



7th Advanced Course on Knee Surgery - 2018:

"How I do a Lateral UKA!"

Presenter: Anders Troelsen, MD, ph.d., dr.med., Professor



Clinical Orthopaedic Research
University Hospital Hvidovre, Copenhagen

How I perform LUKA?

TECHNIQUE

PREOPERATIVE CONSIDERATIONS AND HOW I PERFORM A FIXED BEARING LATERAL UNICCOMPARTMENTAL KNEE ARTHROPLASTY?

ANDERS TROELSEN

Copenhagen University Hospital Hvidovre, Denmark

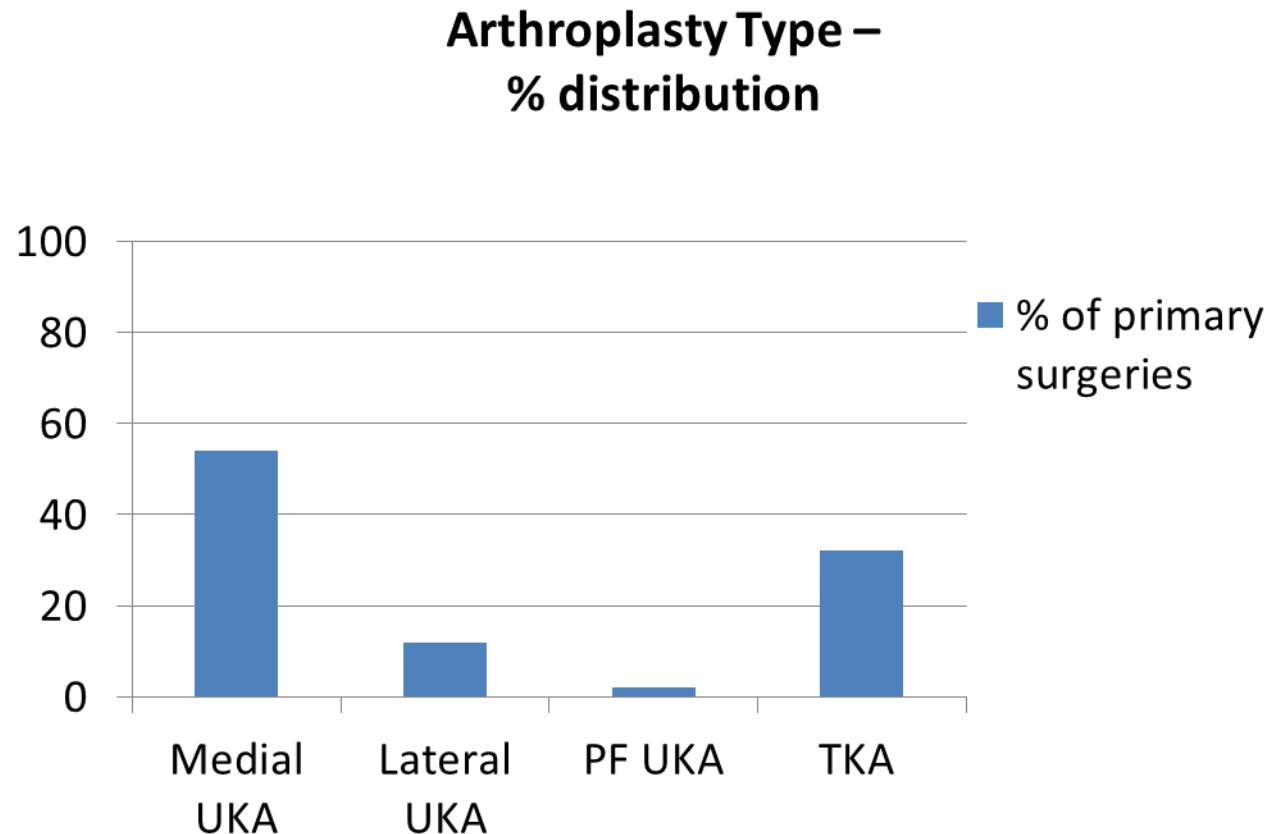
Why I do Lateral UKA?

Reasons:

- ✓ Evidence-based procedure with good results
- ✓ Maintains ligament guided kinematics
- ✓ My best performing patients



My primary knee arthroplasty practice



Indications for Lateral UKA

- Bone-on-bone OA in the lateral compartment
- Preserved medial compartment
- Correctable valgus deformity
- Functionally intact ACL
- No severe patella-femoral OA
- Flexion contracture of < 10 degrees
- Knee flexion > 90-100 degrees or less
- Primary OA and posttraumatic OA

Radiographic and clinical presentation

- Bone-on-bone OA in the lateral compartment
- Pain and loss of function
- Instability (“disease of flexion”)



Implant choices



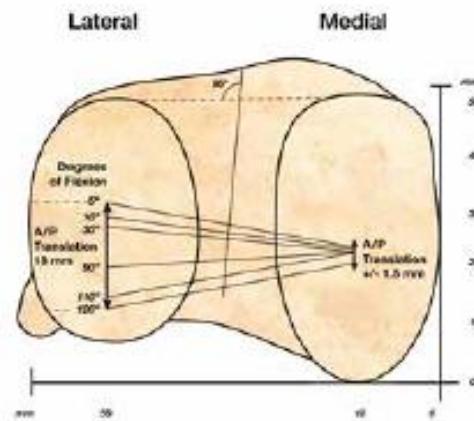
MEDIAL OXFORD:
Mobile bearing, Cementless



LATERAL OXFORD:
Fixed bearing, Hybrid (C-less femur)

Biomechanical considerations – the lateral comp.

- In extension: Highly stable / LCL tensioned
- In flexion: Natural laxity
- ROM: Medial pivot / Lateral AP translations
- Extension gap ≠ Flexion gap



Surgical principles

- "Resurfacing" of the lateral compartment
- Stable in full extension with natural tension of the LCL
- Re-establish alignment to "pre-disease" state
- Overcorrection leads to detrimental outcome
- The flexion gap is left unbalanced

Patient positioning / Incision / Inspection of knee

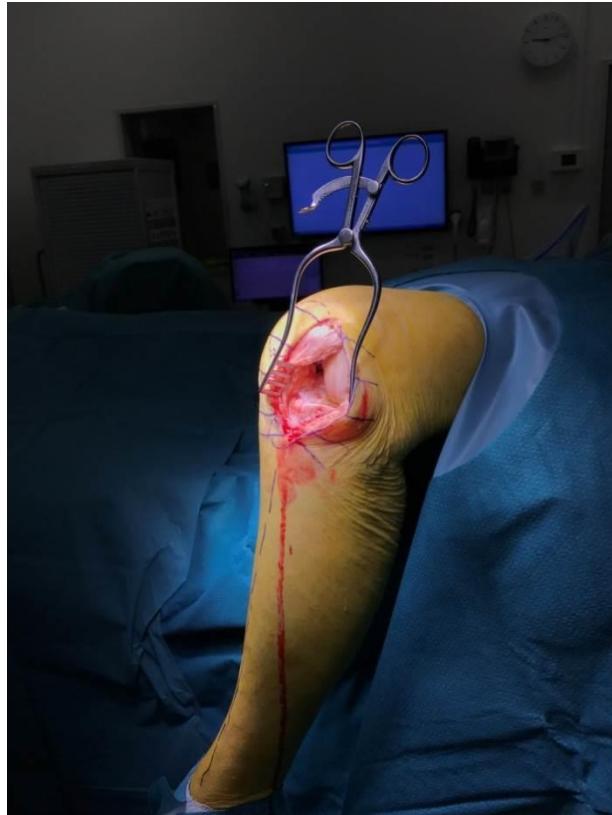


Patient positioning



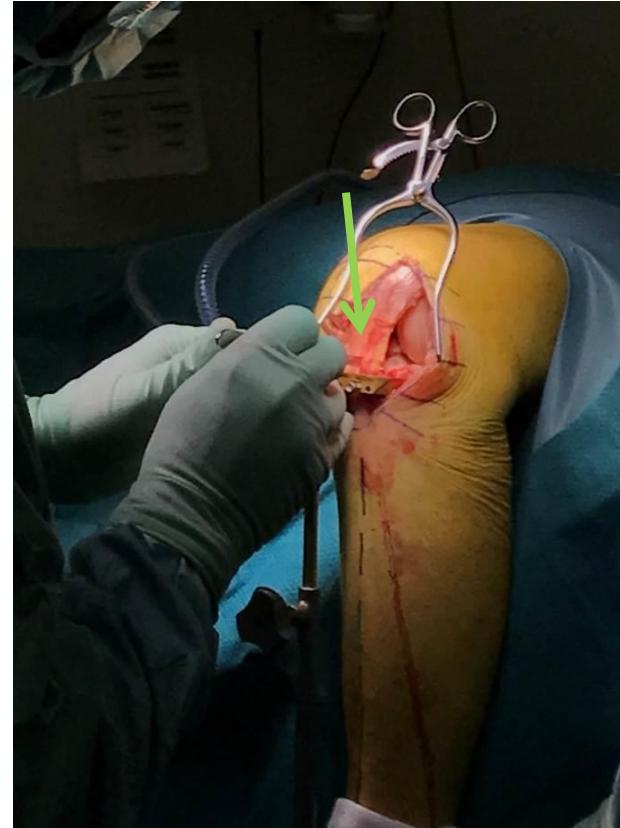
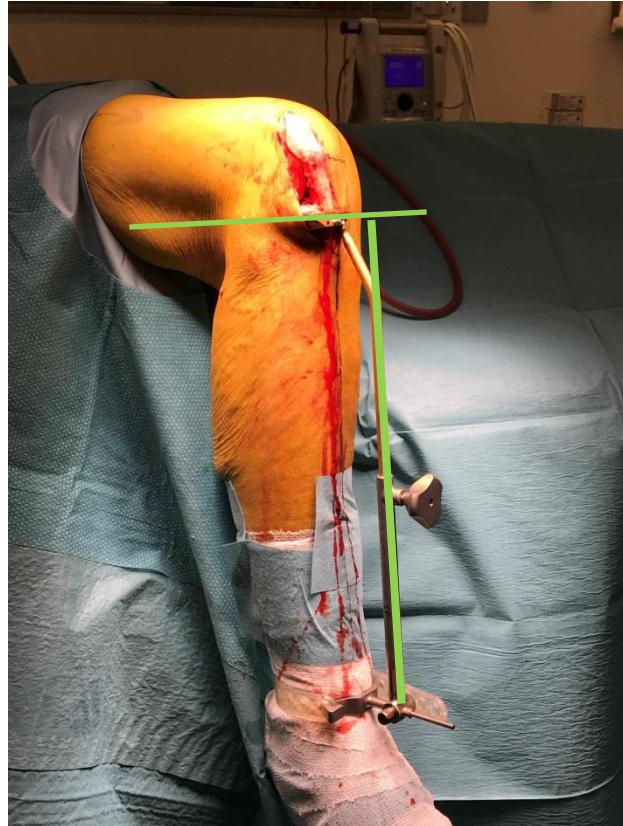
Planning the incision

Patient positioning / Incision / Inspection of knee



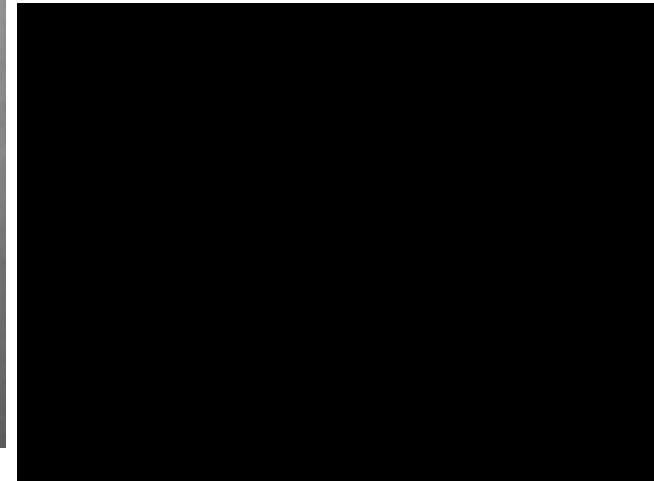
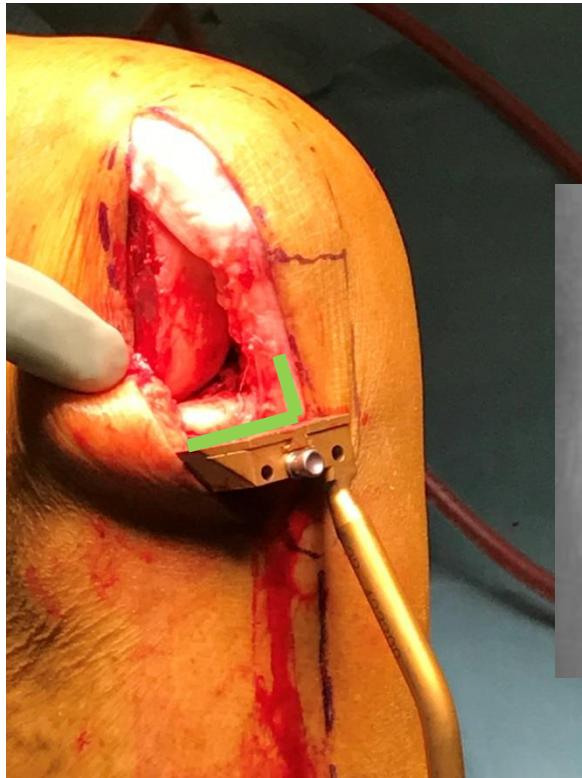
Inspection and removal of osteophytes

Bony cuts – Tibia



The tibia guide is placed and the cuts are prepared

Bony cuts – Tibia



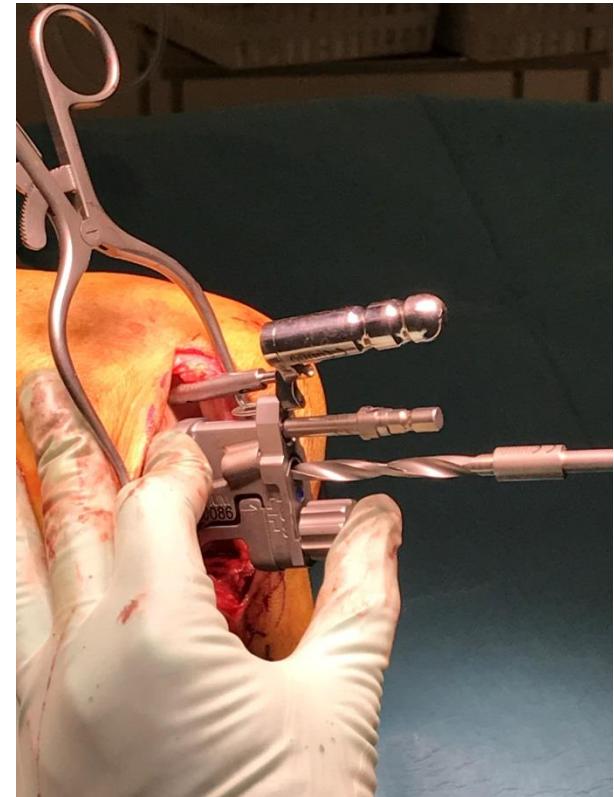
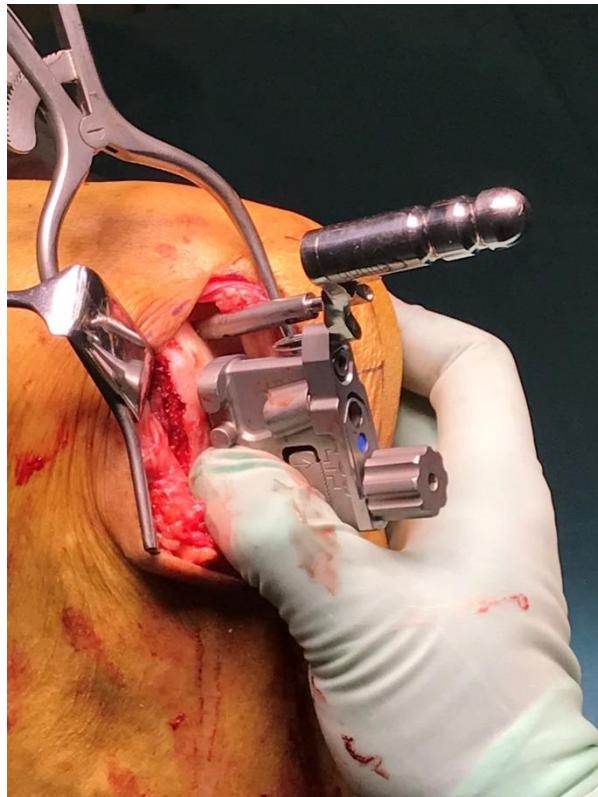
The sagittal and horizontal saw cuts are made

Bony cuts – Tibia

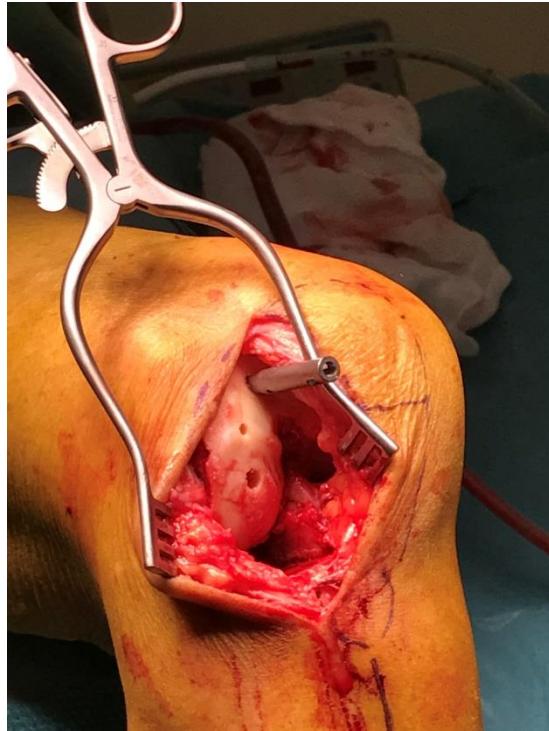


Check that the depth of tibia resection is sufficient

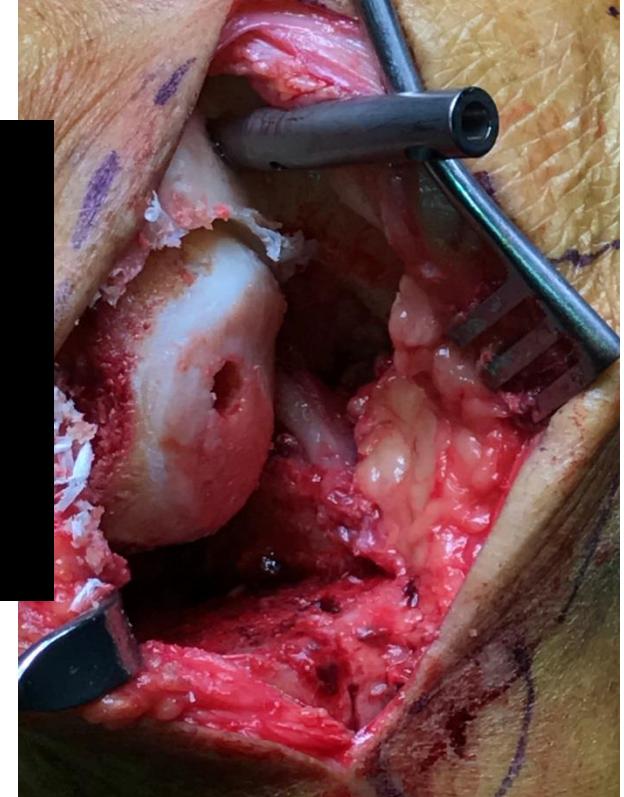
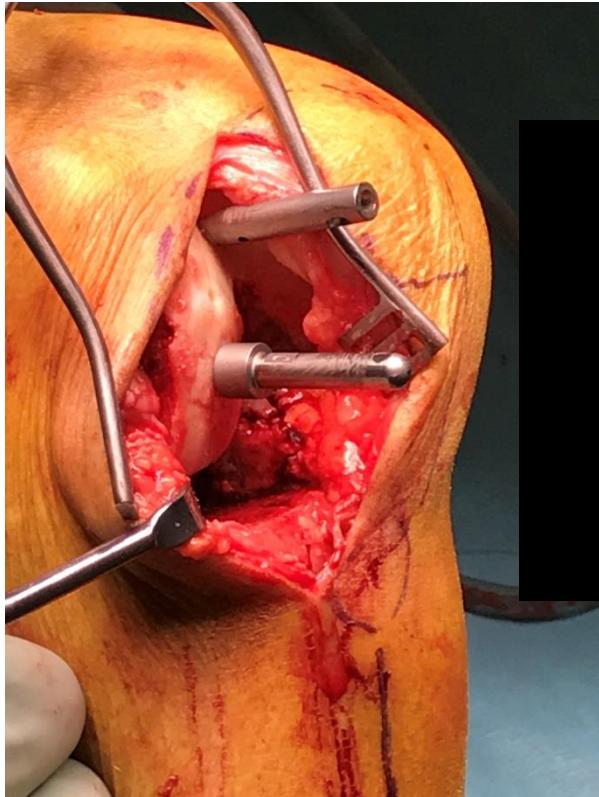
Bony cuts – Femur



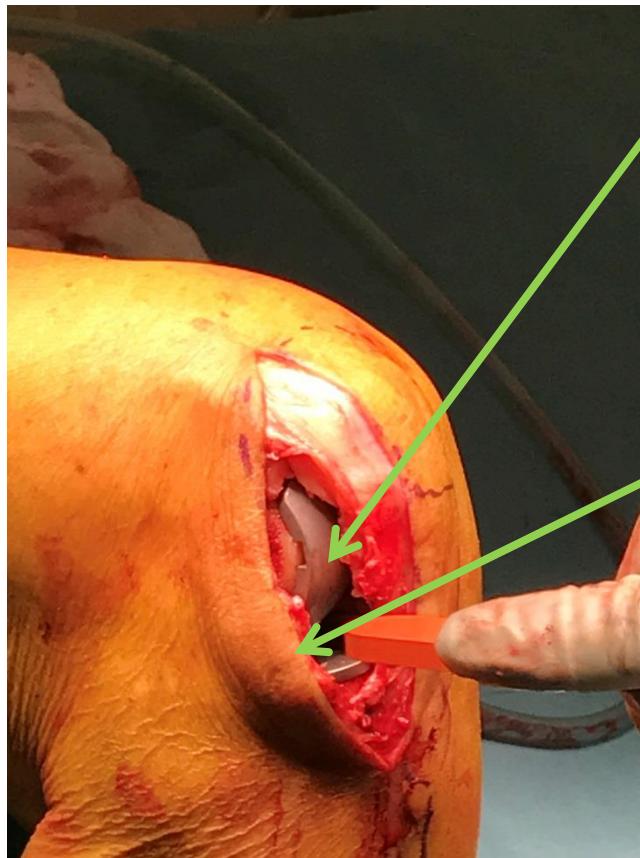
Bony cuts – Femur



Bony cuts – Femur

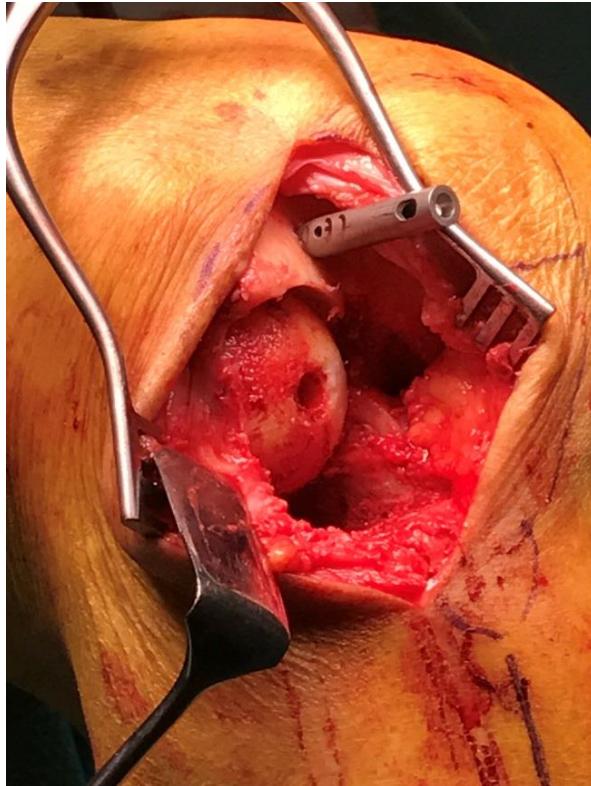


Bony cuts – Femur

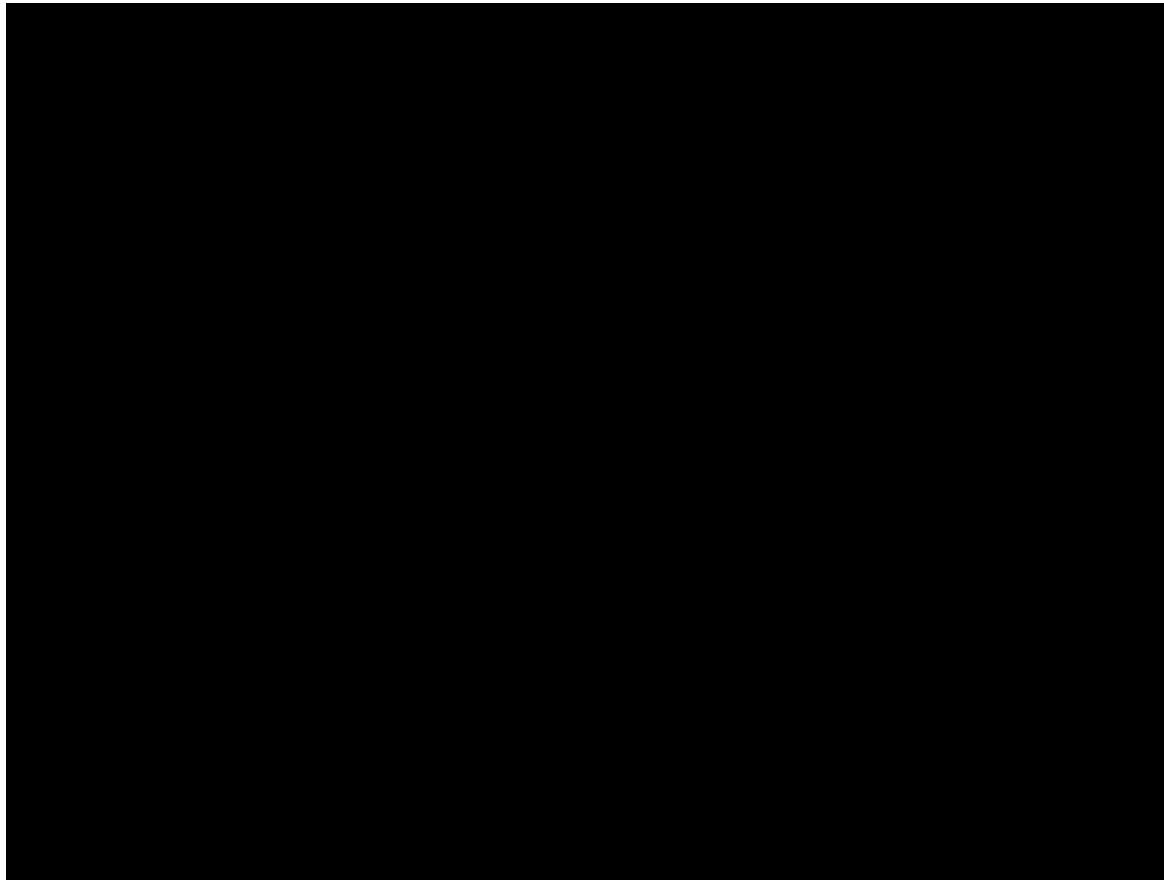


- 1) *Measure extension gap with trials in place*
- 2) *Difference between first and second measurement will determine bone to be removed at milling*
- 3) *Ensure that the flexion gap is looser than extension gap*

Trial and implantation



Trial and implantation



References

References

1. Lustig S, Lording T, Frank F, Debette C, Servien E, Neyret P. *Progression of medial osteoarthritis and long term results of lateral unicompartmental arthroplasty: 10 to 18 year follow-up of 54 consecutive implants.* Knee. 2014;21 Suppl 1:S26-32
2. Lustig S, Parratte S, Magnussen RA, Argenson JN, Neyret P. *Lateral unicompartmental knee arthroplasty relieves pain and improves function in posttraumatic osteoarthritis.* Clin Orthop Relat Res. 2012 Jan;470(1):69-76