

# Total Knee Arthroplasty: How I do a TKA?

*Sébastien LUSTIG MD, PhD, Prof*

E. Sappey-Marinier, C batailler, P Neyret, E Servien.

*Lyon - FRANCE*



LYON KNEE  
SCHOOL OF SURGERY



UNIVERSITY TEACHING CENTER



Hospices Civils de Lyon

# Admission

- Before surgery:
  - No re fitness for surgery.
  - Urinary analysis, cardiologic/medical check up
  - Stop clopidogrel / antithrombotic treatment 5 days before surgery
- Day of surgery:
  - Appointment at 6:45 am the D day
  - Skin pre op: shaving and leg signed
  - Pre anaesthetic medication:  
(None or Atacan 1 hour before surgery)

# Anaesthetic procedure

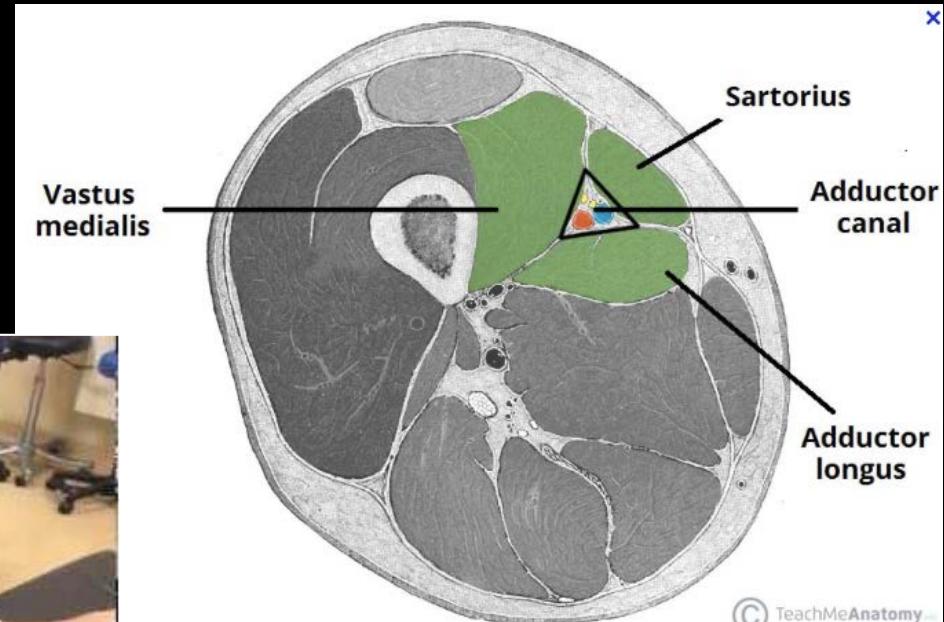
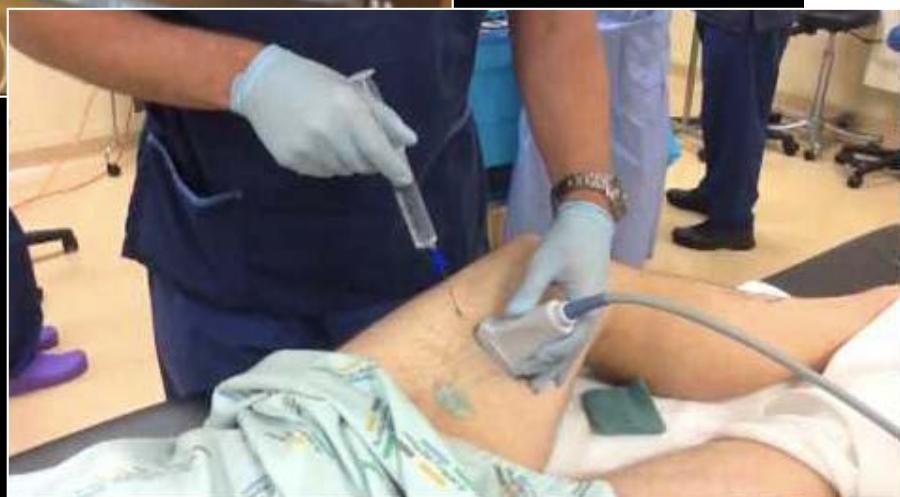


Spinal anesthesia +++

# Adductor Canal Block

10 cm proximal to the patella

*5% Bupivacaine 30 cc / US Technique*



- Antibioprophylaxis:
  - Cefazoline 2G standard procedure
  - If allergy: Vancomycine 1G
  - 30min before incision
- Tranexamic acid :
  - 1g incision / 8h /16h

# OR set up

- Surgeon homolateral of the knee
- 1 scrub nurse same side than the surgeon
- Number of assistants
  - 1 or 2 assistants
    - One to hold retractors
    - One to anticipate surgical steps and help the surgeon



# « Teaching the residents »

- Patient's position

- Tourniquet (+/-)
- Knee 90°



- Set up all the informations

Genou DROIT  
PTG Anatomic AFTI st. III  
Ron 0/2/130  
AFTm 172 Flexum 3°  
AFm 83 & RE  
ATm 86 HKs 7°  
F: 2  
T: 2  
Rotule: oui  
Ciment STD

XRays





GAUTHIER Chantal 67

PtG droite  
APTm 180 AFTI Stade 2  
Af m 92 5/01/20  
ATm 87 Ciment ATB  
T:2 Incision Arthroscopique  
T:2



# Surgical steps (Summary)

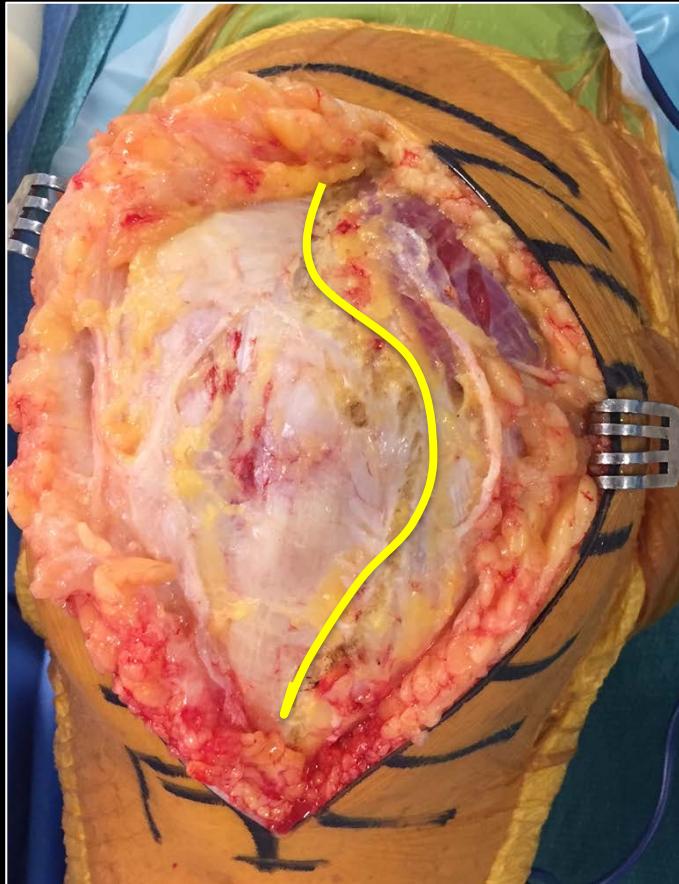
- No tourniquet (sometimes for cementation)
- Femur first
- Tibia second
- Patella last
- Implants: PS Knee / Cemented

# Landmarks and draping

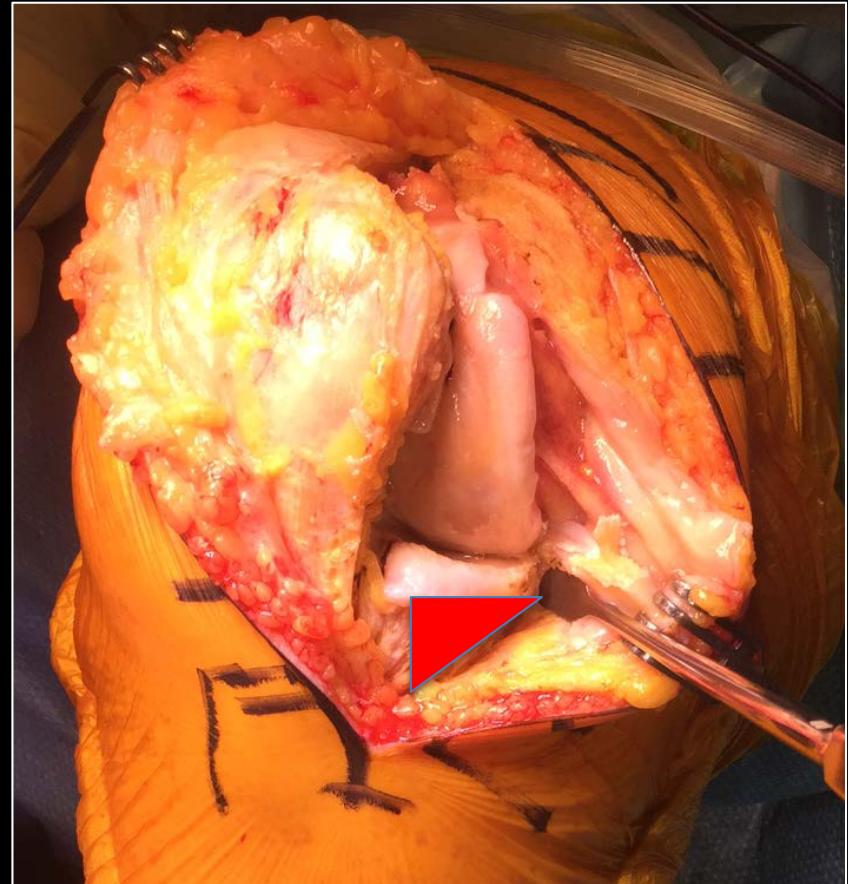
- Surgical drapes:
  - Alcoholic betadin
  - Glove (size) 9 on the foot
  - Jersey
  - Draping
- Landmarks:
  - Patella
  - ATT



# Incision / arthrotomy



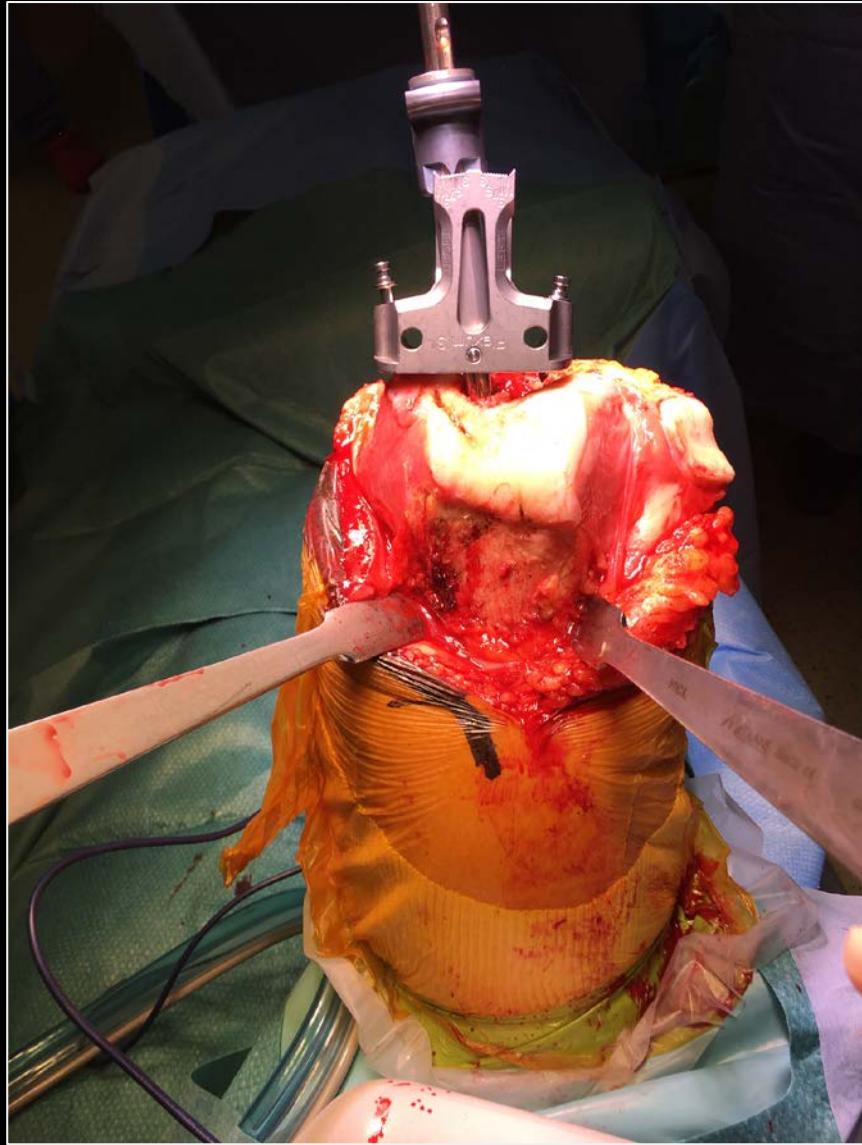
Sub-fascia dissection to preserve  
skin vascularisation

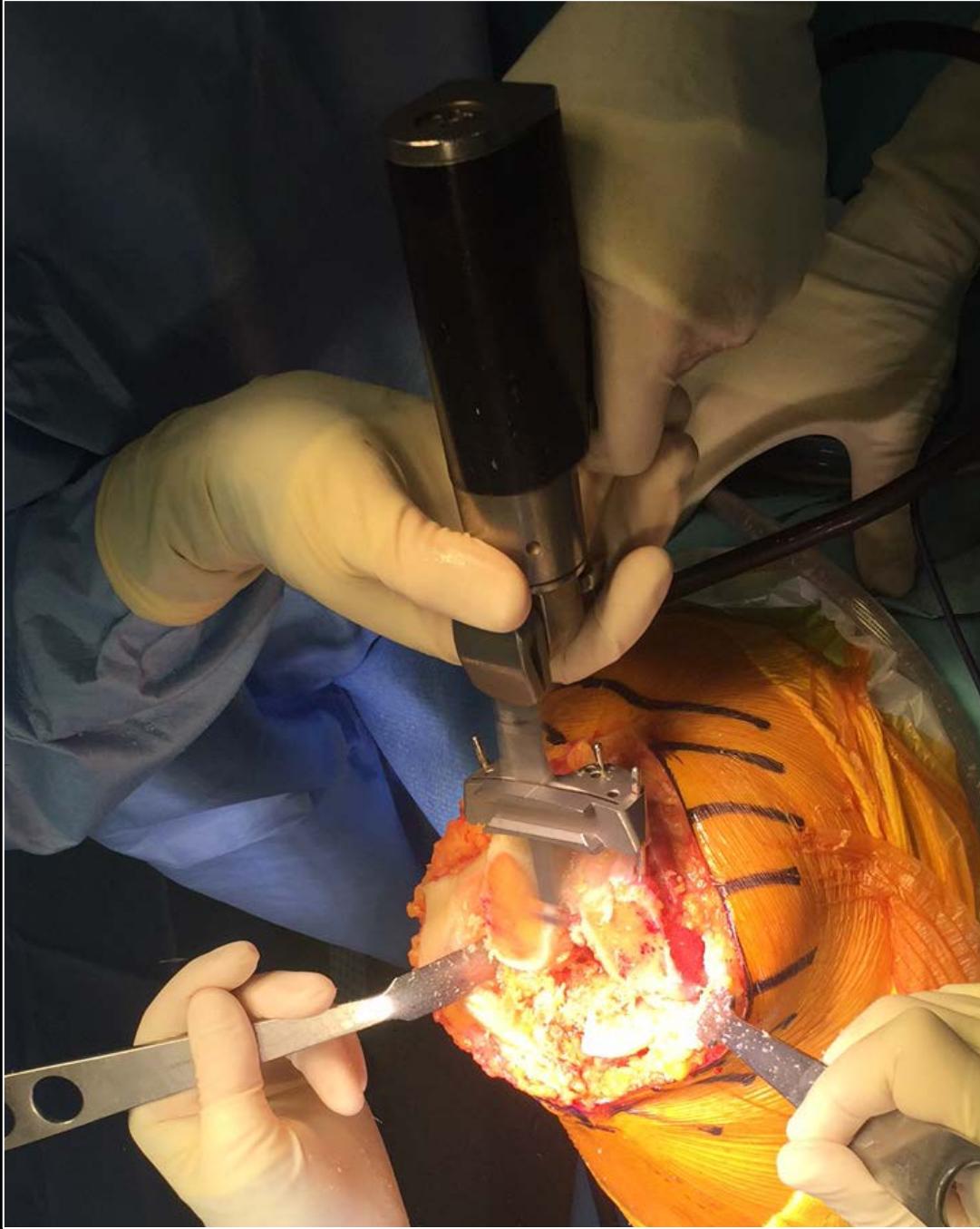


Deep MCL release in case of medial  
FT arthritis

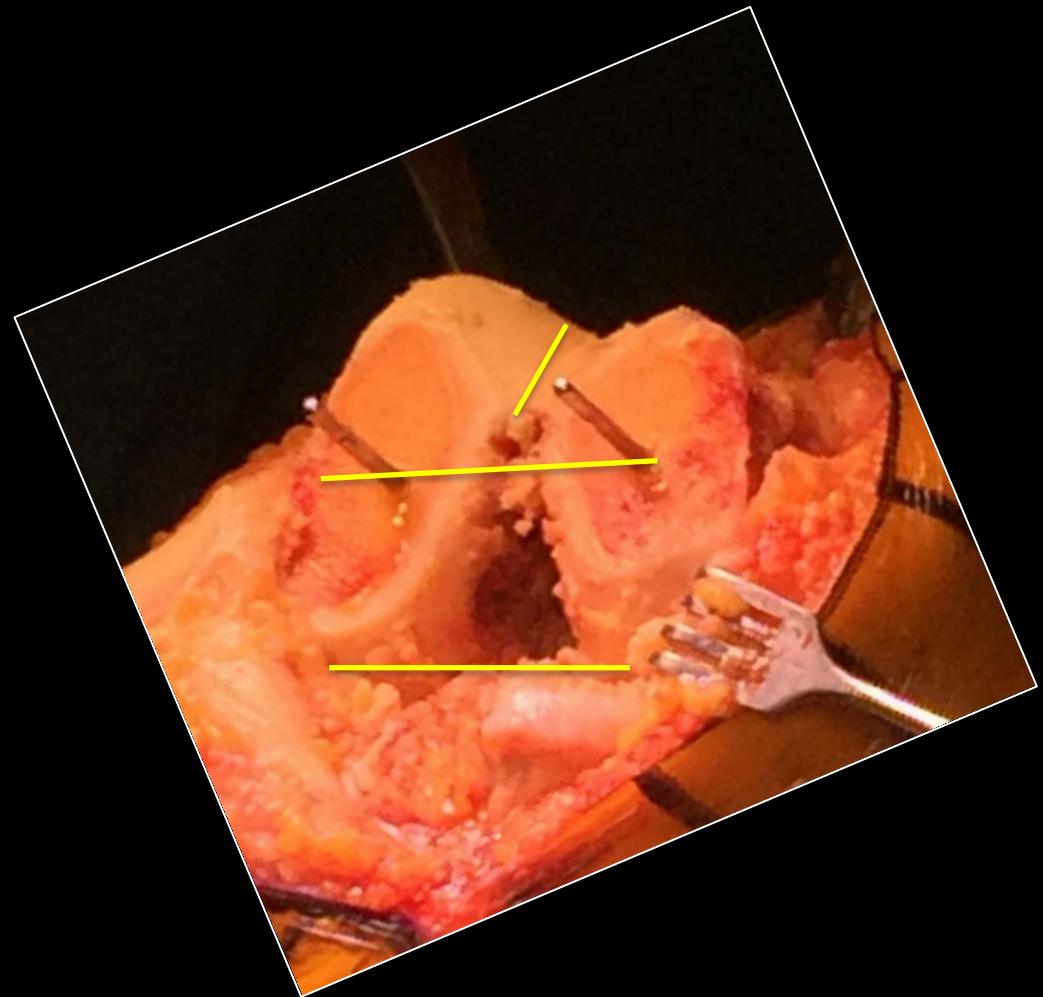
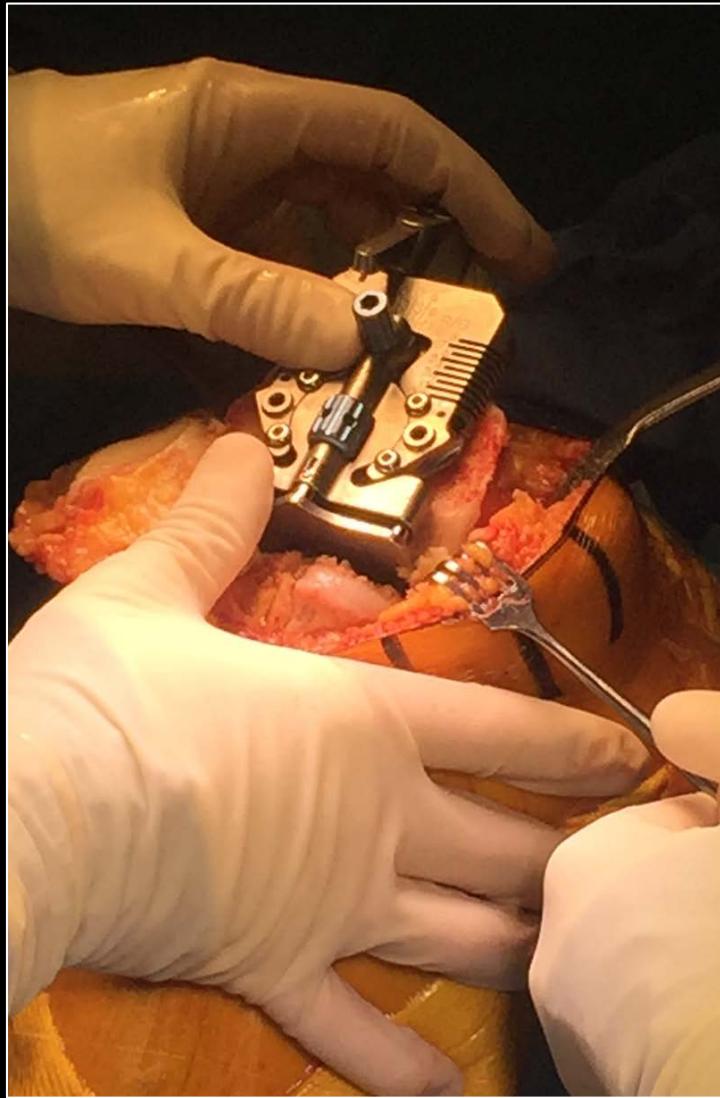
## 1st step : Femur, distal cut

- Intramedullary rod
- 10 mm cut
- $7^\circ$  HKS (Varus knee)
- $5^\circ$  HKS (Valgus Knee)
- $6^\circ$  HKS (Obese patient)

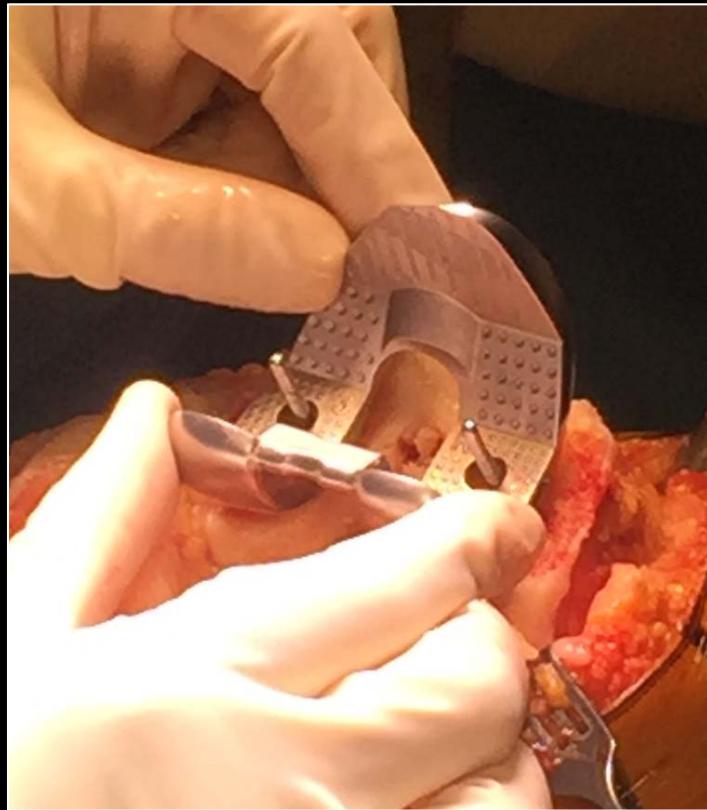




# Femur Size / Rotation



# 4 in 1 cutting guide



Double Check femoral  
component size

# 4 in 1 cutting guide

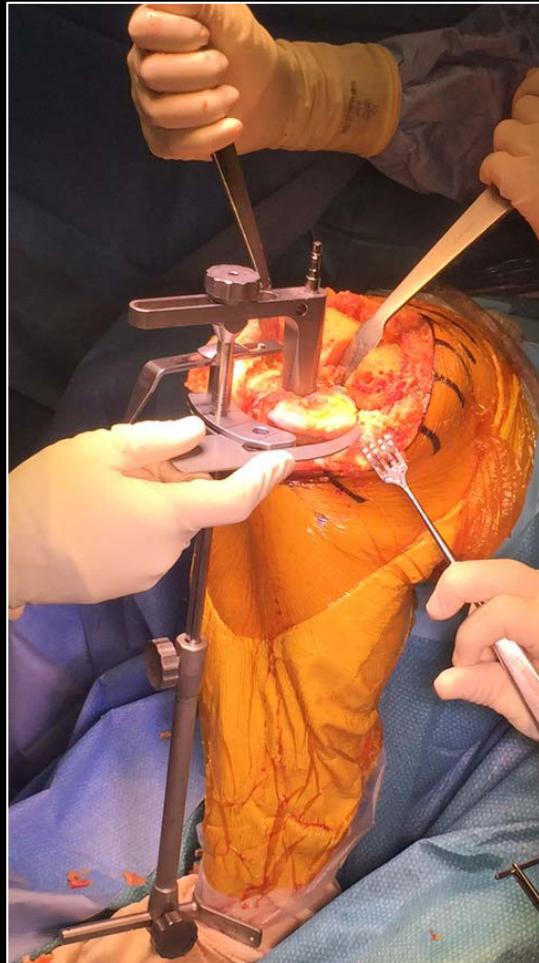


# Box preparation and trial



- Intramedullary guide (slope)
- Extramedullary guide (alignment)

# Tibial cut



Tibial slope



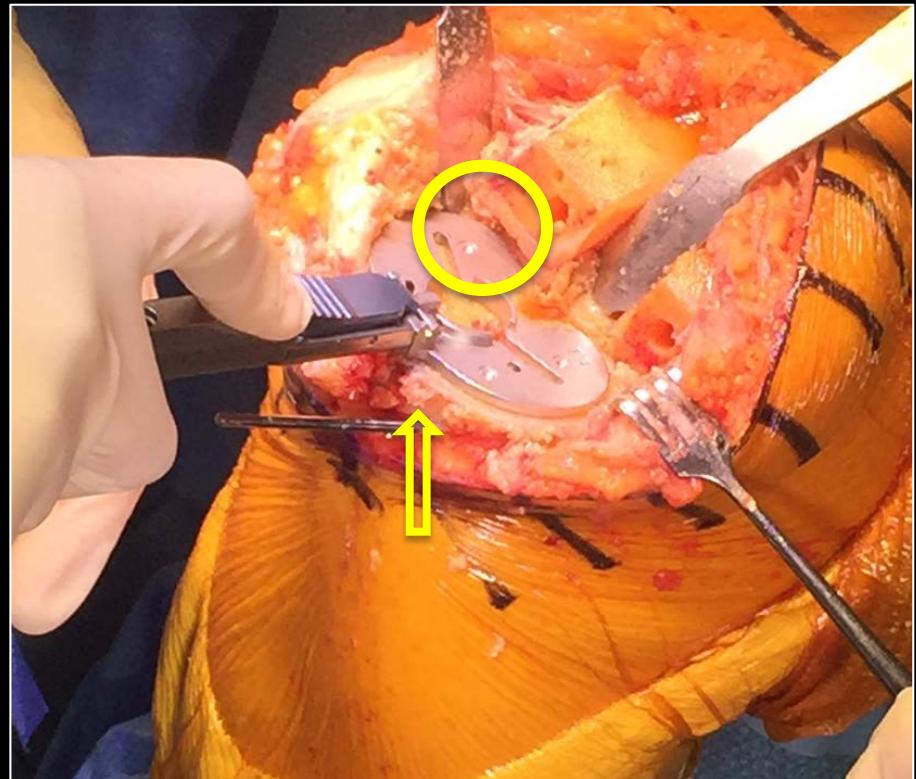
Thickness of the Cut



Alignment (Varus / Valgus)

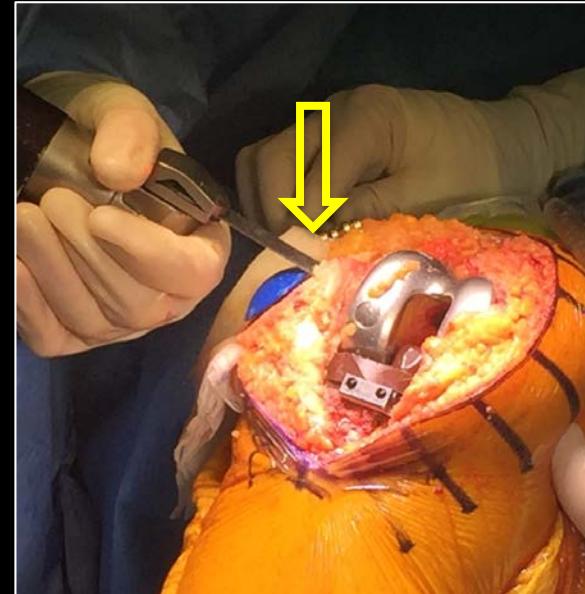
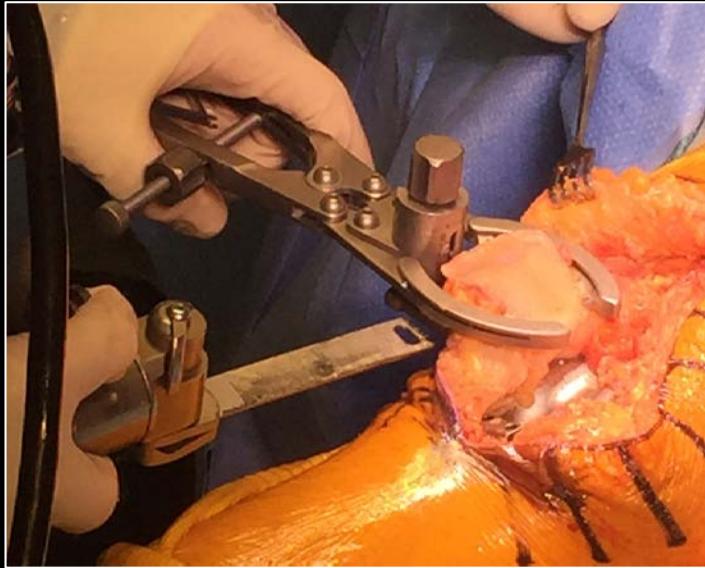
# Tibial rotation

- No overhang (lat +++)
- Mid third ATT
- Usually postero-medial part of tibial plateau is uncovered



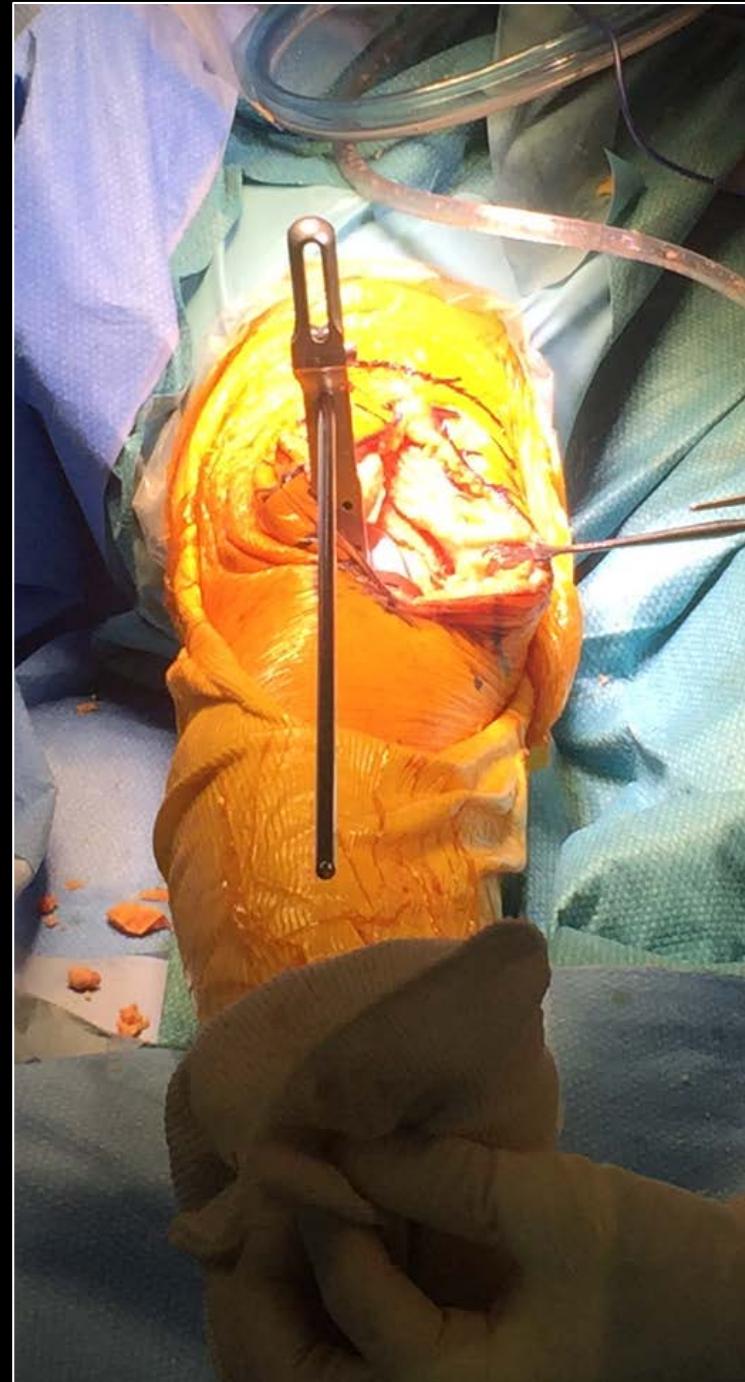
# Patella

- Selective resurfacing
- Goal: restore anterior space
- Lat facetectomy



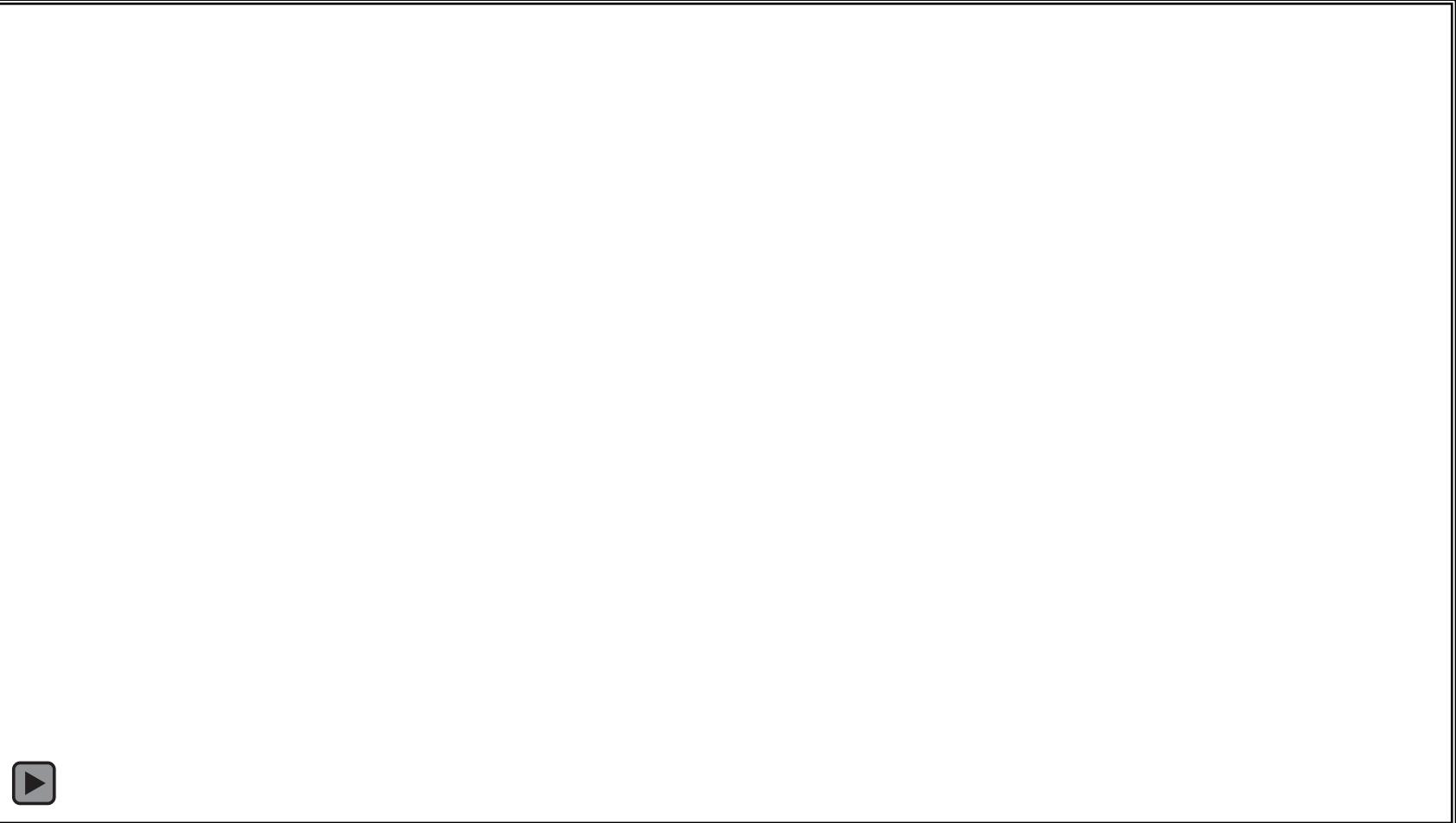
# Trials

- Alignment
- Positioning of the implants



# Testing

## Patella tracking / Range of motions

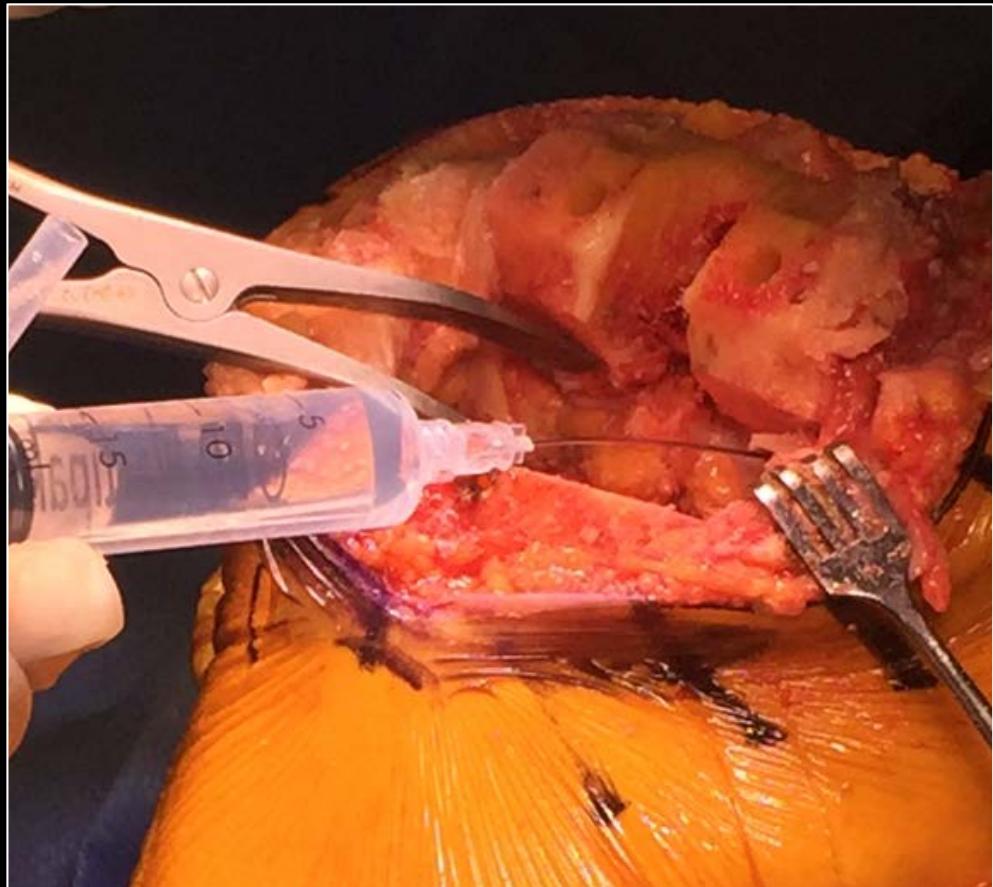


# Peri-articular injections

Ropivacaine 5mg (49.25mL)

Epinephrine 1mg (0.5mL)

Clonidine 1mg (0.8 ML)



# Cement

- Prepare and dry the bone with succion and swab

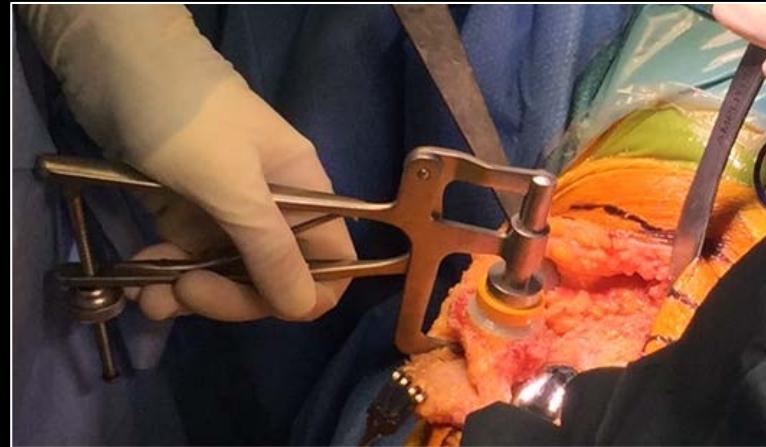
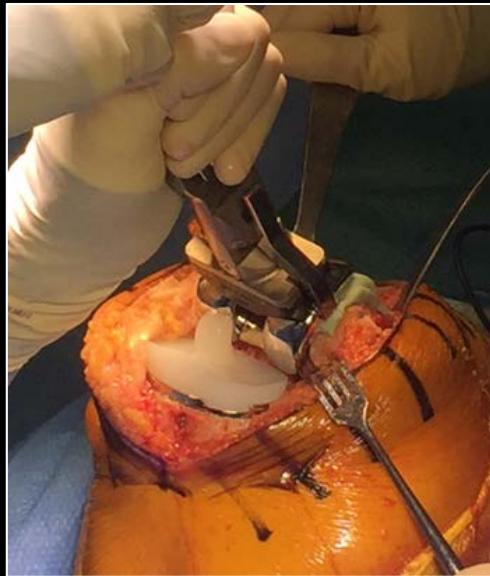
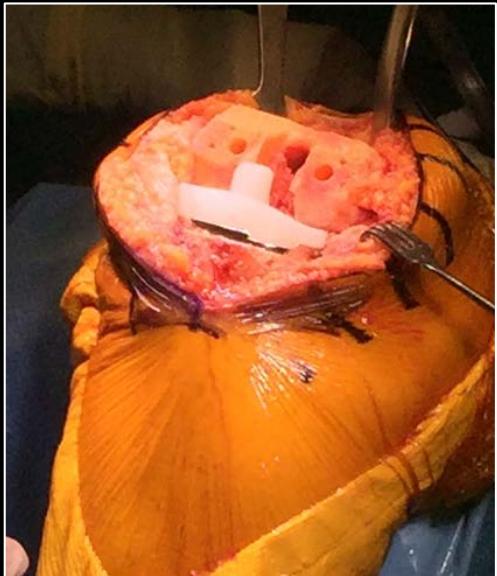


« double cementation » technique

implants / Bone

# Implantation

- Tibia first
- Femur second
- Patella last



# Wound closure and dressing

- 90° of flexion
- Absorbable sutures
- Staples on the skin
- Drain : 24 hours
- Knee Brace : 72 hours

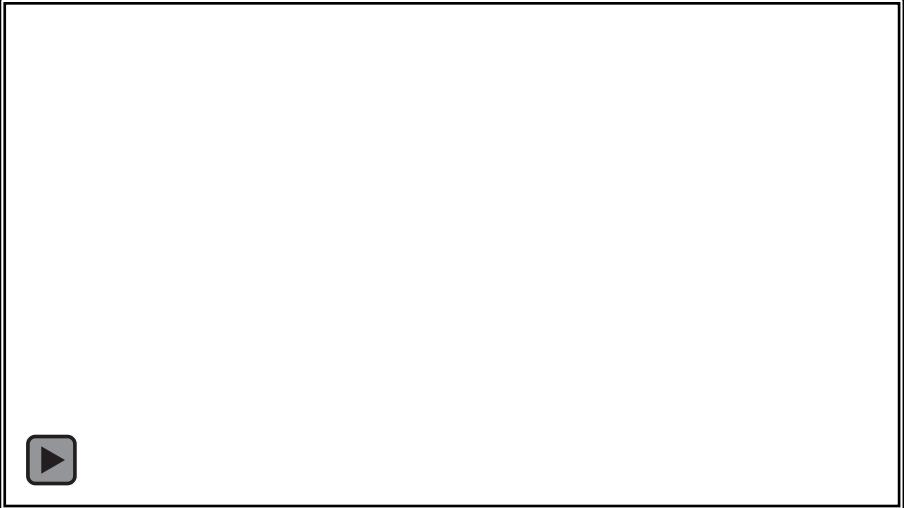


# Multimodal Pain Management

- NSAID's (Celebrex)
- Tramadol
- IV Tylenol
- Oxycodone
- Lyrica
- Dexamethasone
- Peripheral nerve blocks

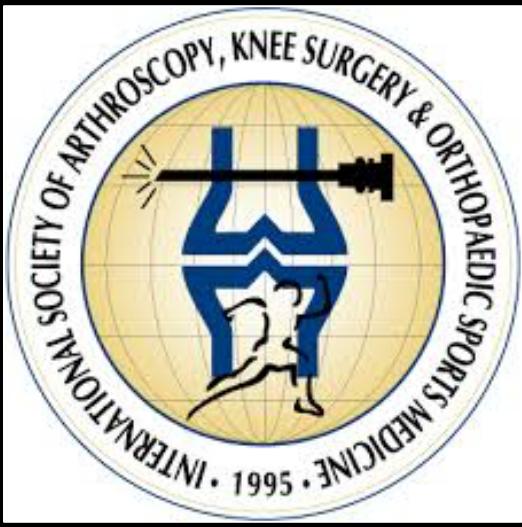
# Post operative care

- Rehabilitation:
  - 0-95° during 30 days
  - Full weight bearing
  - 2 crutches 1 month
  
- Hospital Length of stay:
  - Average : 5 days
  - Rehab facilities : 70% / Home : 30%



# Follow up

- 1st : 2 months
  - Before if any issue
- 2<sup>nd</sup>: 1 year
- Then 5 years, 10 years, 15 years mark



Thank  
You

Sebastien.lustig@gmail.com

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