5th course of advanced surgery of the knee
Val d'Isère, 02-2014

Arthroplasty after previous surgery: Skin incisions - approaches

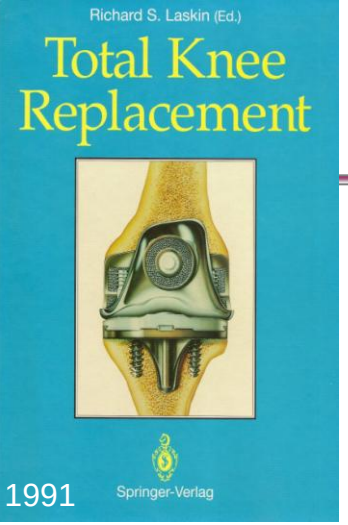
Prof. Romain Seil, MD, PhD

Orthopaedic Surgery

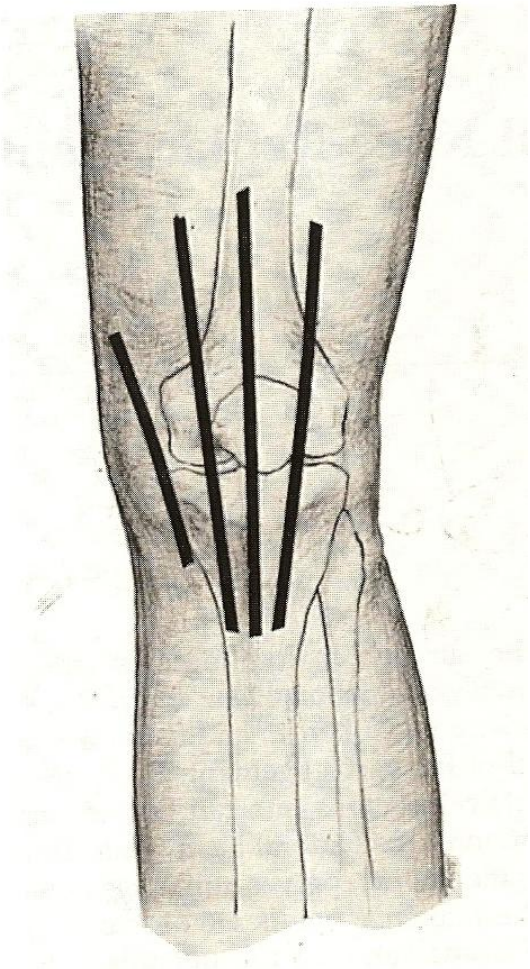
Centre Hospitalier de Luxembourg

Sports Medicine Research Laboratory

Centre de Recherche Public – Santé, Luxembourg



Guidelines



Incisions:

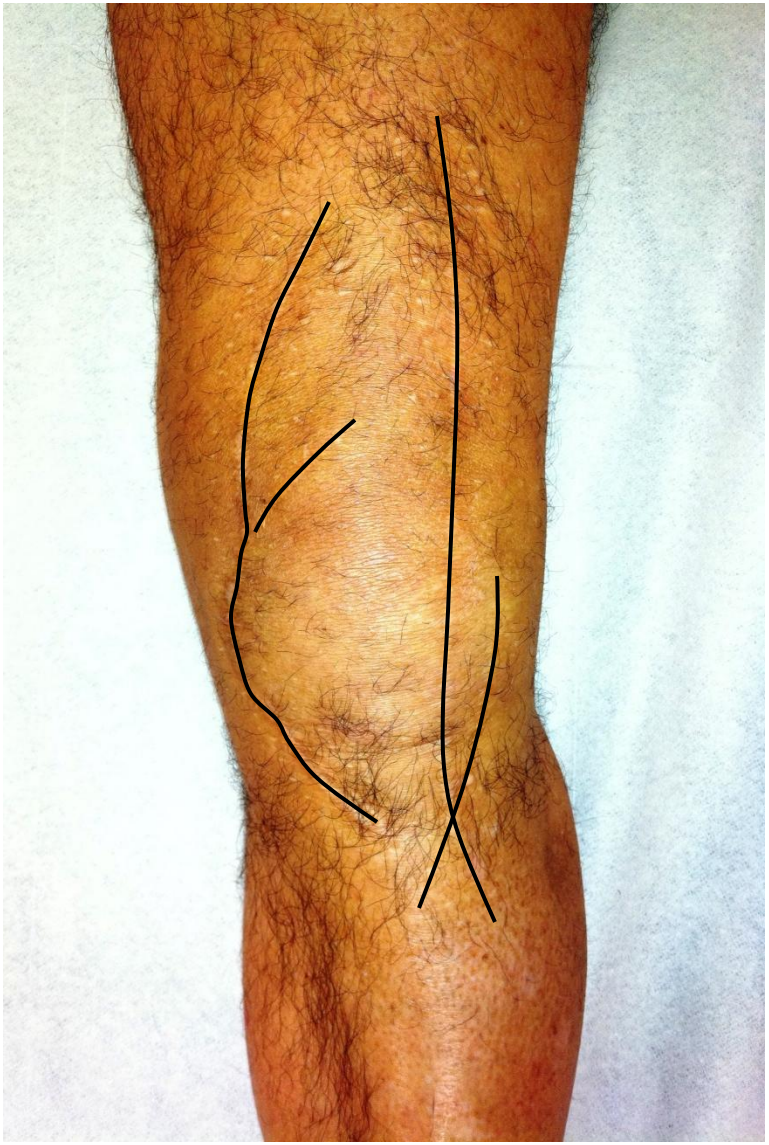
Posteromedial

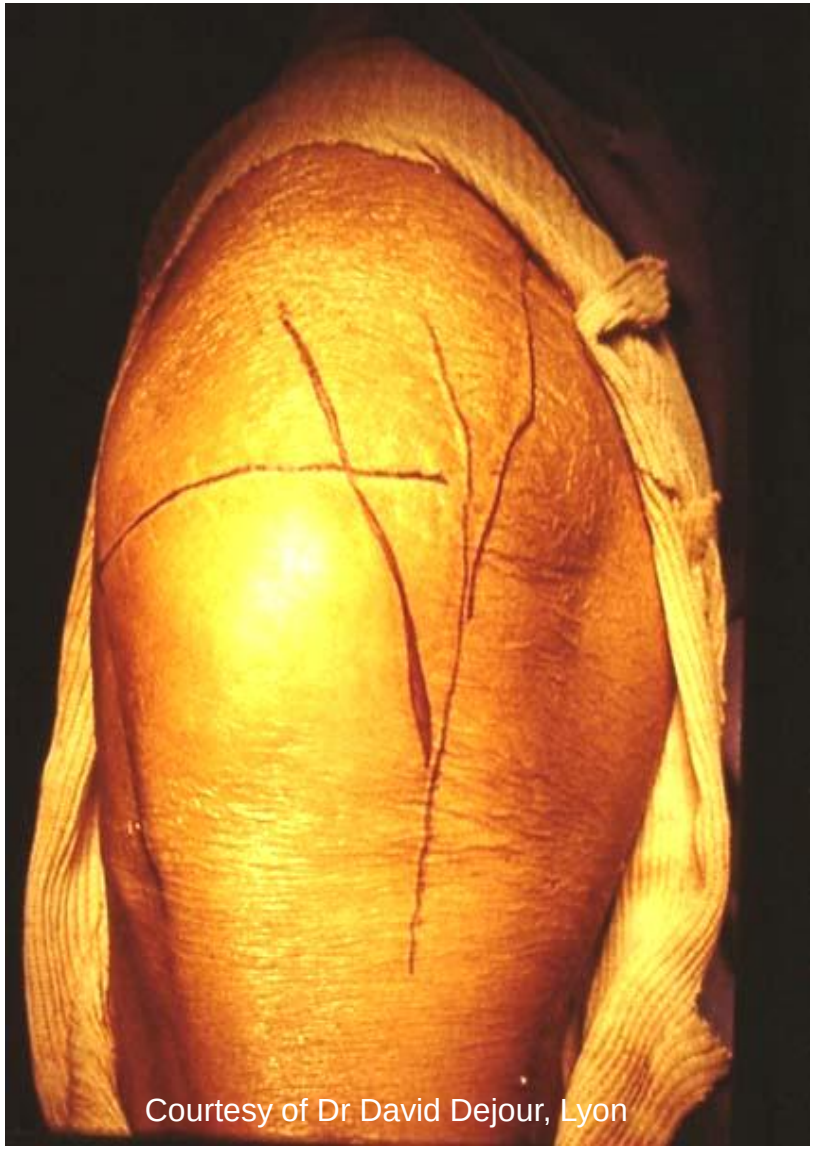
Medial parapatellar

Midline

Lateral parapatellar

Which way to follow?



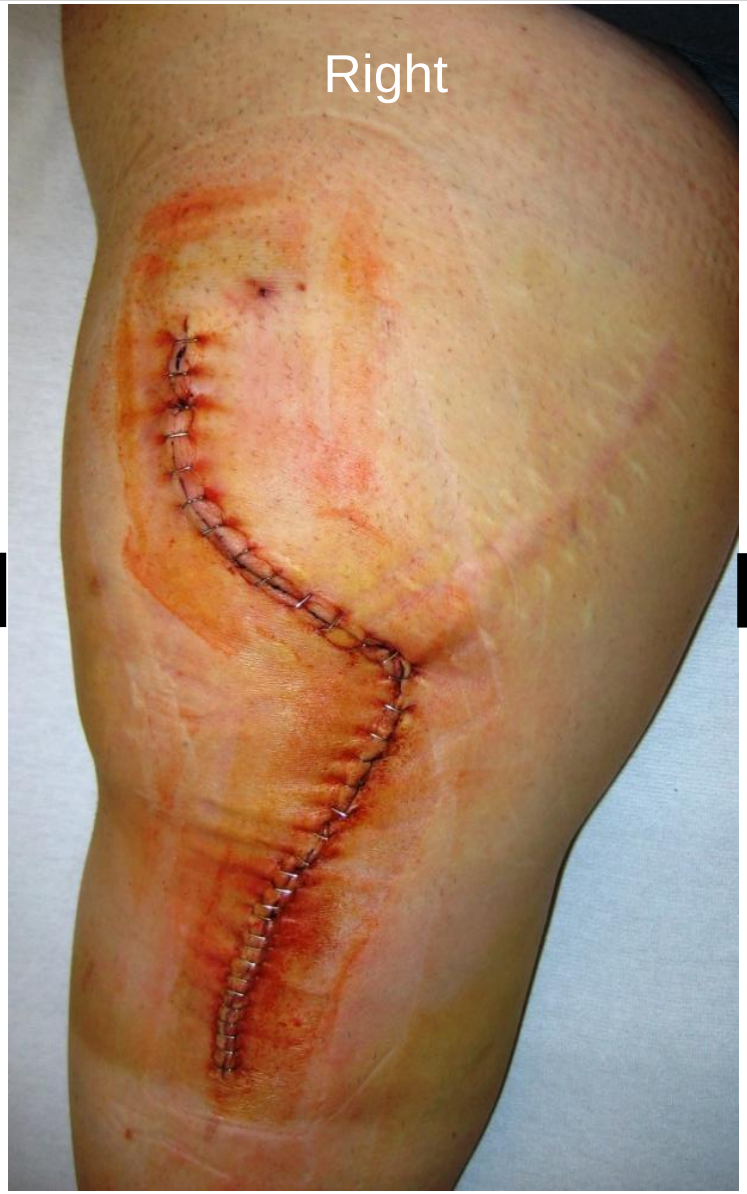


Courtesy of Dr David Dejour, Lyon


Creativity


WISSANT
Cap Gris - Nez
WISSANT
Cap Gris - Nez

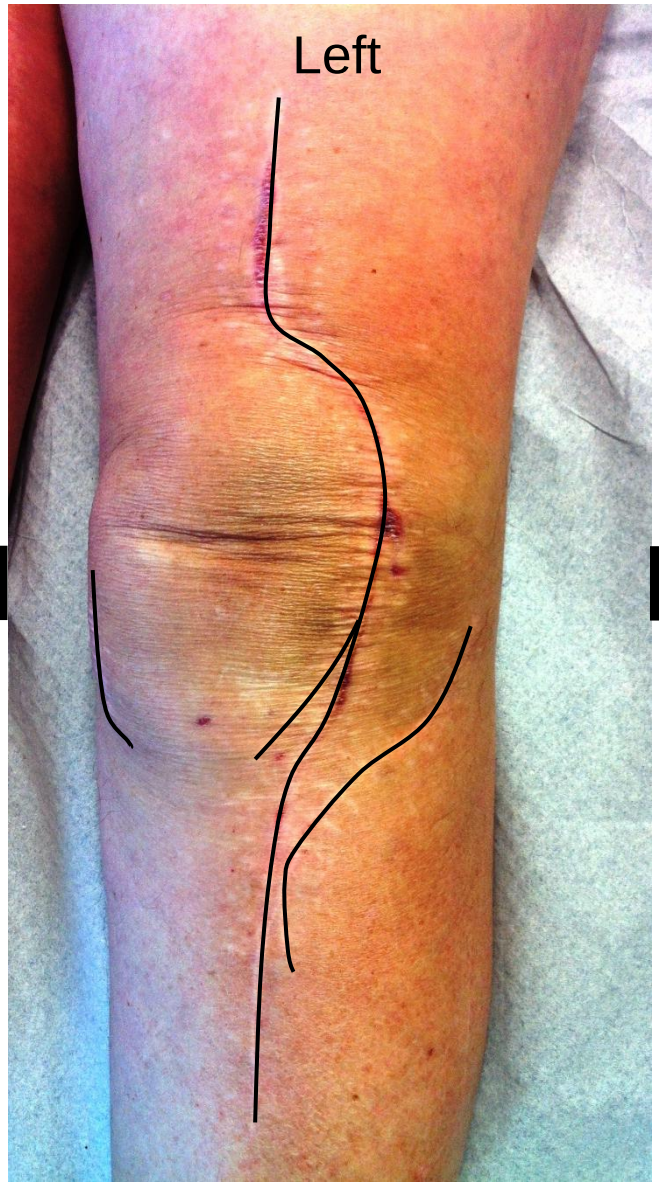
Which way to follow?



Medial parapatellar approach

Subvastus approach

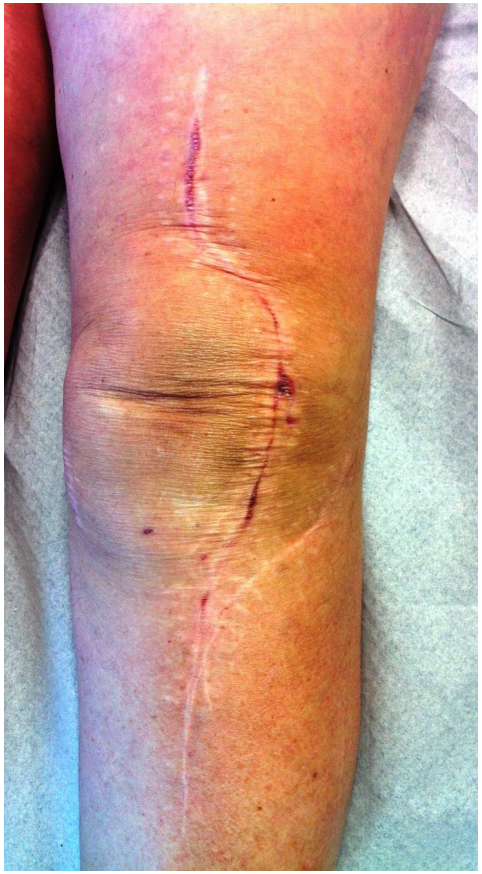
Which way to follow?



Posteromedial approach ?

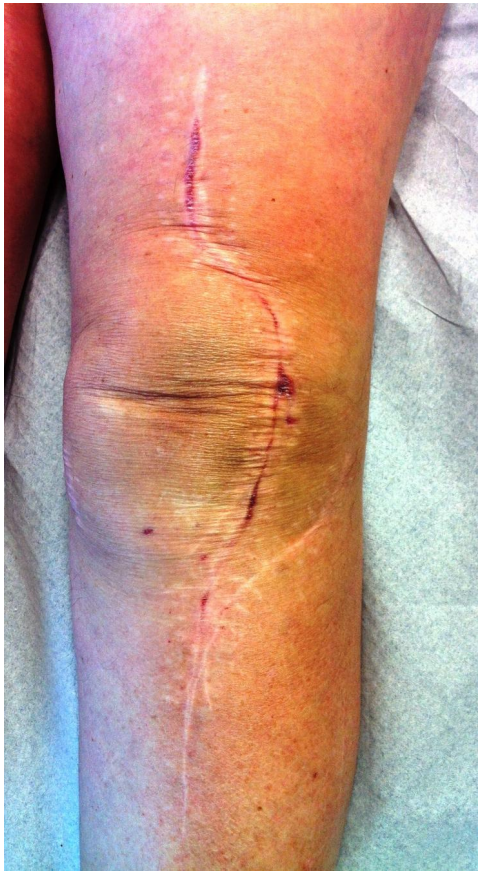
Lateral parapatellar approach

General principles



1. Use previous skin incisions
2. Avoid scar confluence and « dead triangles »
3. Ignore short previous medial or lateral incisions
4. Ignore strict transverse incisions

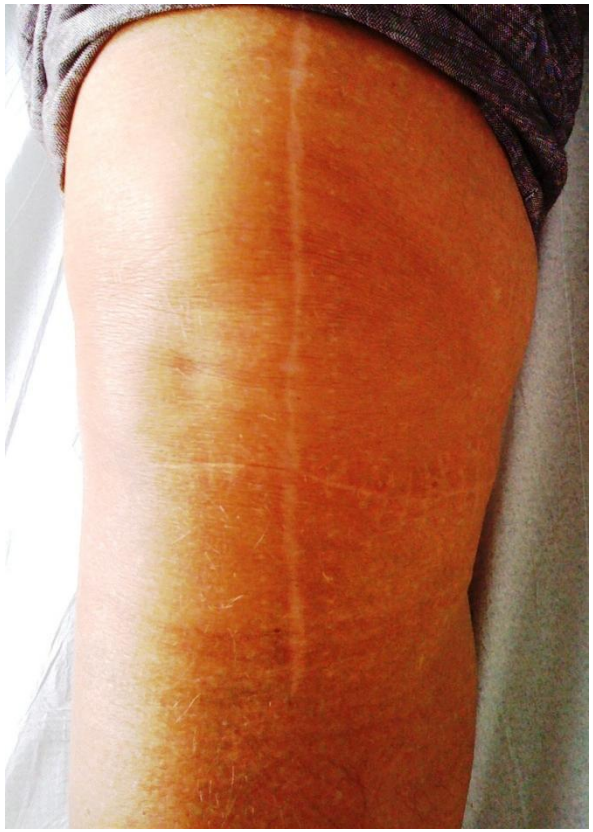
General principles

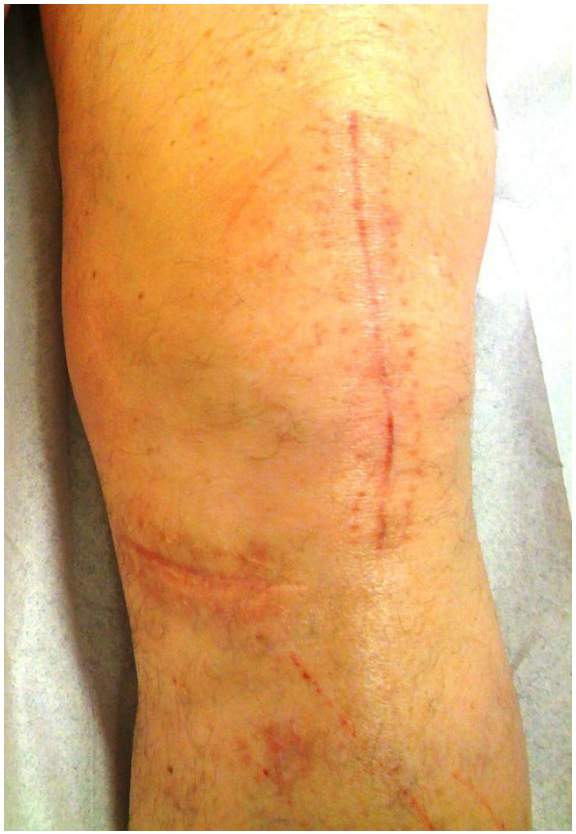


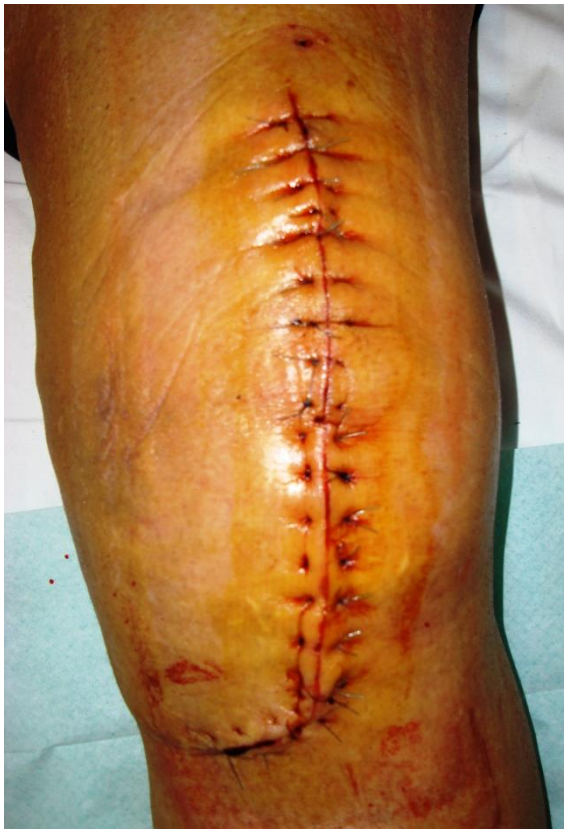
5. If parallel incisions exist, choose the most lateral
6. Beware wide scars with thin or absent subcutaneous tissue
7. Advice from plastic surgery (i.e. soft-tissue expansion techniques)
8. Exceptional cases: Make incision first, plan surgery in 2nd step

Examples

Ignore strict transverse incisions

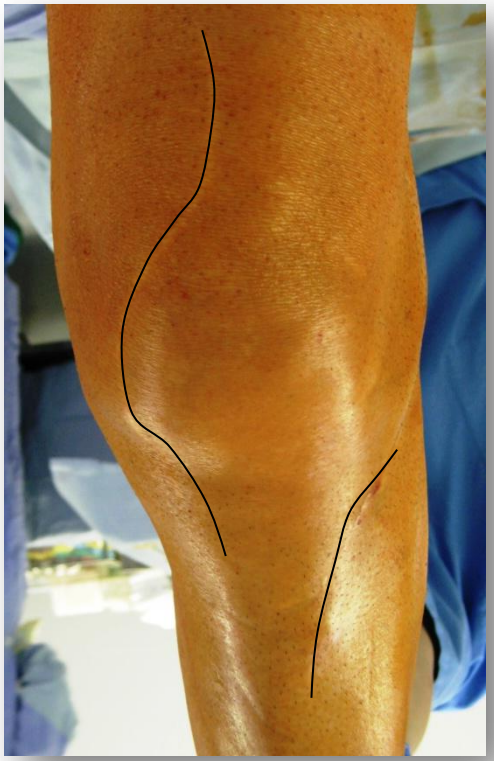


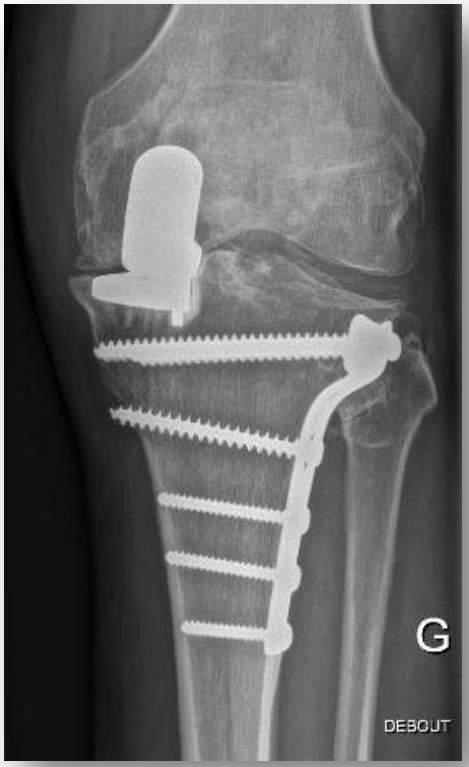


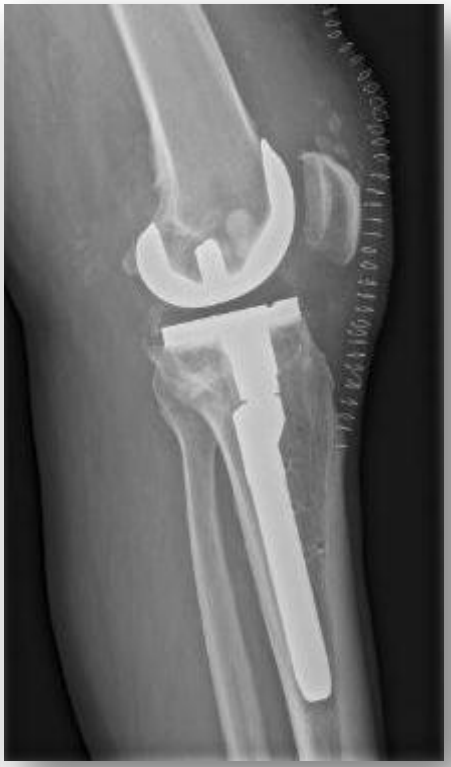


Classical situations

The curved LCW high tibial osteotomy incision

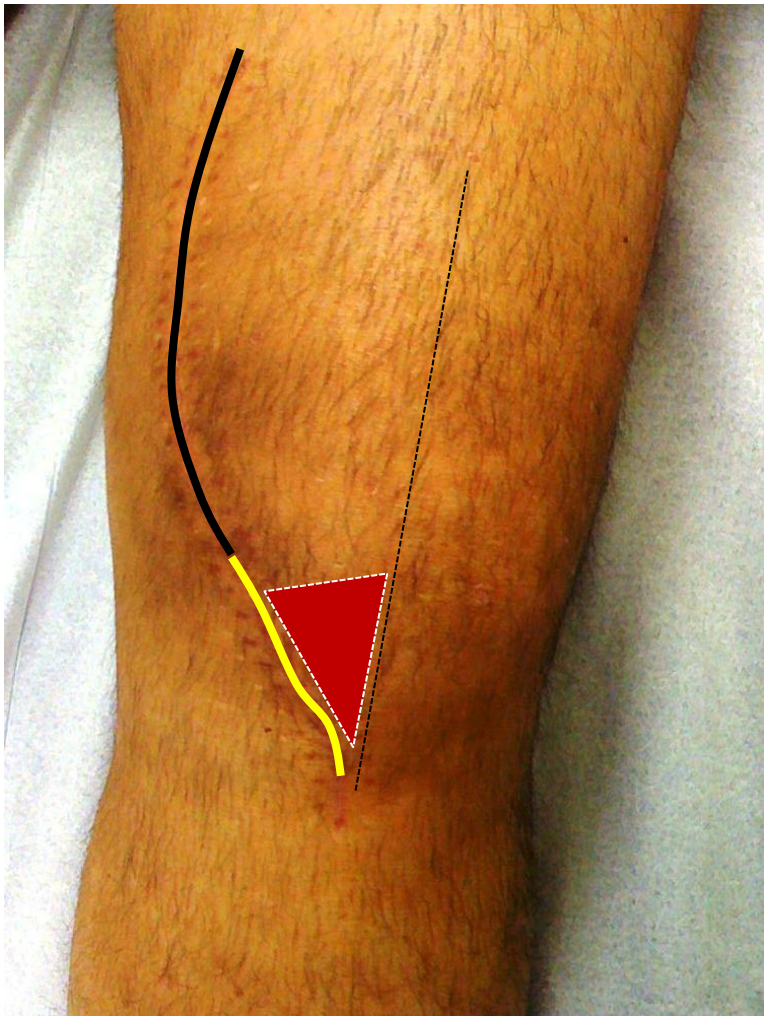






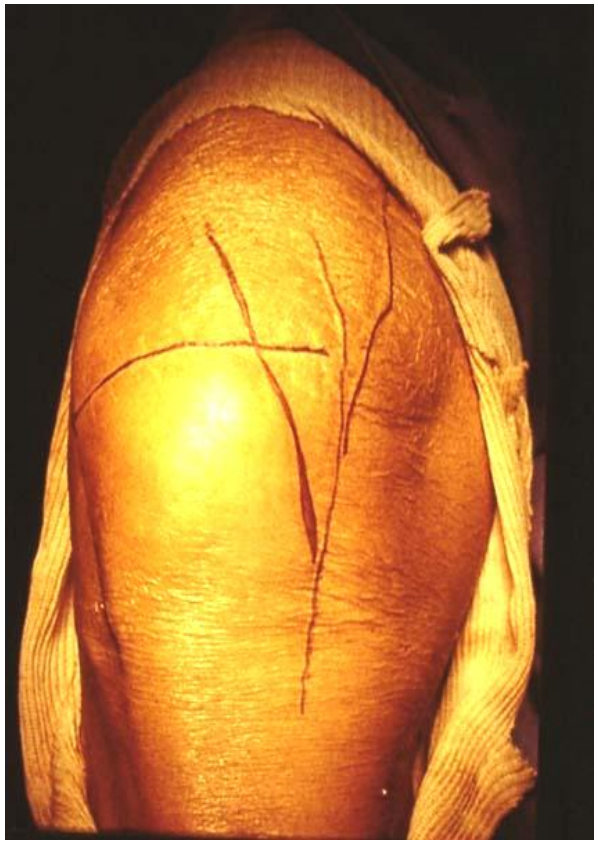
Classical situations

The previous open meniscectomy incision



Classical situations

Stiff extensor mechanism

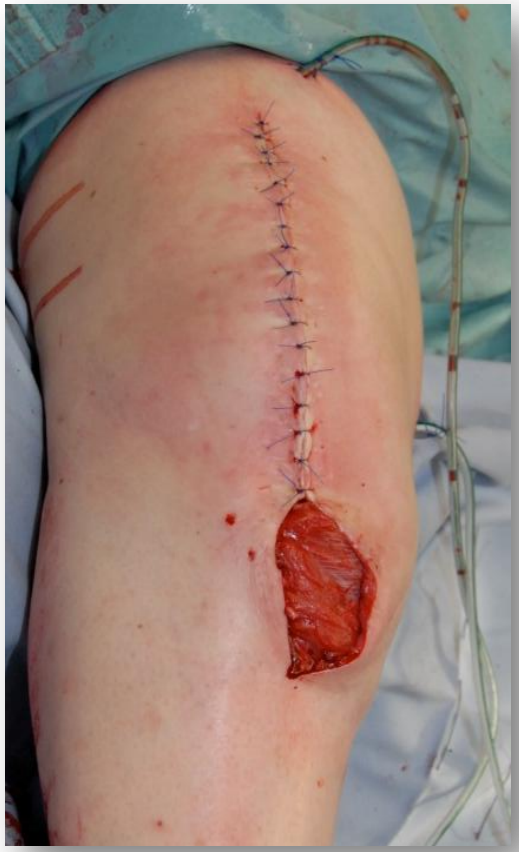


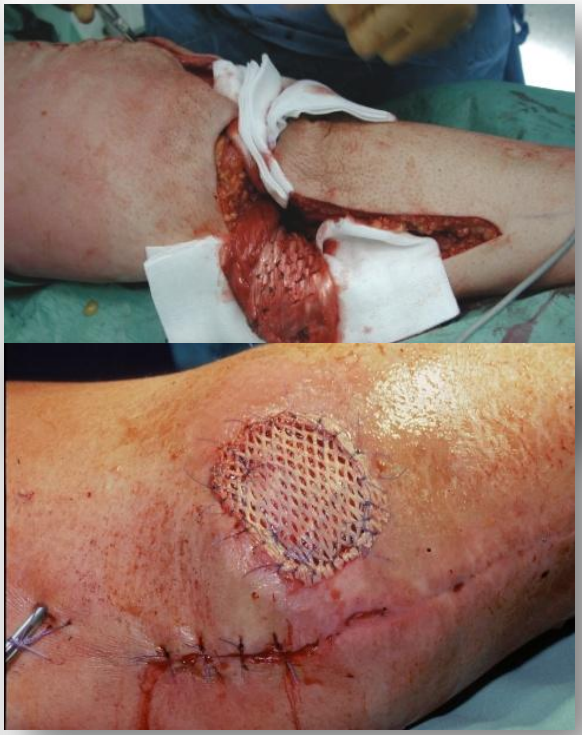
Courtesy of Dr David Dejour, Lyon

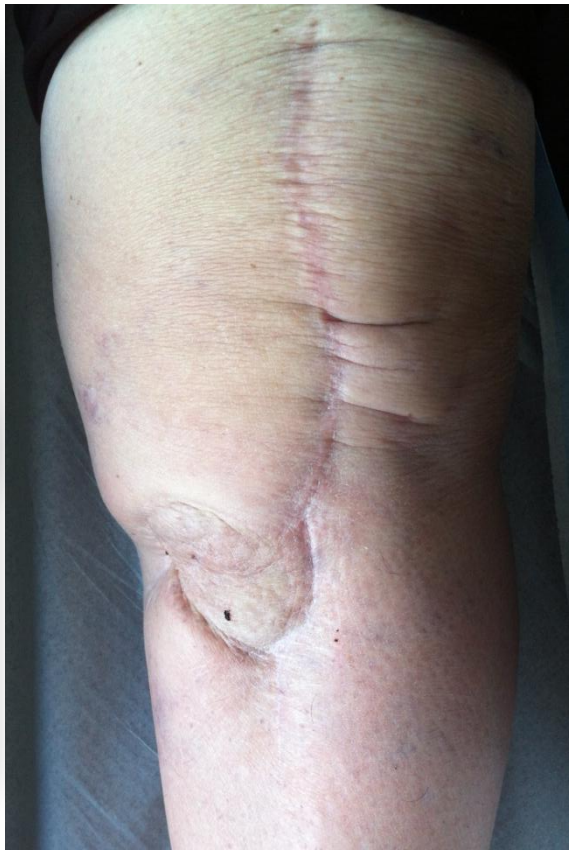
- Prevent skin necrosis / wound breakdown (ATT, Patella) after long standing flexion deficit
- Not too aggressive with flexion
- Consider previous scars
- Use the most lateral

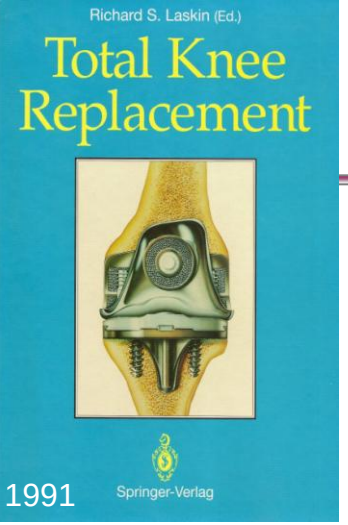
Classical situations

Plan muscle transfer from beginning if needed
(medial gastrocnemius)

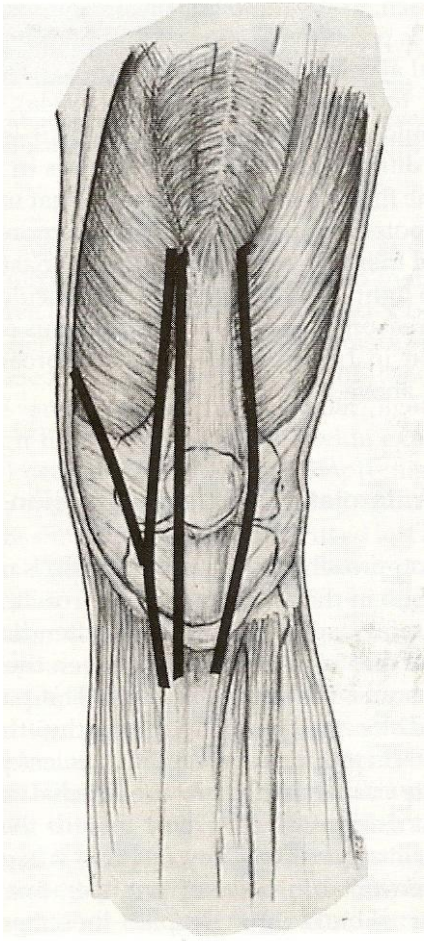








Approaches



Capsular incisions:

Posteromedial

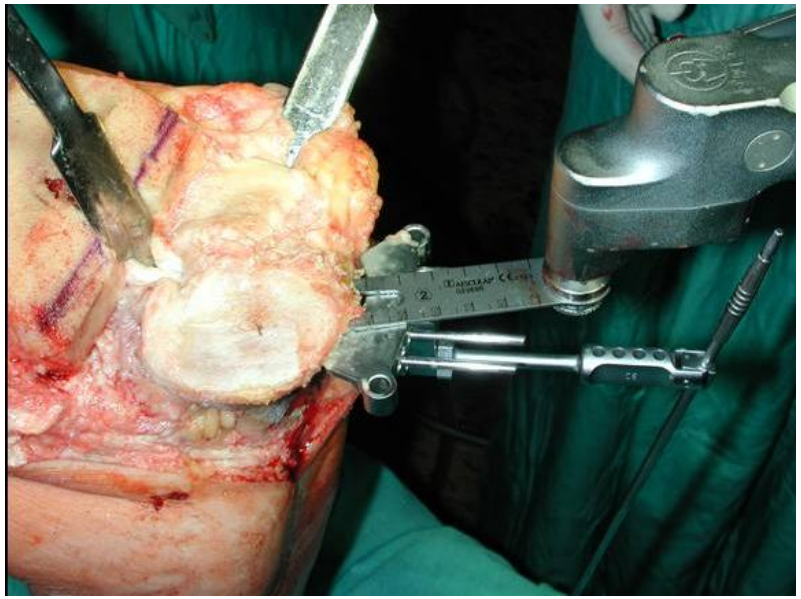
Medial parapatellar

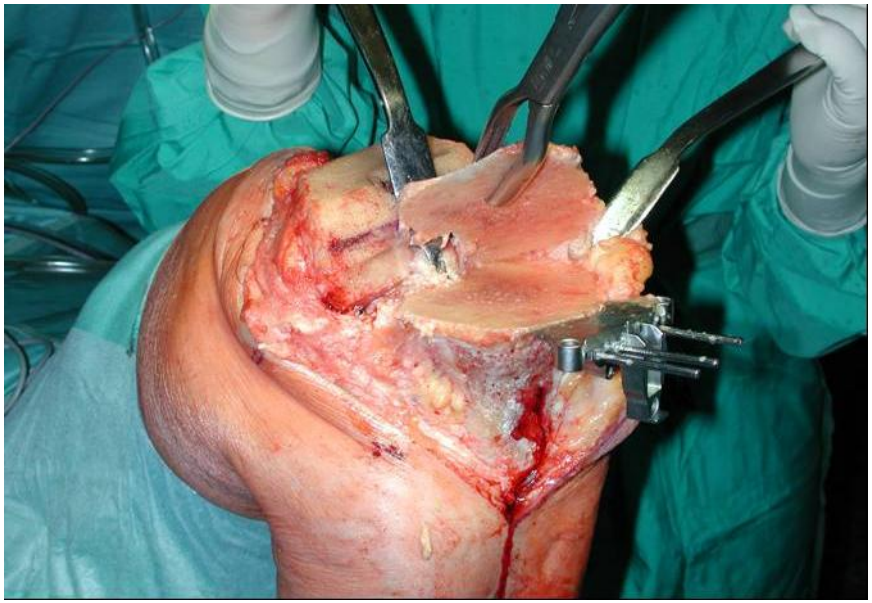
Midline

Lateral parapatellar

Approaches

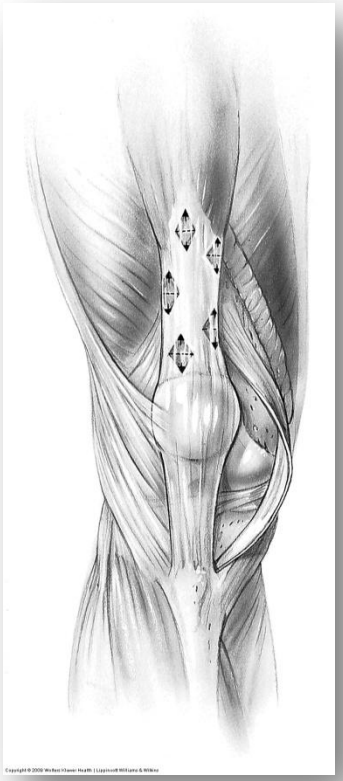
Medial parapatellar

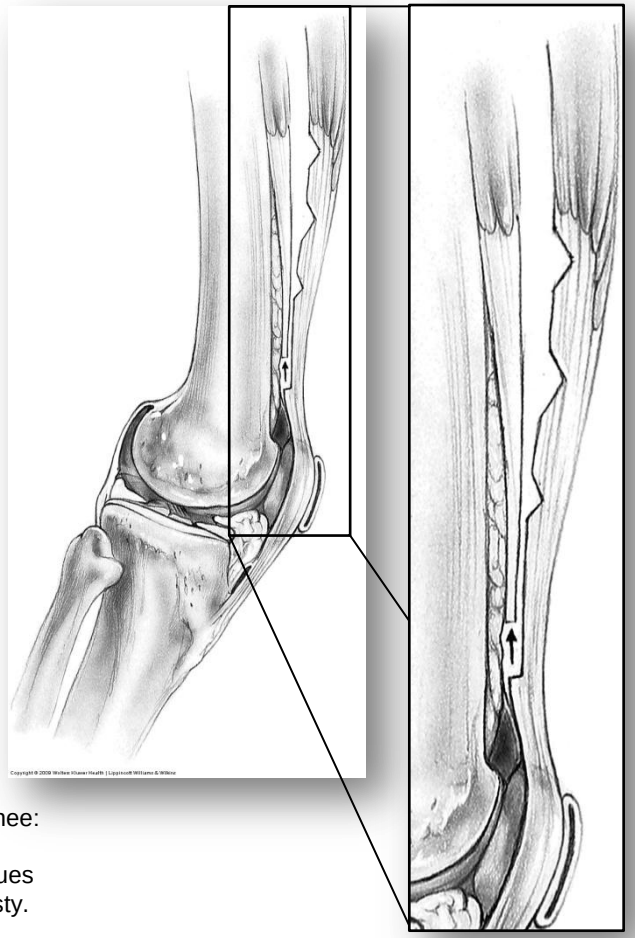




Approaches

Possible proximal extension: Z-lenghtening





From: Ranawat CS, Flynn WF. The stiff knee: ankylosis and flexion
In: Lotke PA, Lonner JH. Master Techniques in Orthopaedic Surgery. Knee Arthroplasty. Wolters Kluwer/Health 2009

Extraarticular procedure

Rectus separated from underlying vastus

5-8 controlled rectus incisions until 80° of knee flexion

Approaches

Proximal (i.e. Z-lenghtening)
or
distal (ATT osteotomy)
extension ?

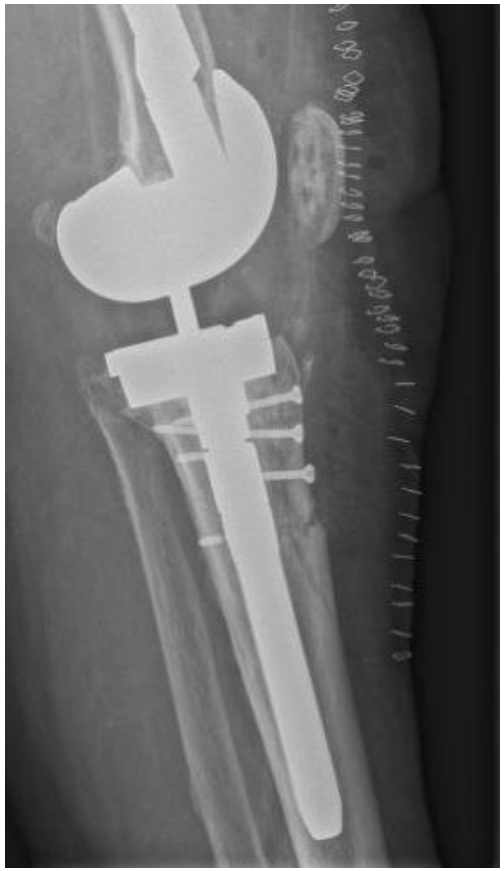
1. Destroying the continuity of the extensor mechanism is a step that will severely influence postoperative rehabilitation.
2. Extensor power is one of the most important determinants for physiologic walking (Lamb & Frost, J Arthroplasty 2003)
3. Therefore we do not recommend or perform quadriceps or patella ligament lengthening together with total knee arthroplasty.
4. **We do not like to sacrifice quadriceps power for better range of motion !**

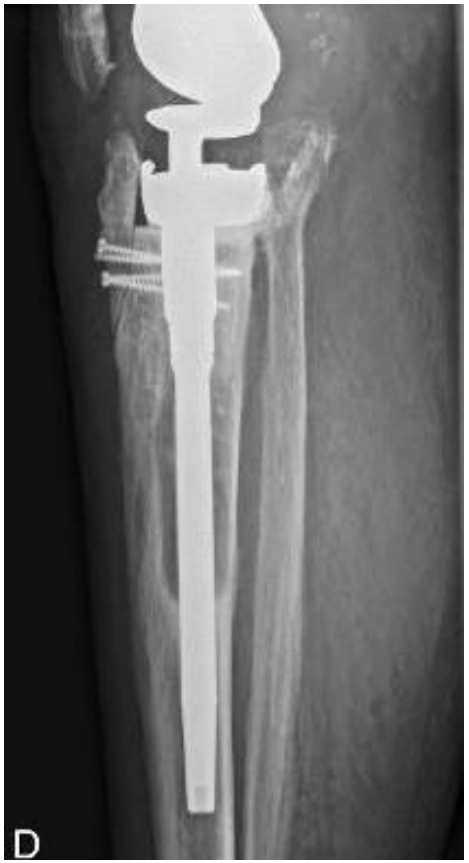
Kohn D, Journées Lyonnaises du Genou, 2006

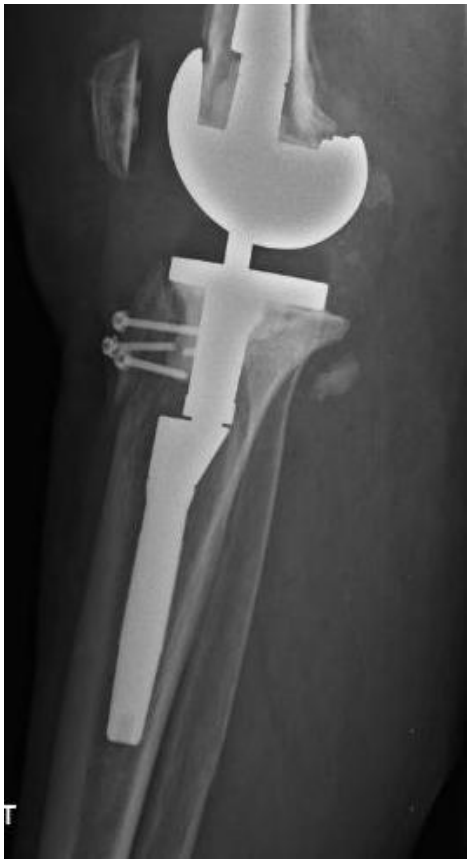
Approaches

When to add ATT osteotomy ?

≈ 10% in our revision TKA series



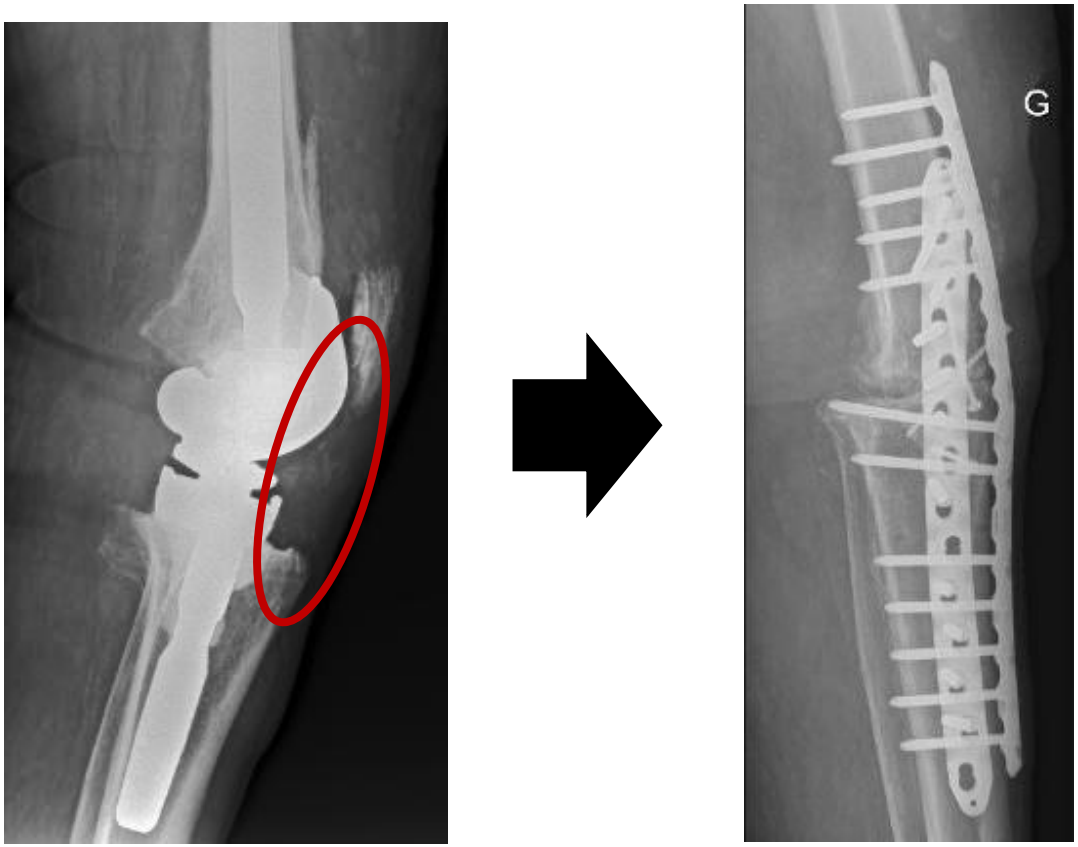




Approaches

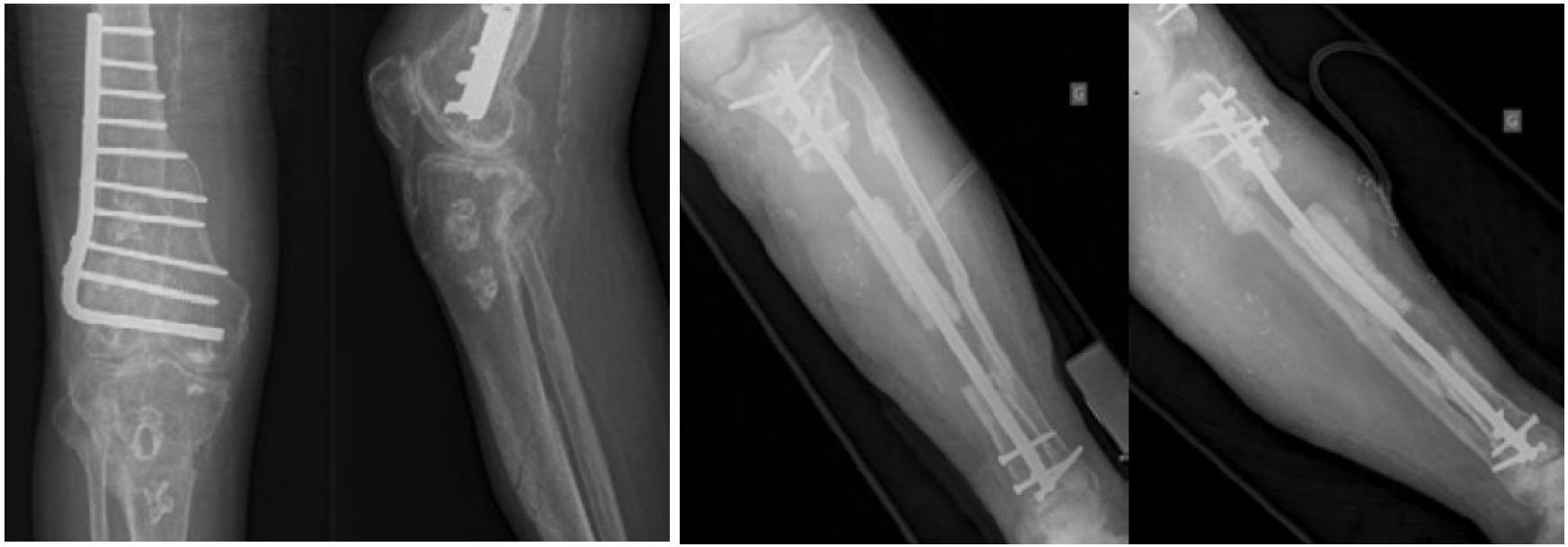
When to add ATT osteotomy ?

Avoid patellar tendon avulsion



Transpatellar access for intramedullary stabilisation of the tibia

Gerich T, Backes F, Pape D, Seil R



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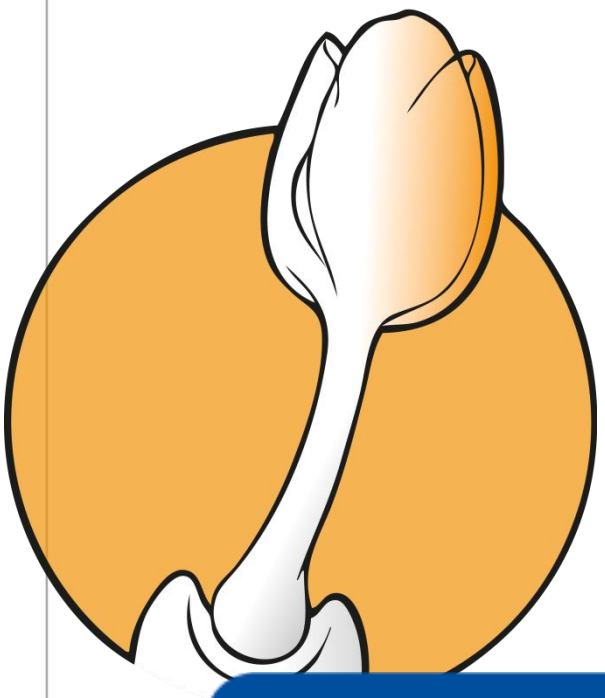

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