TKR: TIPS AND TRICKS MAKE A PLAN!

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A lot of Potential difficulties to be addressed before a REVISION TKR !



Make a plan!



To be addressed previous revision surgery

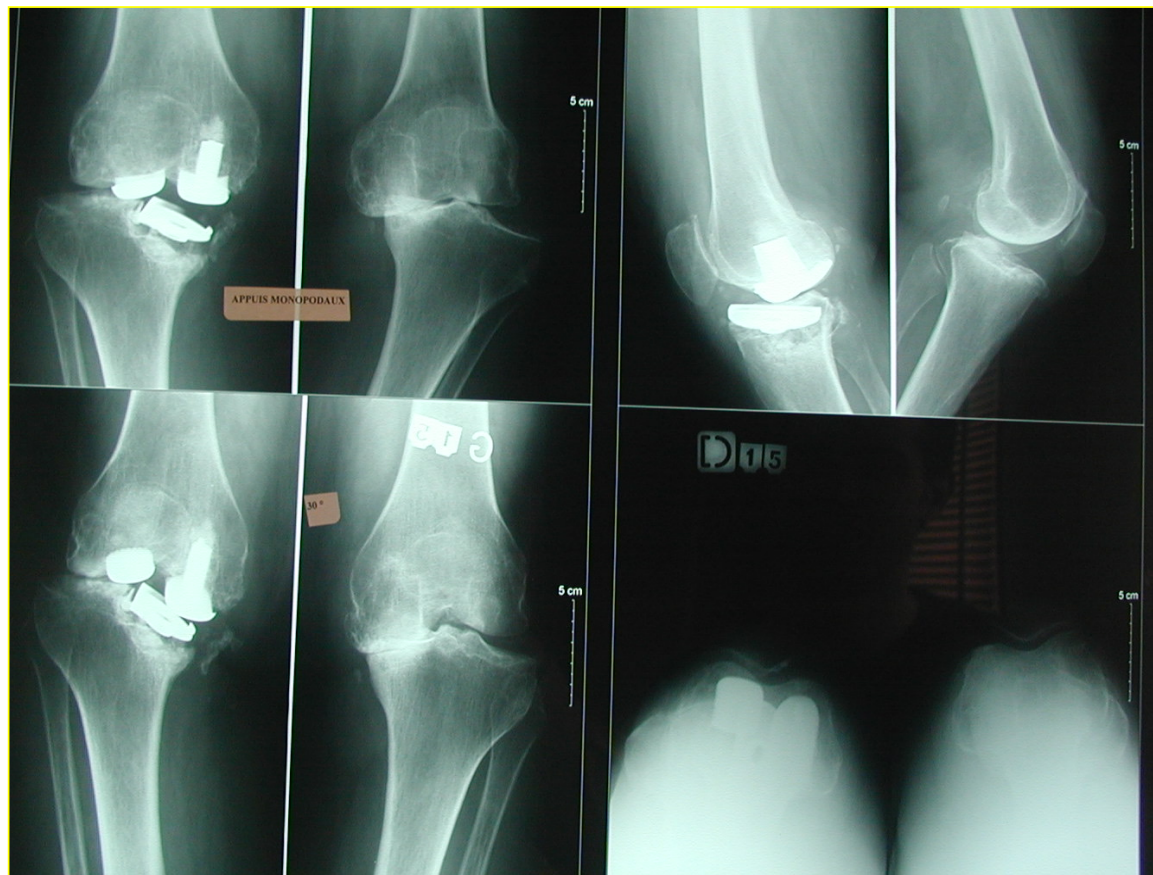
May influence surgical approach

Aetiologies:

- Infection (25%)
- No infection (75%)
- **Mainly 80%**
 - Aseptic loosening 34%
 - “Patella” problem 18%
 - stiffness 15%
 - laxity 13%
- **Secondary problems 20%**
 - Mechanical loosening 7%
 - pain 7%
 - fracture 4%
 - Synovitis 2%

SYMPOSIUM SOFCOT

Imaging before revision



Imaging before revision

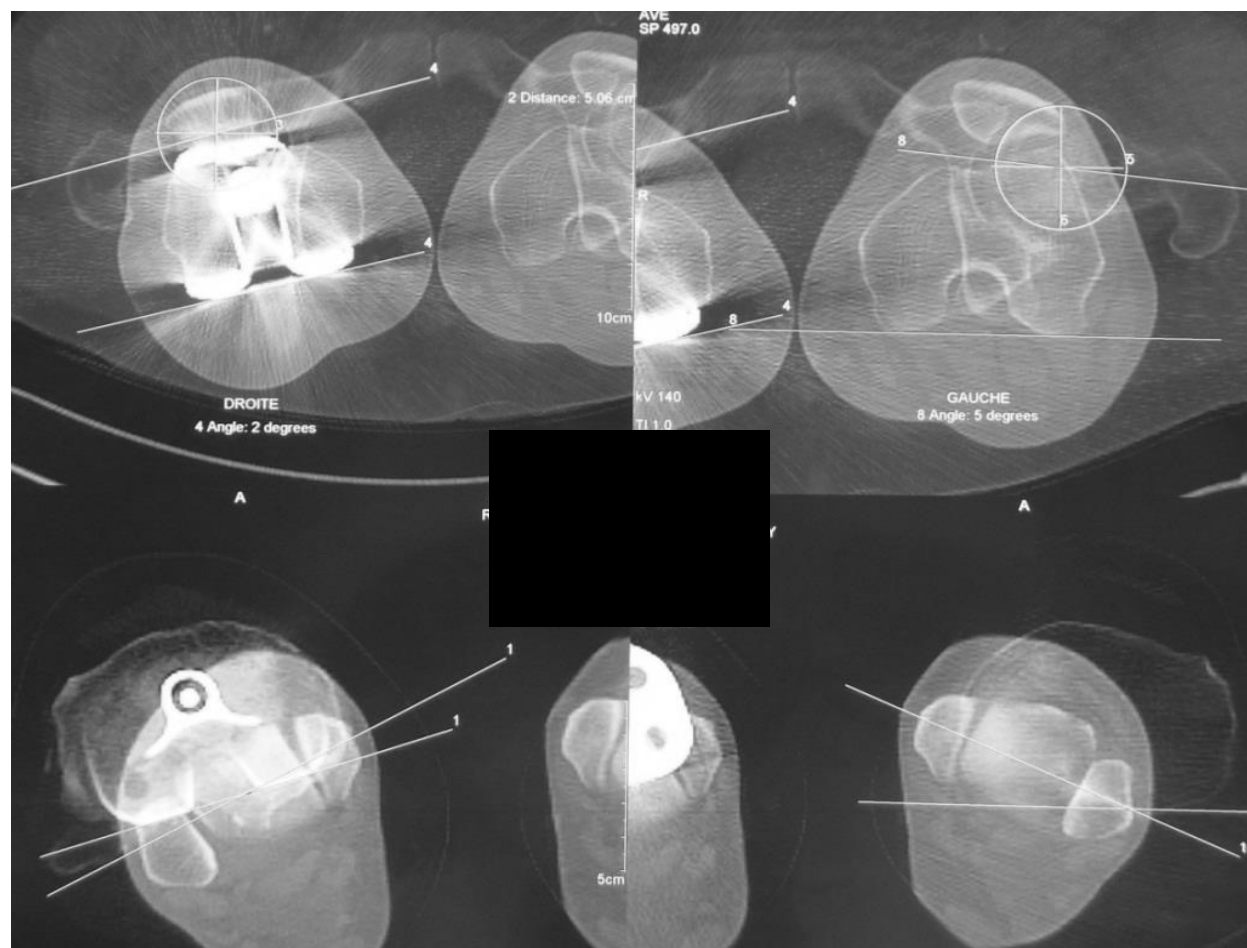
**Long leg
standing Rx**



Stress radiographs +/-



CT Scan



Infection?

- Skin
- Aspiration
- Bone scan?
- CRP



Skin

- Scars:
- Horizontal
- Vertical
- Medial
- Lateral
- ...



Sometimes even worse...

- Need for a secondary flap???
- One stage?
- Two stages?
- A question of approach or a problem of closure?



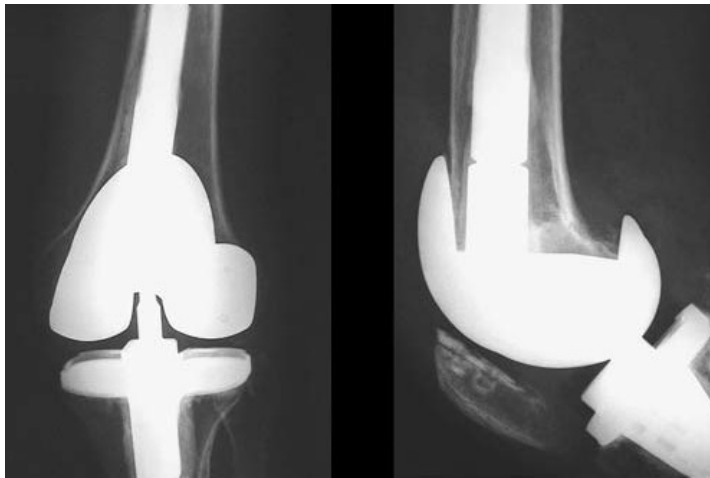
ROM, Laxity



- Origin? Bone or Ligament?

Extensor apparatus

- Patella Baja AND stiffness < 90
- = need to make a Tibial tubercle osteotomy

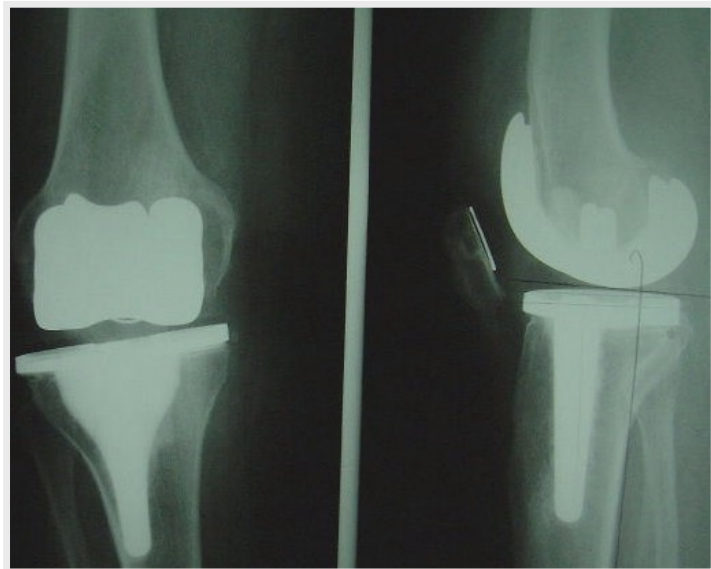


- Problem Extensor apparatus? Need to reconstruct?
- Patella?



Cement/anchorage to bone

- Schedule osteotomies: ATT, femur...



How to obtain a good exposure

- Problem for Surgical exposure?
- Eversion/lateralisation of the patella
- Positionning of the implants
- PREOP PLANNING: take decisions before
- SURGICAL TECHNIQUES
- Step by step procedure



SURGICAL EXPOSURE

- Risk for patella avulsion during TKR= 0.5%, 5% during Revisions
- Reconstruction
- Poor results
- Flexion
- Extensor lag



The Journal of Arthroplasty Vol. 17 No. 1 2002

MAKE A PLAN AND DECIDE
BEFORE SURGERY IF
POSSIBLE

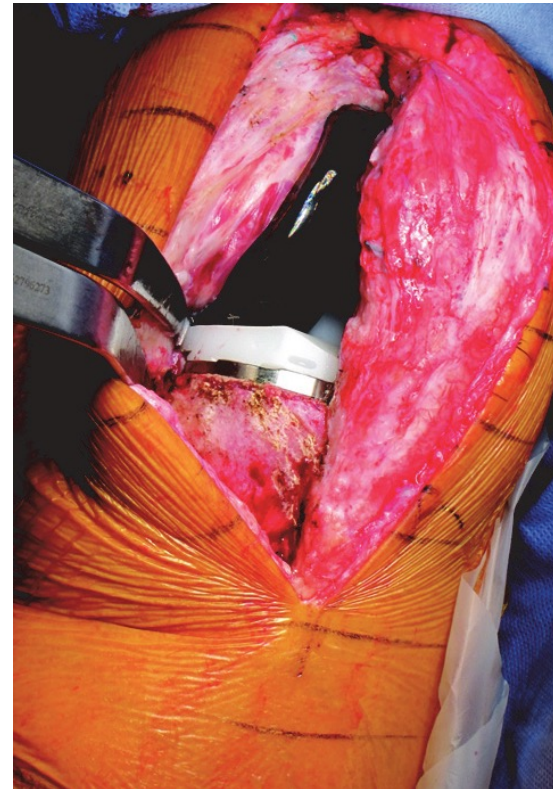
Patella Inversion Method for Exposure in Revision Total Knee Arthroplasty

Thomas K. Fehring, MD, Susan Odum, MEd, MA, William L. Griffin, MD,
J. Bohannon Mason, MD



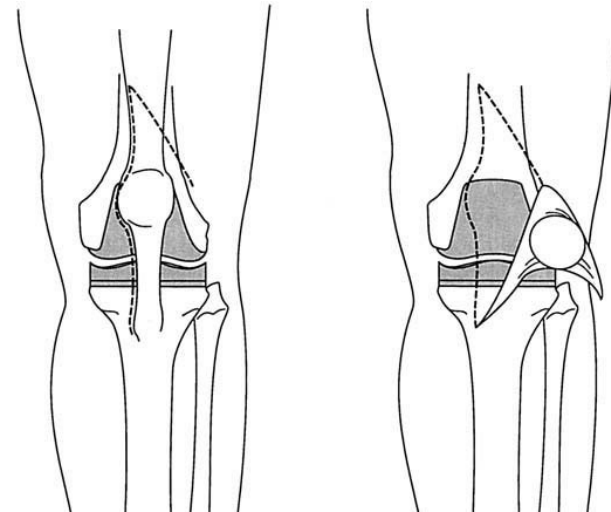
Surgical options

- Soft tissue procedures
- Release MCL
- Increase skin/soft tissue incision



Quad Turn down

- VY
- Weaken extensor mechanism
- Delay rehabilitation



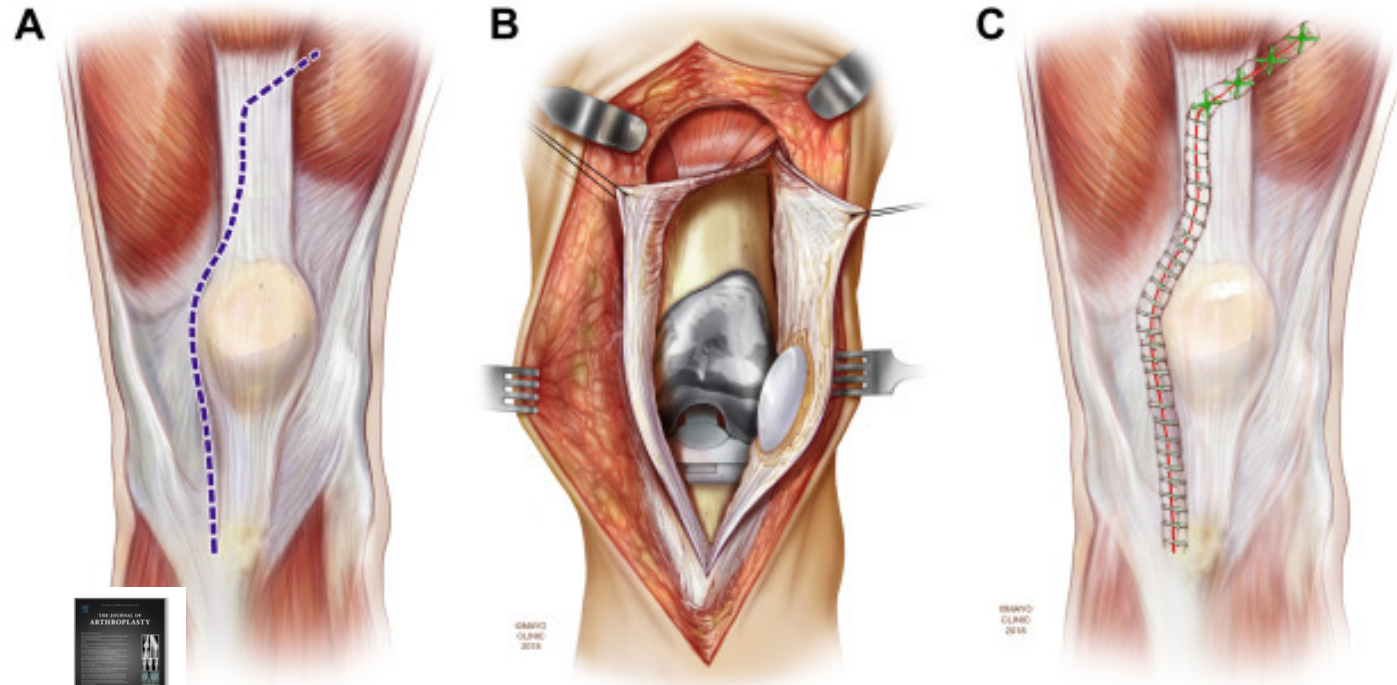
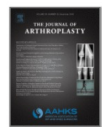
Campbell Orthop clin north am 1998

Rectus Snip

- 1943 Coonse and Adams
- 80's Insall (1984-95)
- Trousdale Clin Orthop 1993
- Hsu J Arthroplasty 2012
- ... Poor results?



The Journal of Arthroplasty
Volume 34, Issue 12, December 2019, Pages 3004-3011.e1



Revision Arthroplasty

Quadriceps Snip in 321 Revision Total Knee Arthroplasties: A Safe Technique in a Matched Cohort Study

Matthew P. Abdel MD [✉], Anthony Viste MD, Christopher G. Salib MD, Daniel J. Berry MD

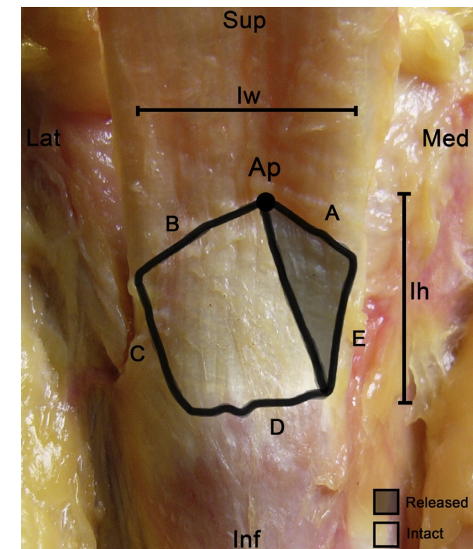


Surgical approach: which option?

- Different options
- Lateral approach
- Medial with parellar tendon release
- ATT osteotomy

Medial approach PT release

- Effect of medial release of the PT
- Dervin J Arthroplasty 2014 Epub
- Increase 30% exposure of the lateral side
- Loss of 20% ultimate strength
- Risk OK
- Reasonable limit



Medial approach quad release

- Tarabichi S J Arthroplasty 2010
- Complete resection of the suprapatellar adhesions
- Gain of motion

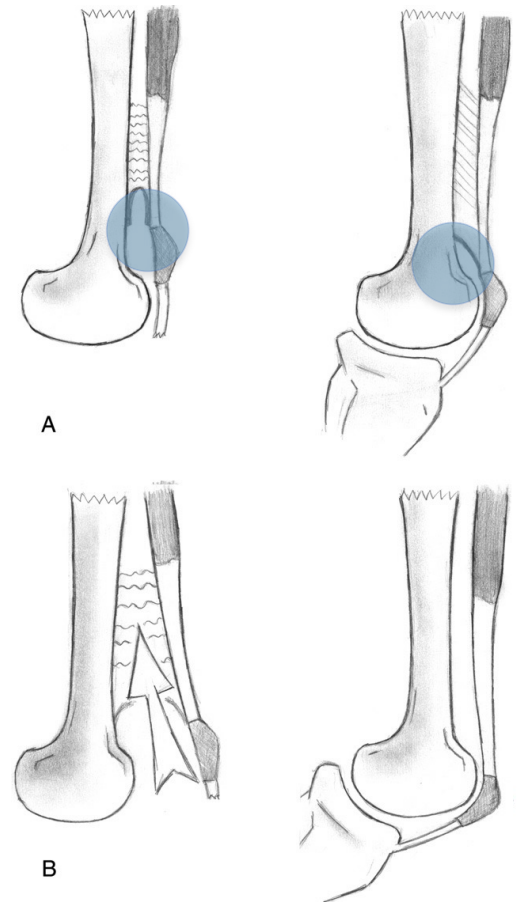
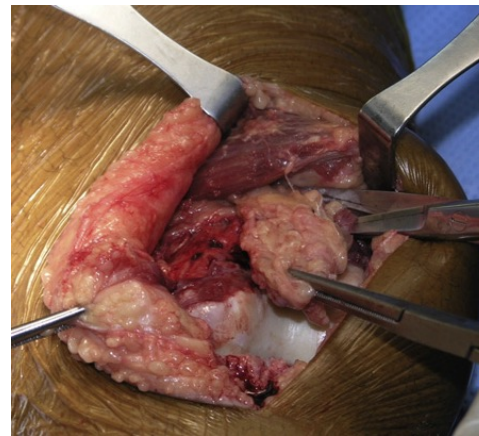
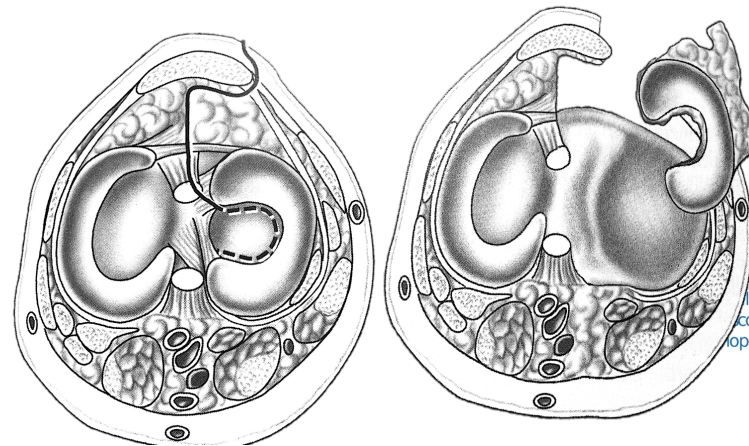
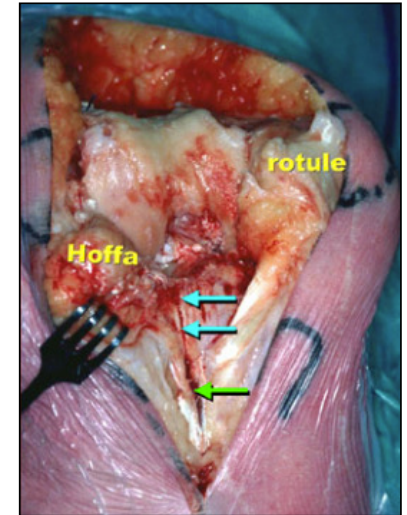
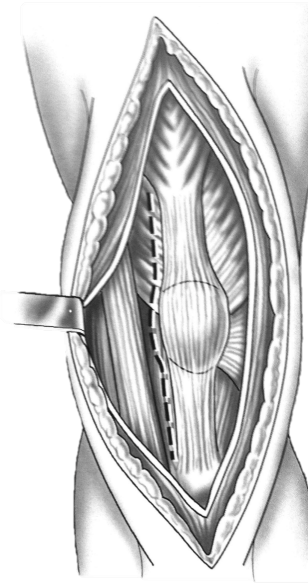


Table 1. Shown are the measured prerelease ROM (under anesthesia) and the average immediate postrelease improvement

Prerelease ROM (range) (°)	85 (n=2)	90 (n=2)	95 (n=9)	100 (n=4)	105 (n=14)	≥110 (n=11)
Post-release improvement (average, in degrees)	55	40	38	39	32.5	26

Lateral approach

- Koblisch 1991, modified
- Lateral patellar tendon release
- Limited
- If ATT osteotomy is planned



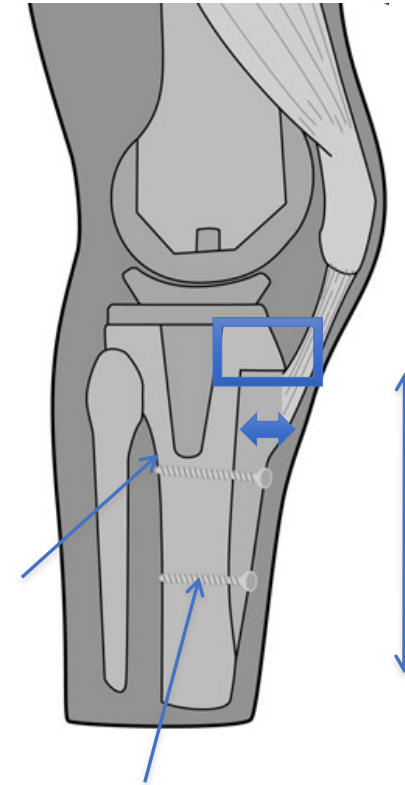
ATT Osteotomy

- Dolin JBJS 1983
- Whiteside Clin Orthop 1990
- Friedrich N Oper Orthop 1999
- Quad muscle preserved
- Avoid patellar tendon avulsion
- Vascular supply patella
- Bone healing



ATT: 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

TT elevation



**To be decided before+++
To avoid main additional complications**



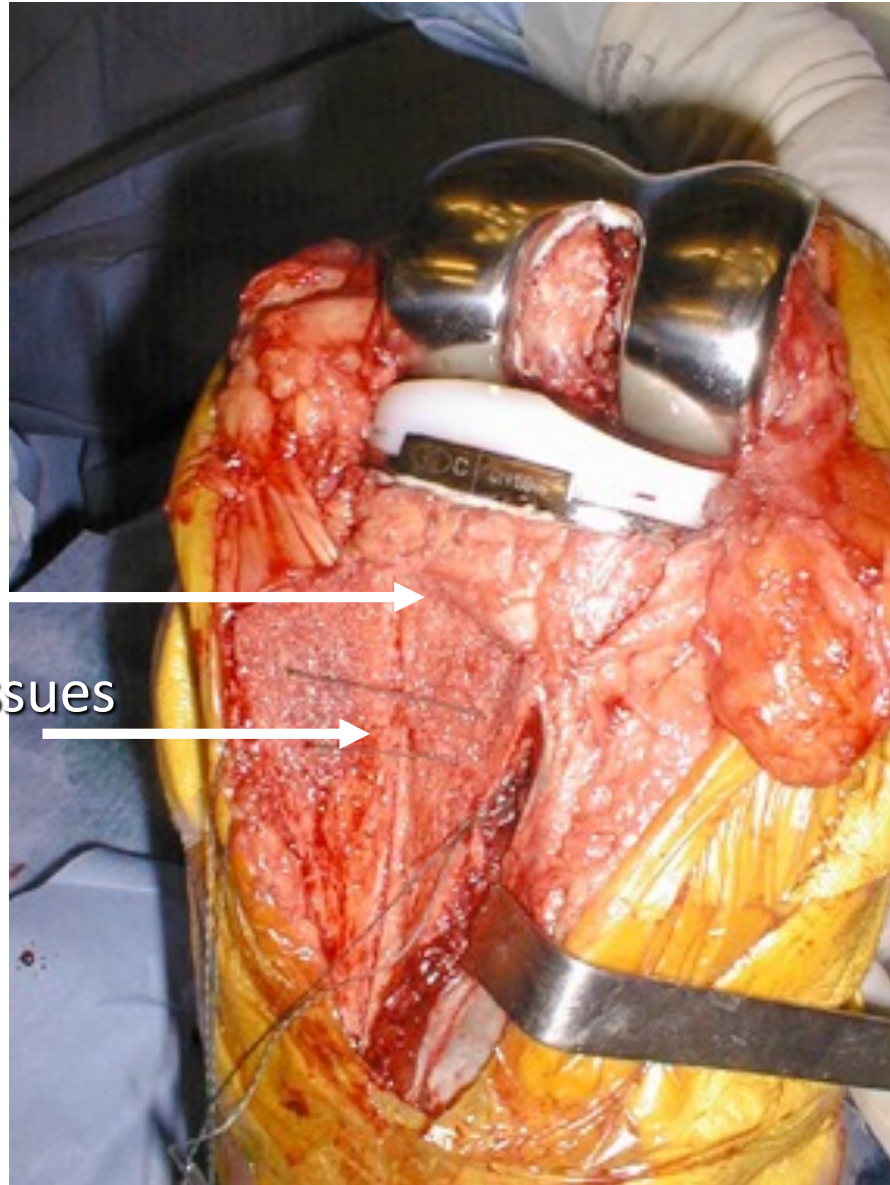
**Length: 7cm
Upper angle
Biseau en bas
Keep medial attachments**





Upper angle

**Medial soft tissues
preservation**



**Lateral approach
Fat pad flap**

1/ Fixation with wires

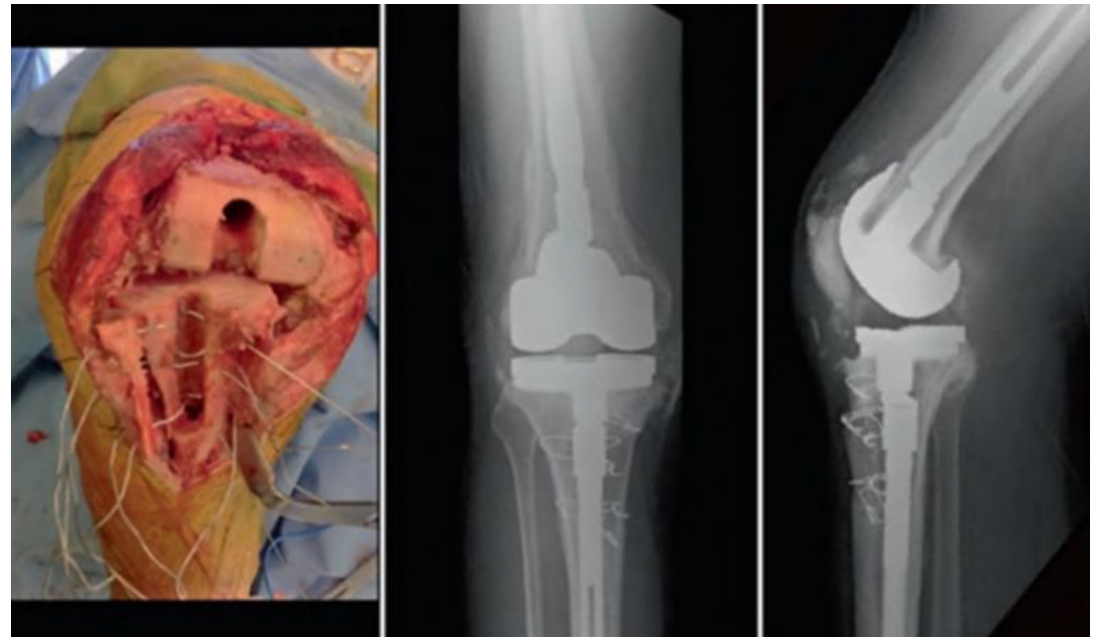
2/ Fixation with wires around the stem

3/ Fixation with screws



Conclusion:

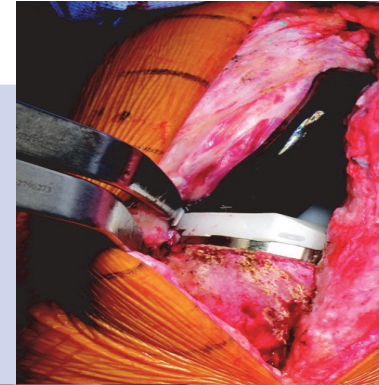
- MAKE A PLAN
- Assess patellar height
- Exposure is crucial
- Manage potential patellar instability, avulsion
- Avoid tibia malrotation
- ATT osteotomy in case of doubt
++



Algorithm

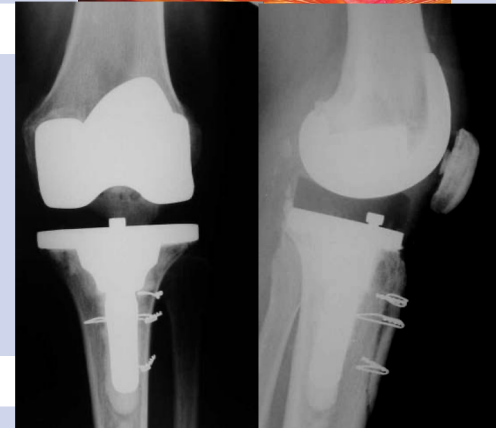
No patella baja

Medial aproach,
quad and patellar
tendon release



Patella baja and
stiffness $<80^\circ$?

ATT Osteotomy



Previous ATT
osteotomy?

Quad Snip



