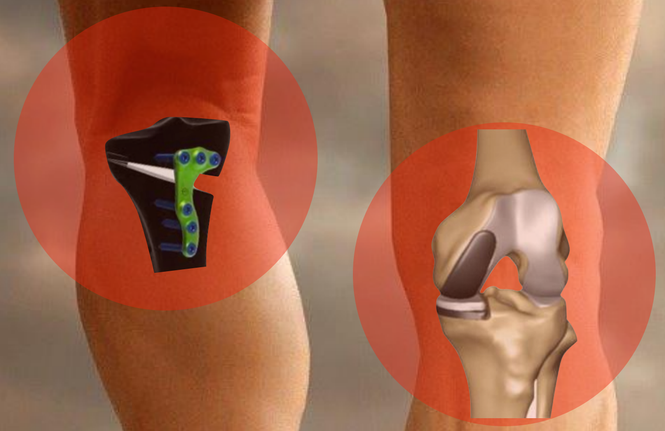


HTO VS UKA

WHAT, WHEN AND HOW?

ABAOT

GHENT UNIVERSITY

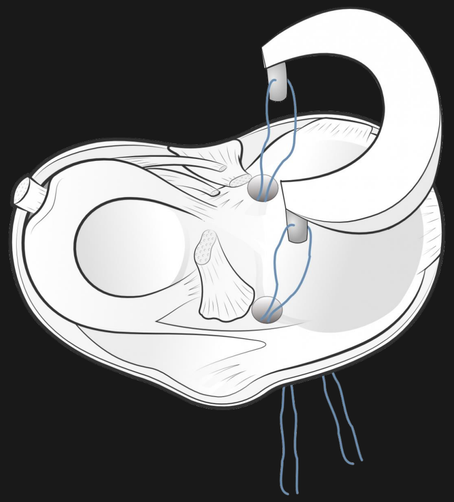
az alma zorg met een hart

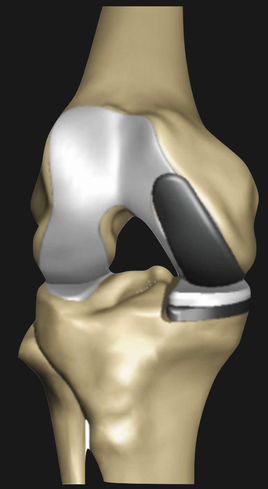
ORTHOPEDIE EEKLO

Stefaan Van Onsem MD PhD

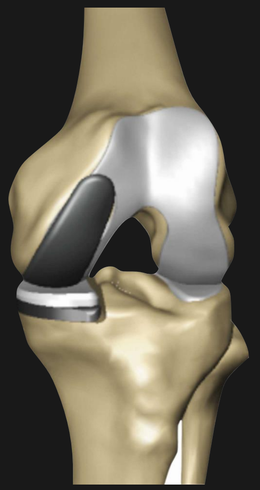
Congres ABAOT
March 2024

INTRODUCTION TO KNEE JOINT PRESERVATION



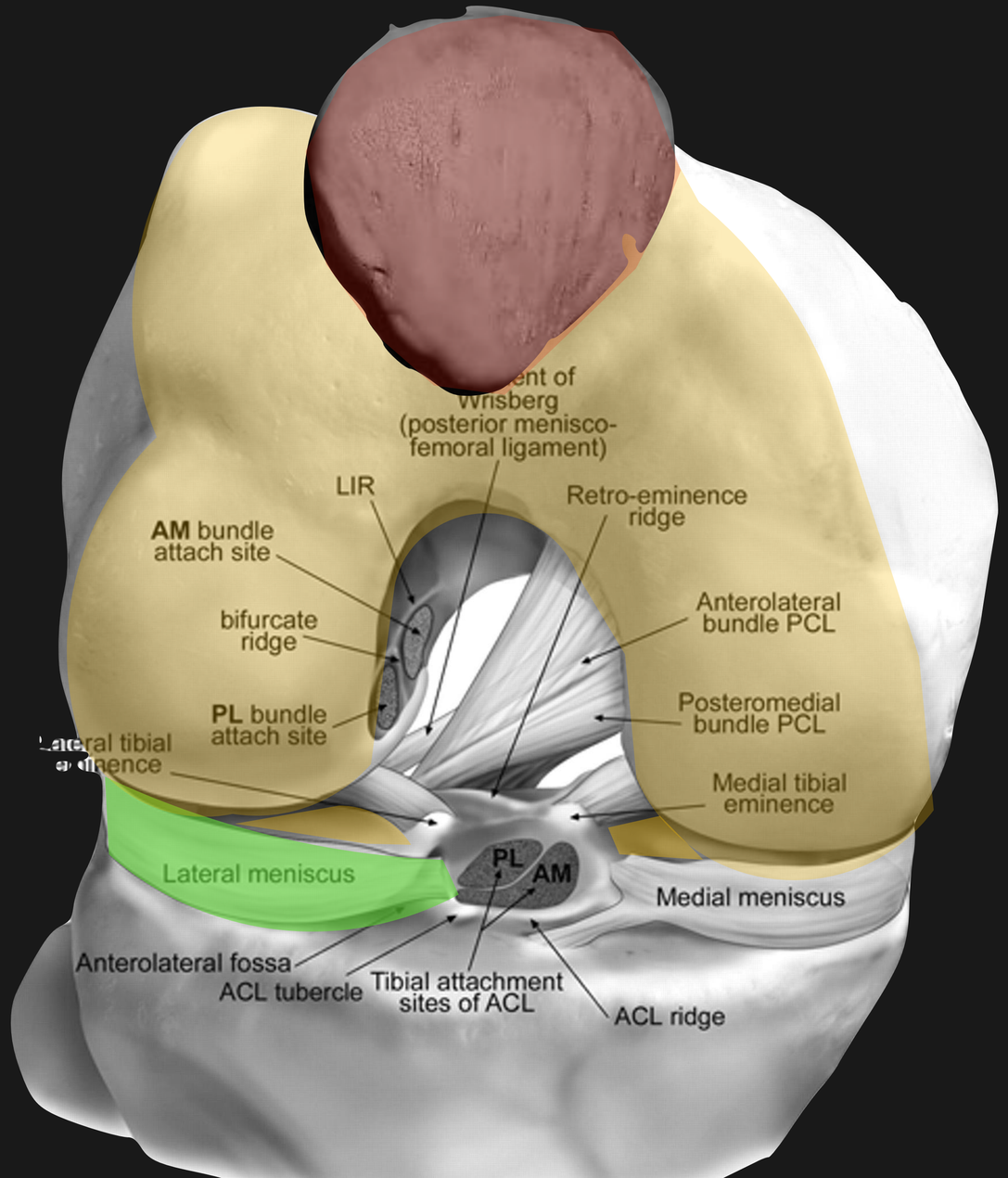


HTO VERSUS UKA

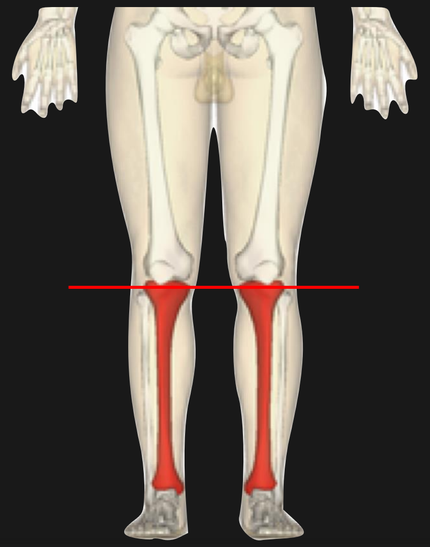


fostering an understanding of personalized treatment planning

UNDERSTANDING MEDIAL OSTEOARTHRITIS

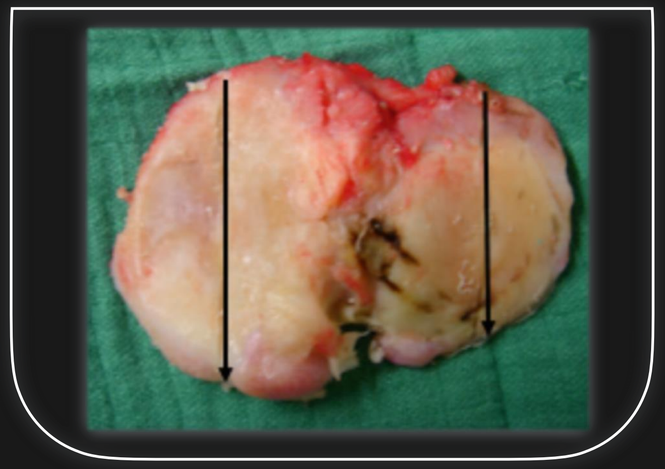


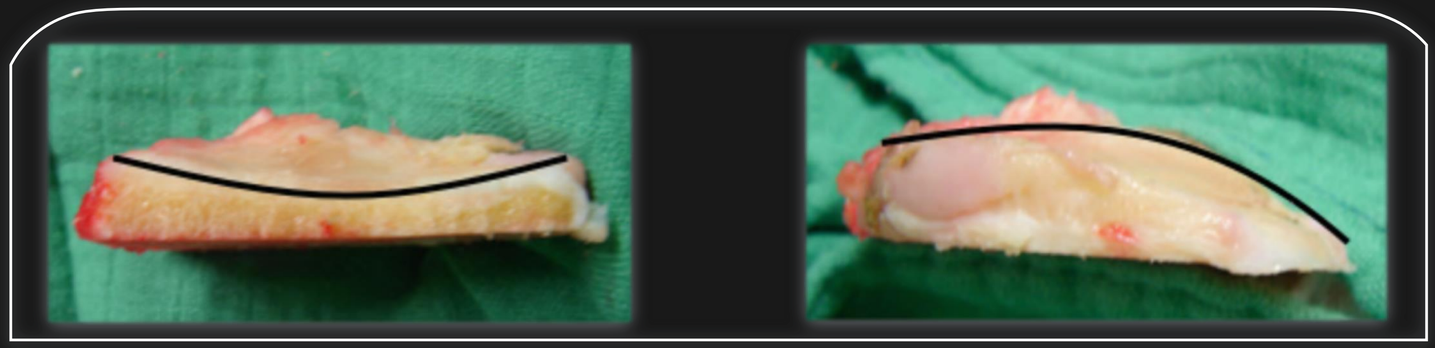
BONY STABILITY MEDIAL SIDE



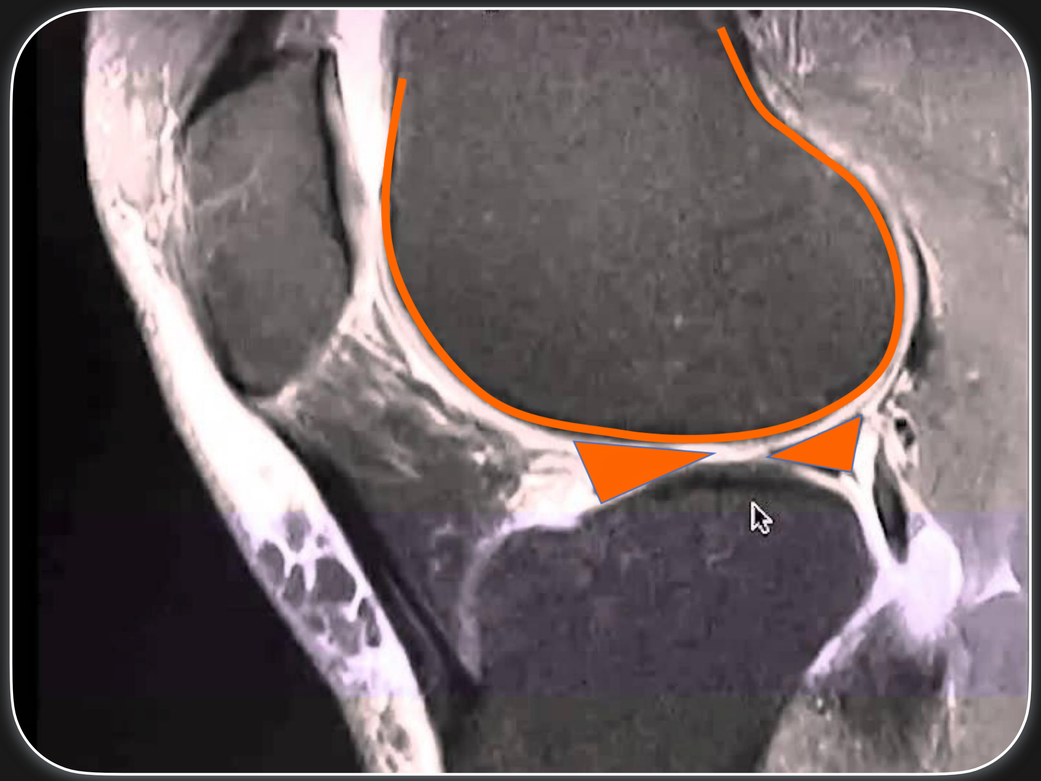
LIMITED

MEDIAL > LATERAL



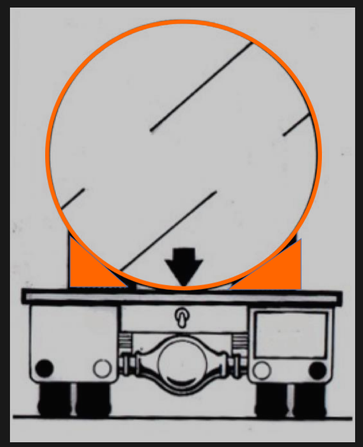


KNEE STABILITY



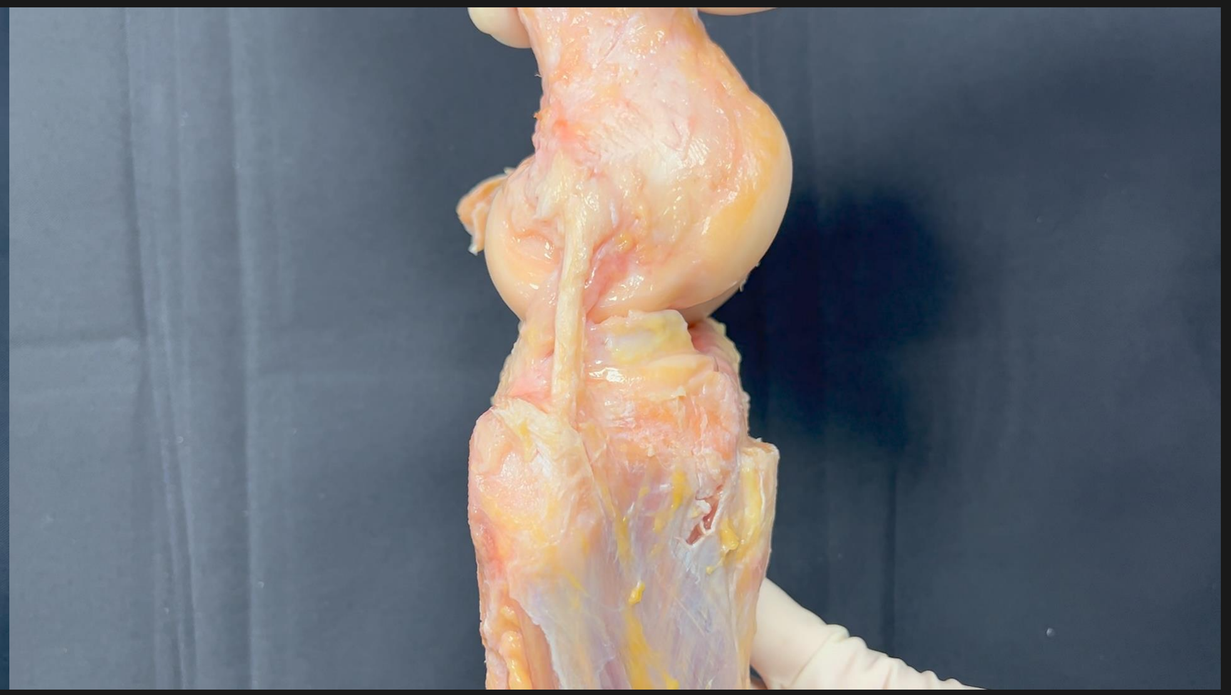
MENISCI IMPROVE

CONGRUENCY



BIOMECHANICS

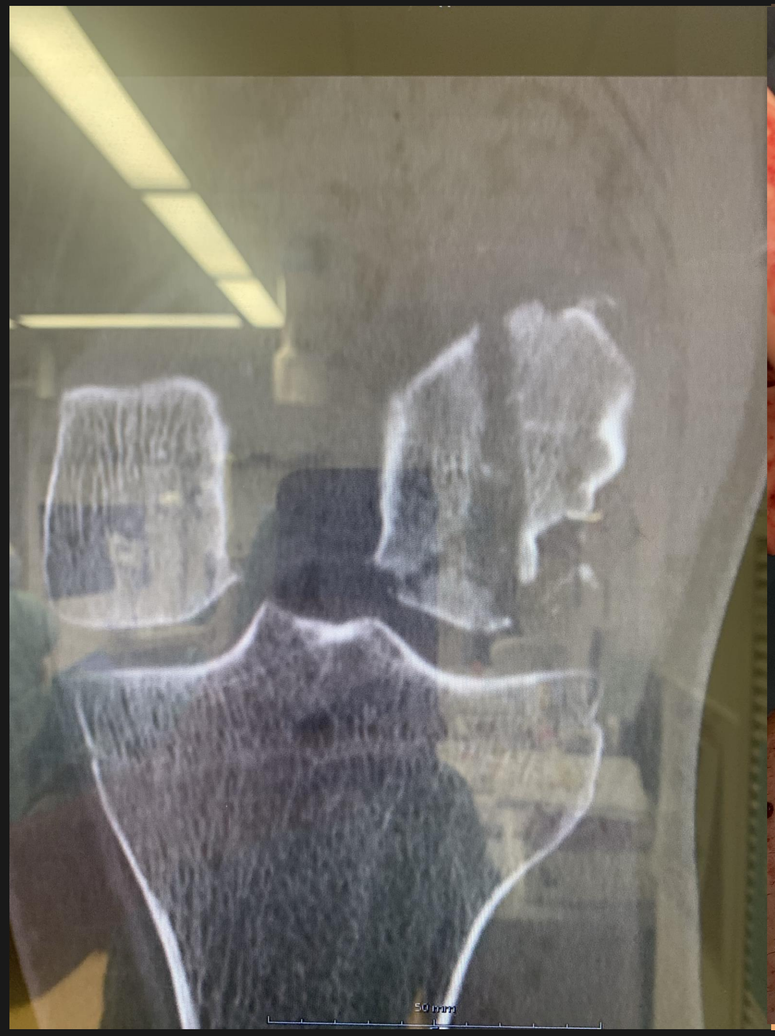
Medical compartment

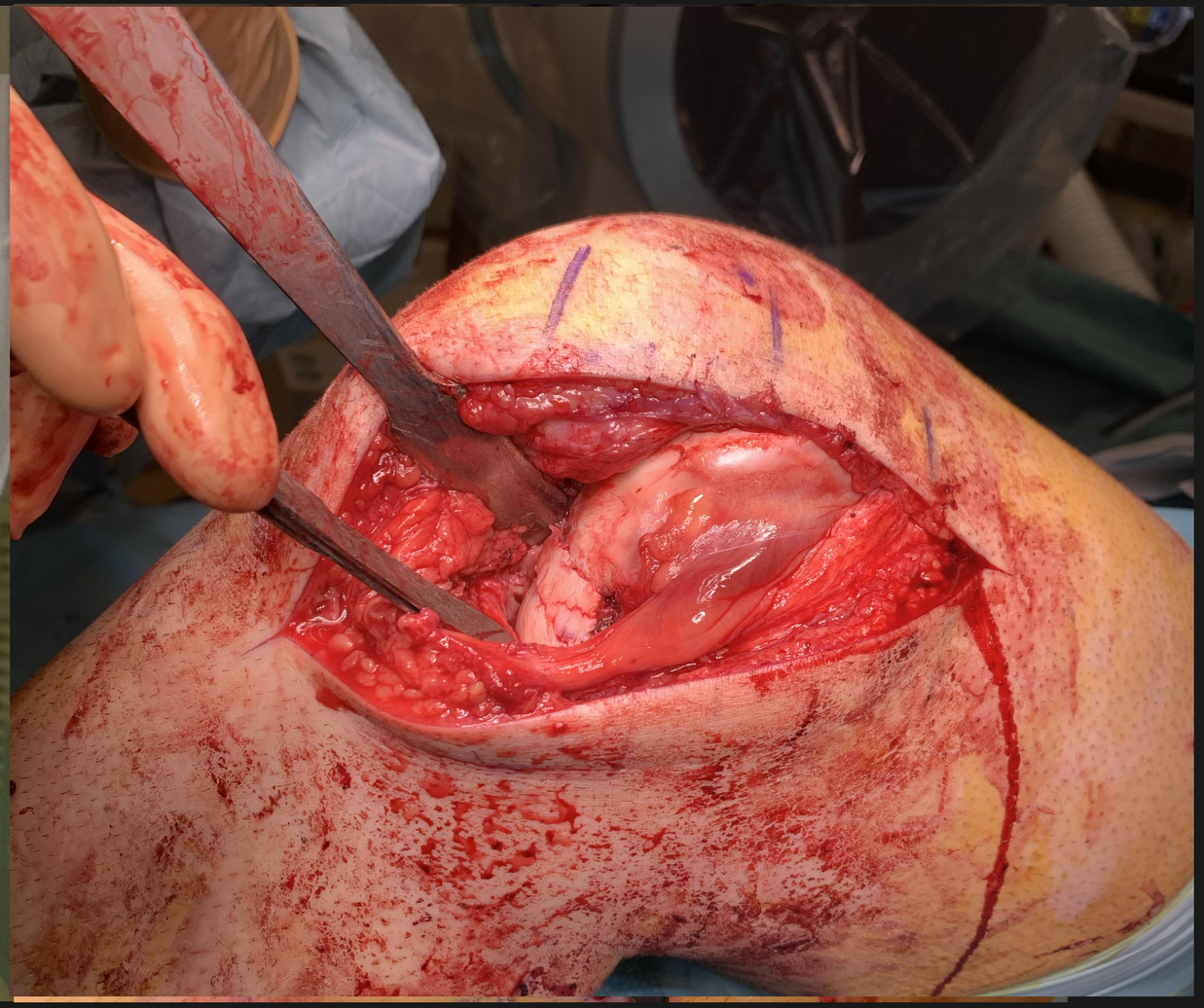


Lateral compartment

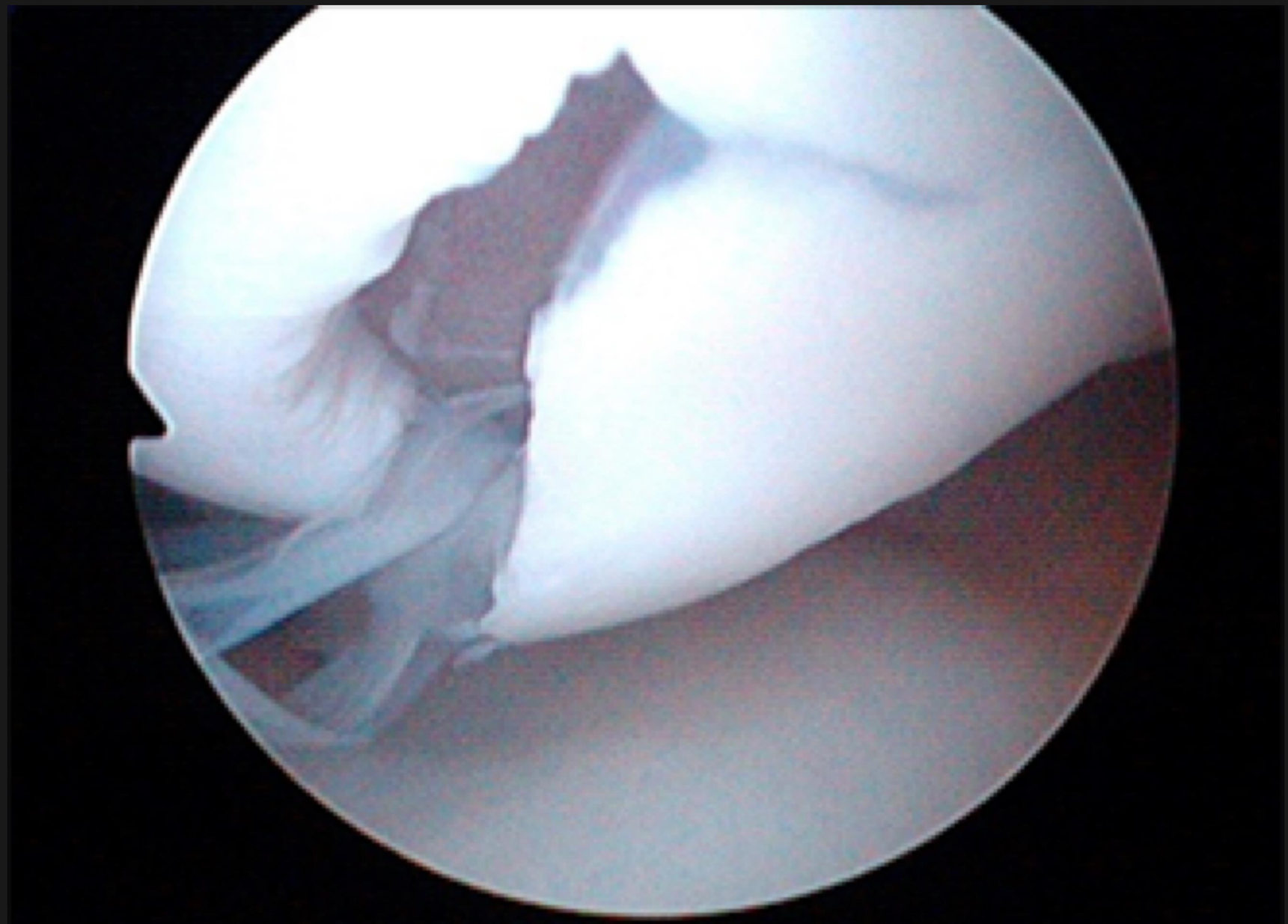
UNDERSTANDING MEDIAL OSTEOARTHRITIS

BONY TRAUMATIC LESIONS





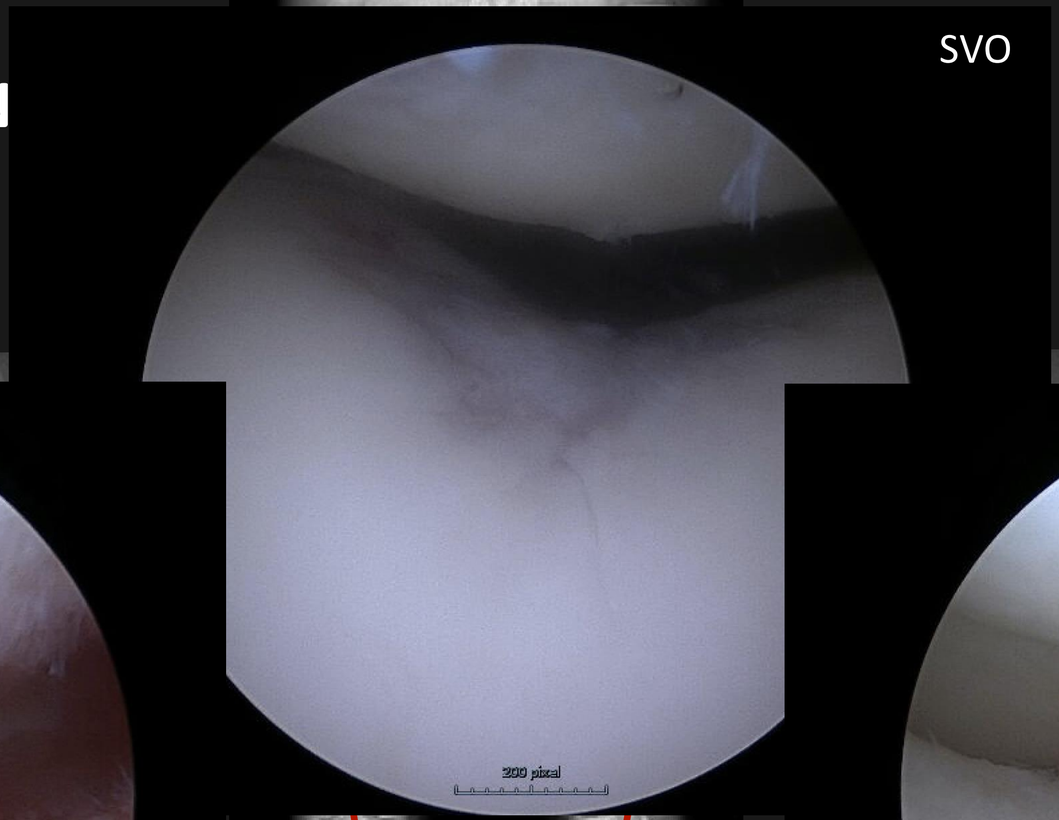
LIGAMENTARY TRAUMA



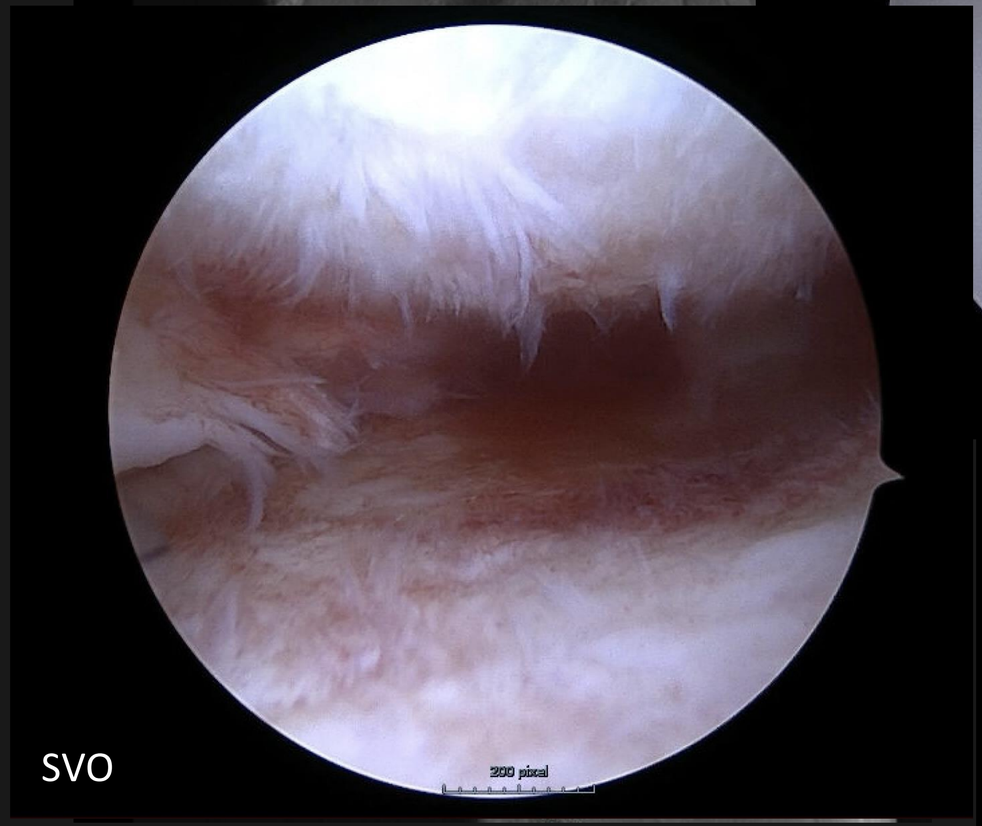
PREVIOUS MENISCAL SURGERY

INSTABILITY

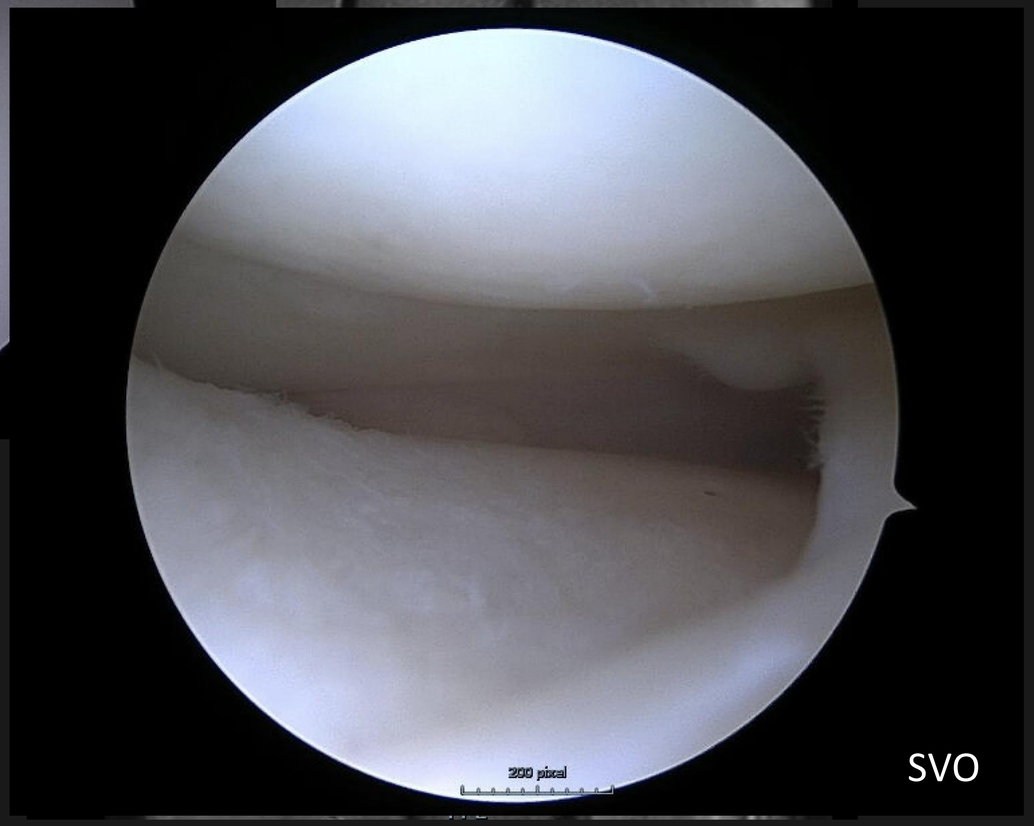
ALIGNEMEN



SVO

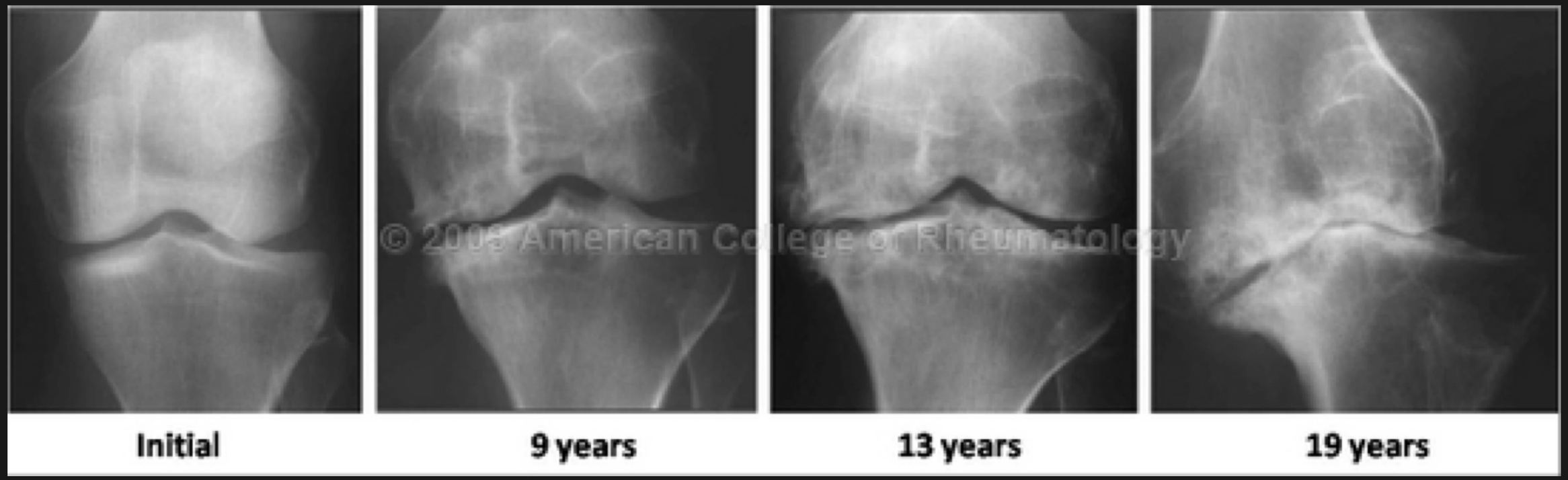


SVO



SVO

RHEUMATOID ARTHRITIS



STATEMENT

UKA and HTO are different procedures

with different indications

a comparison between them is only meaningful
in the very small population of patients amenable to both treatments.

COMPARING UKA AND HTO

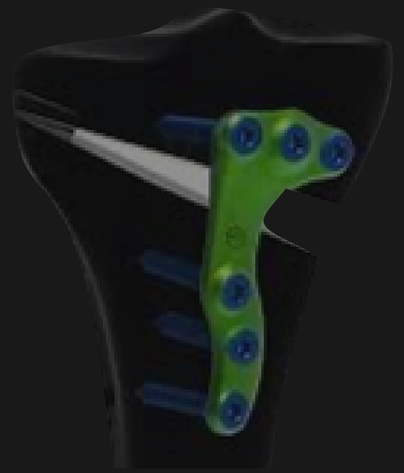
HTO

1961

Increase lifespan of cartilage

Unloading

Redistributing joint forces



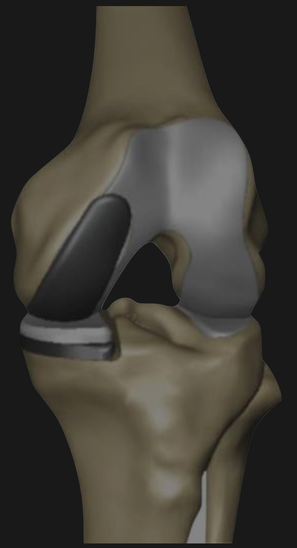
UKA

1970s

Alternative to TKA or HTO

Resurfacing worn out compartment

Preserving non affected compartment



COMPARING UKA AND HTO
INDICATIONS AND PATIENT SELECTION

Indications

Both procedures target medial compartment osteoarthritis `
but differ in patient age, activity level, and alignment issues.

Selection Criteria

UKA is preferred for older, less active patients with isolated compartment disease,
HTO is favored for younger, active individuals with alignment deformities.

Personalized Treatment

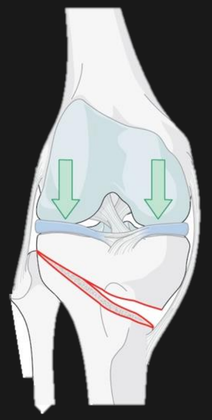
The choice between UKA and HTO should be tailored to individual patient factors,
emphasizing the importance of a comprehensive evaluation.

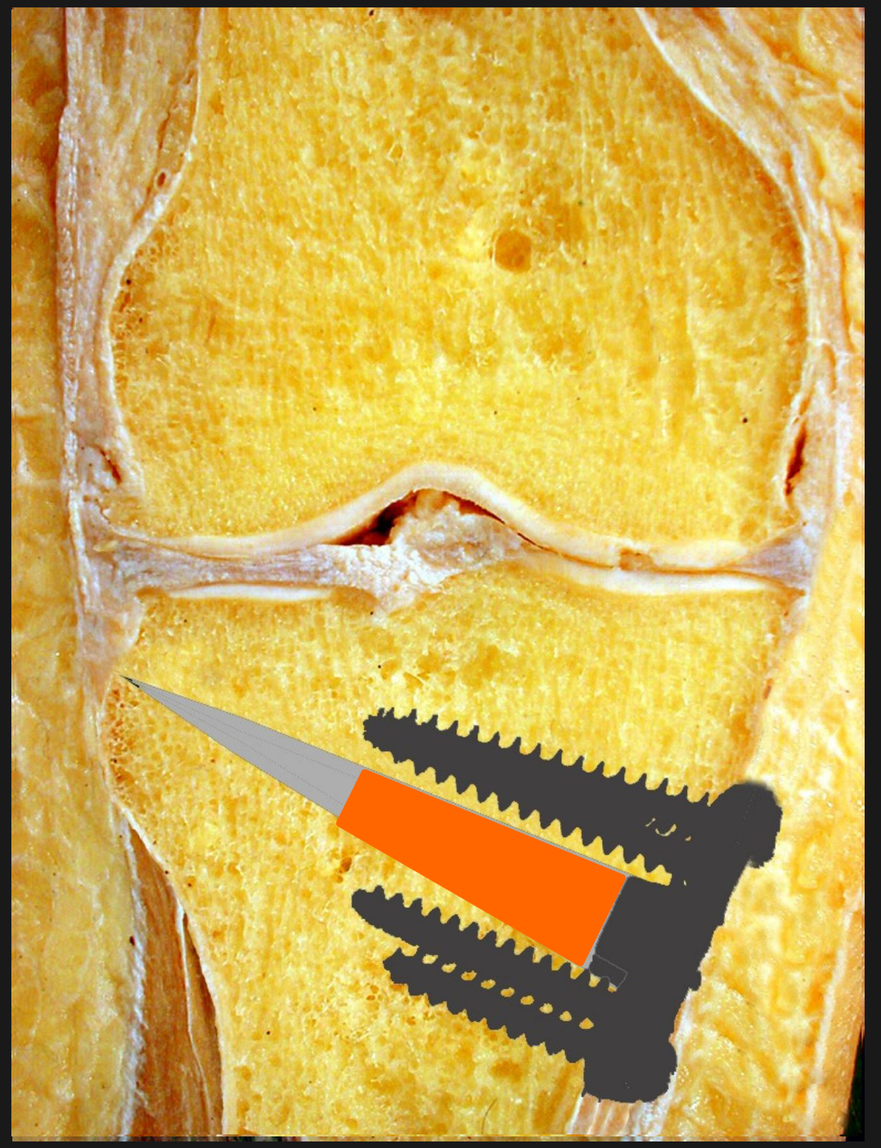
COMPARING UKA AND HTO
INDICATIONS AND PATIENT SELECTION

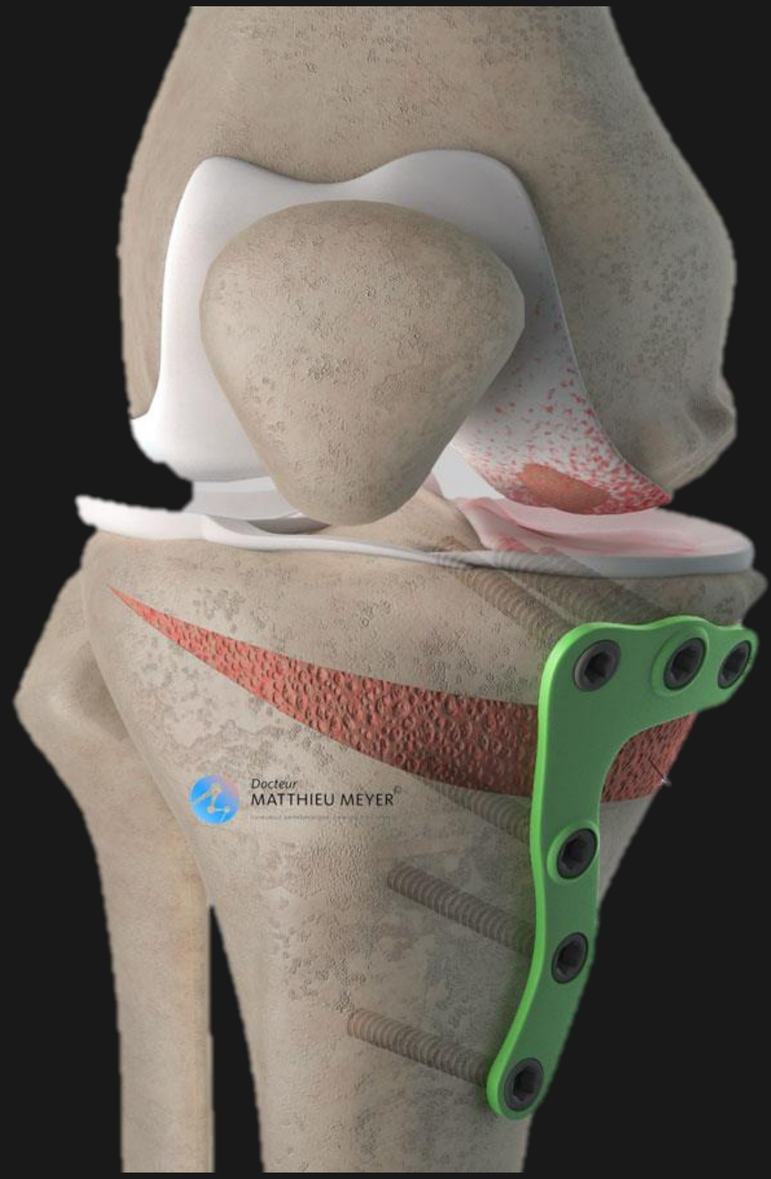
	Indication	Extended indication	Contra indication
osteoarthritis	isolated anteromedial osteoarthritis	anteromedial osteoarthritis	tricompartmental, rheumatoid, inflammatory
pain	isolated medial pain	medial and mild retropatellar pain	lateral and lateral pat-fem facet pain
pat-fem status	no patello-femoral pain and wear	medial pat-fem facet wear	severe lateral pat-fem facet wear
deformity	varus < 10°	varus 10° - 15°	varus > 15°
range of motion	full ROM	flexion contracture < 10°	flexion contracture > 10°
stability	AC L intact, stable joint	AC L not intact, stable joint	instable joint
	age < 55 and active: consider osteotomy		
	significant pat-fem osteoarthritis: consider bicomp		

Winnock de Grave, Philip; Luyckx, Thomas; Ryckaert, Alexander; Noyez, Jan; Gunst, Paul; Van den Daelen, Luc; 2019. Medial Unicompartmental Knee Arthroplasty with a Fixed Bearing Implant.. JBJS Essent Surg Tech; 2019; Vol. 9; iss. 3; pp. e26

OPENING WEDGE MEDIAL HTO

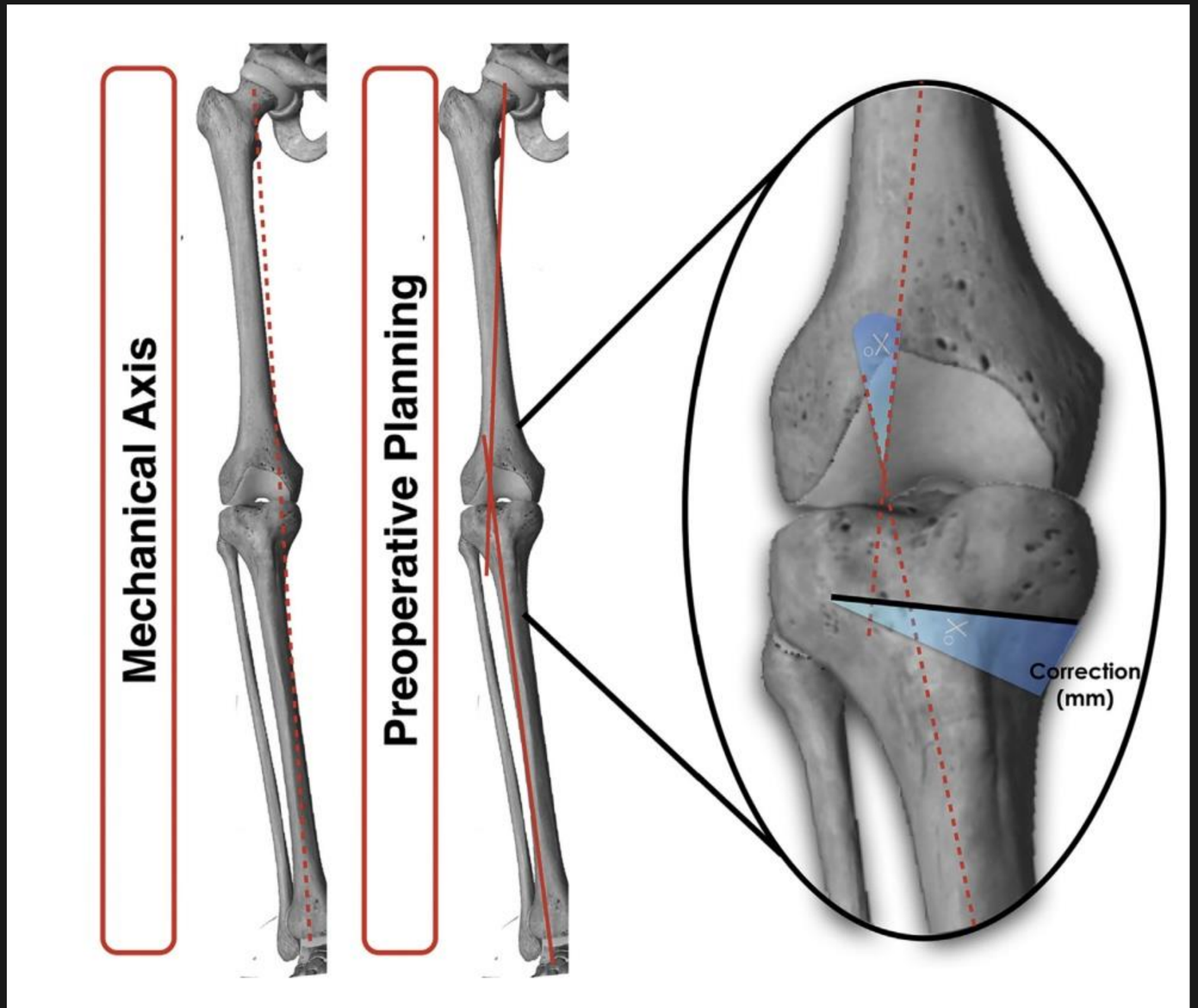


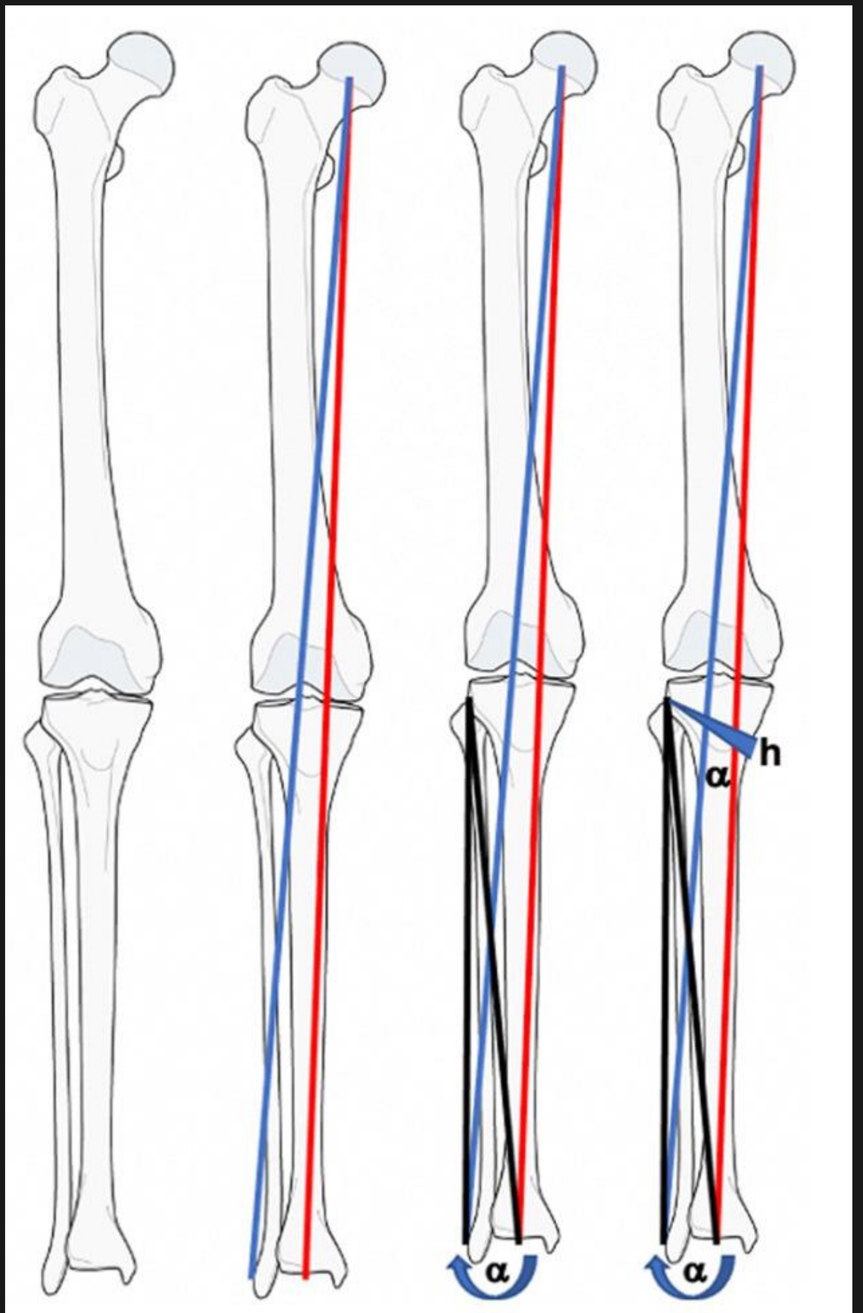




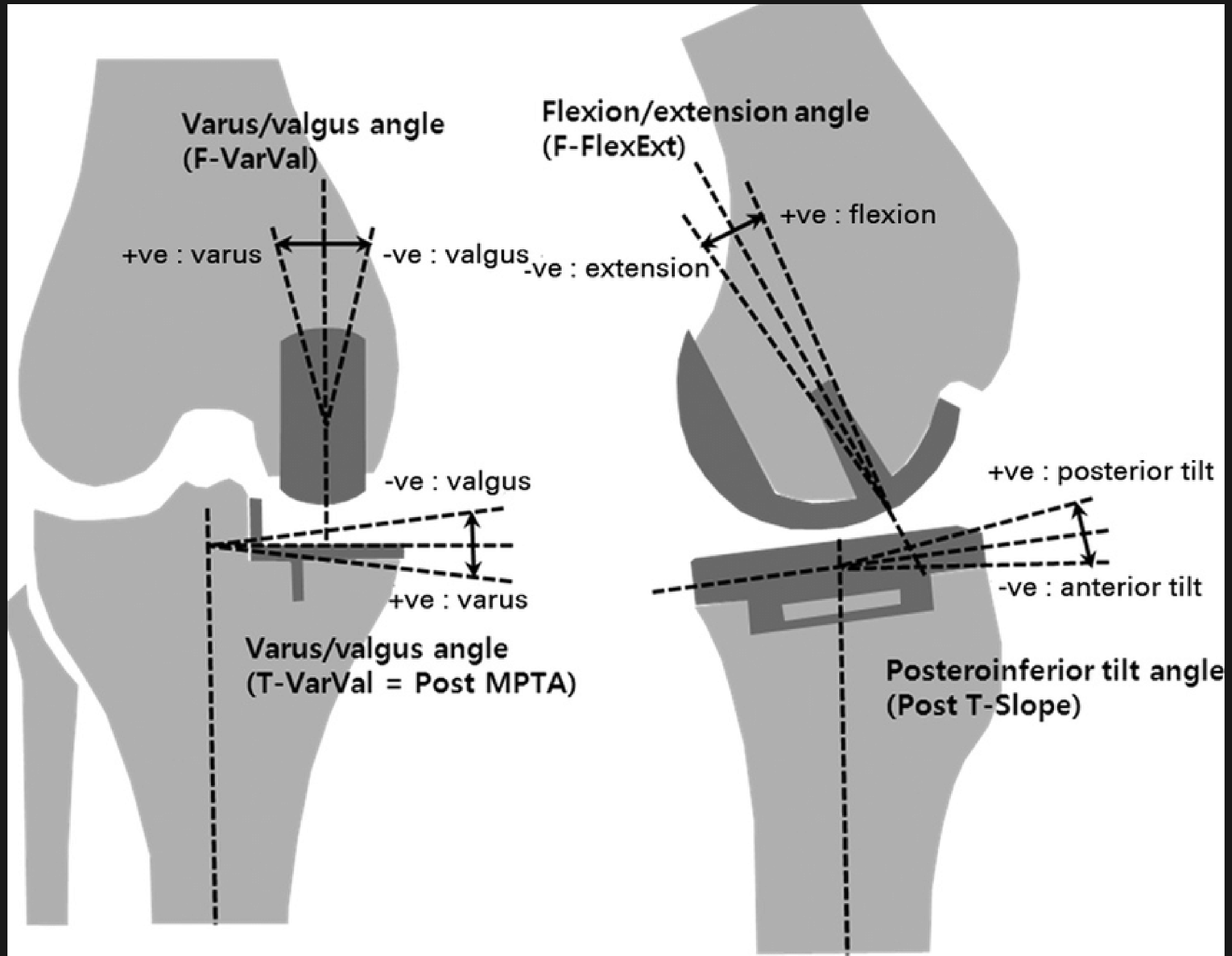
Animation courtesy of Jan Victor

PLANNING HTO
DUGDALE VS MINIACI

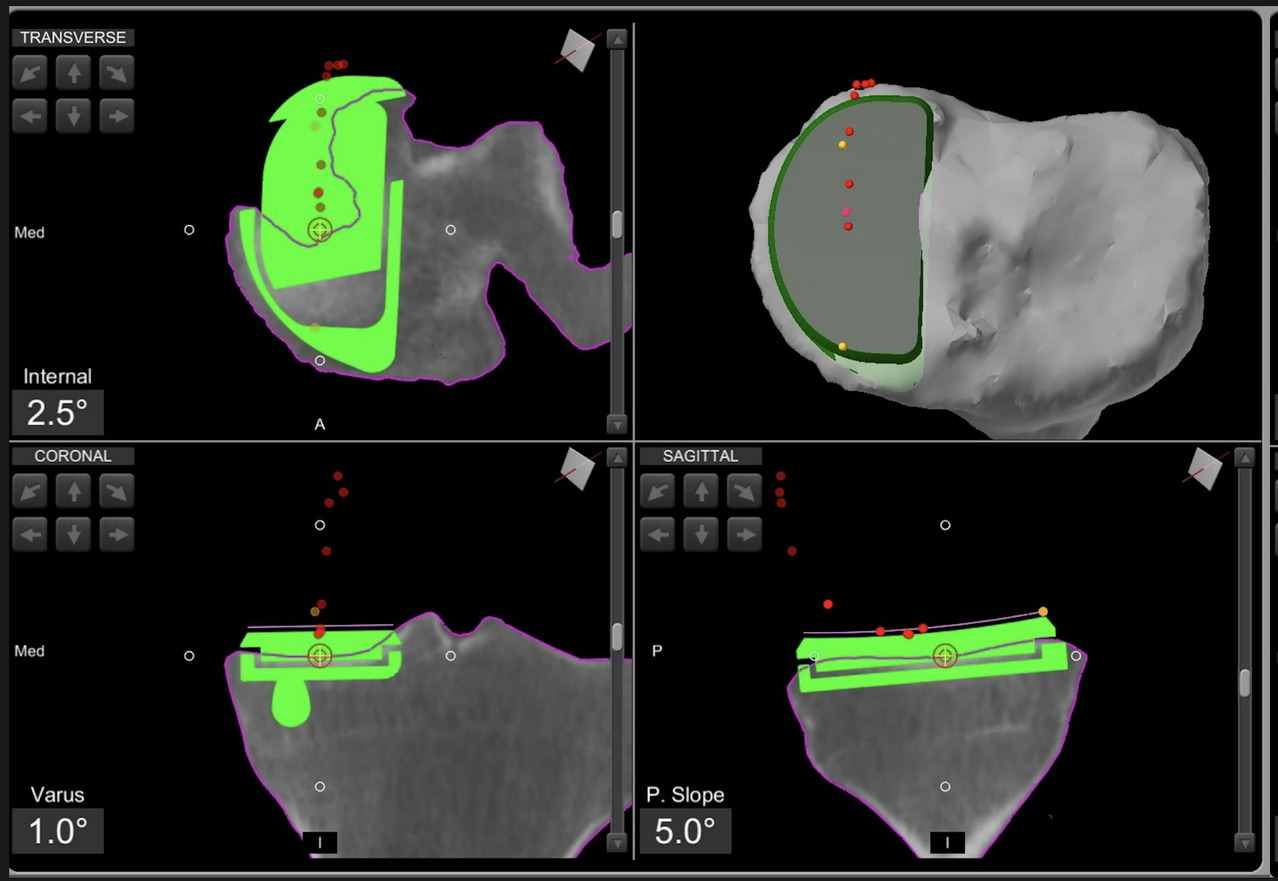


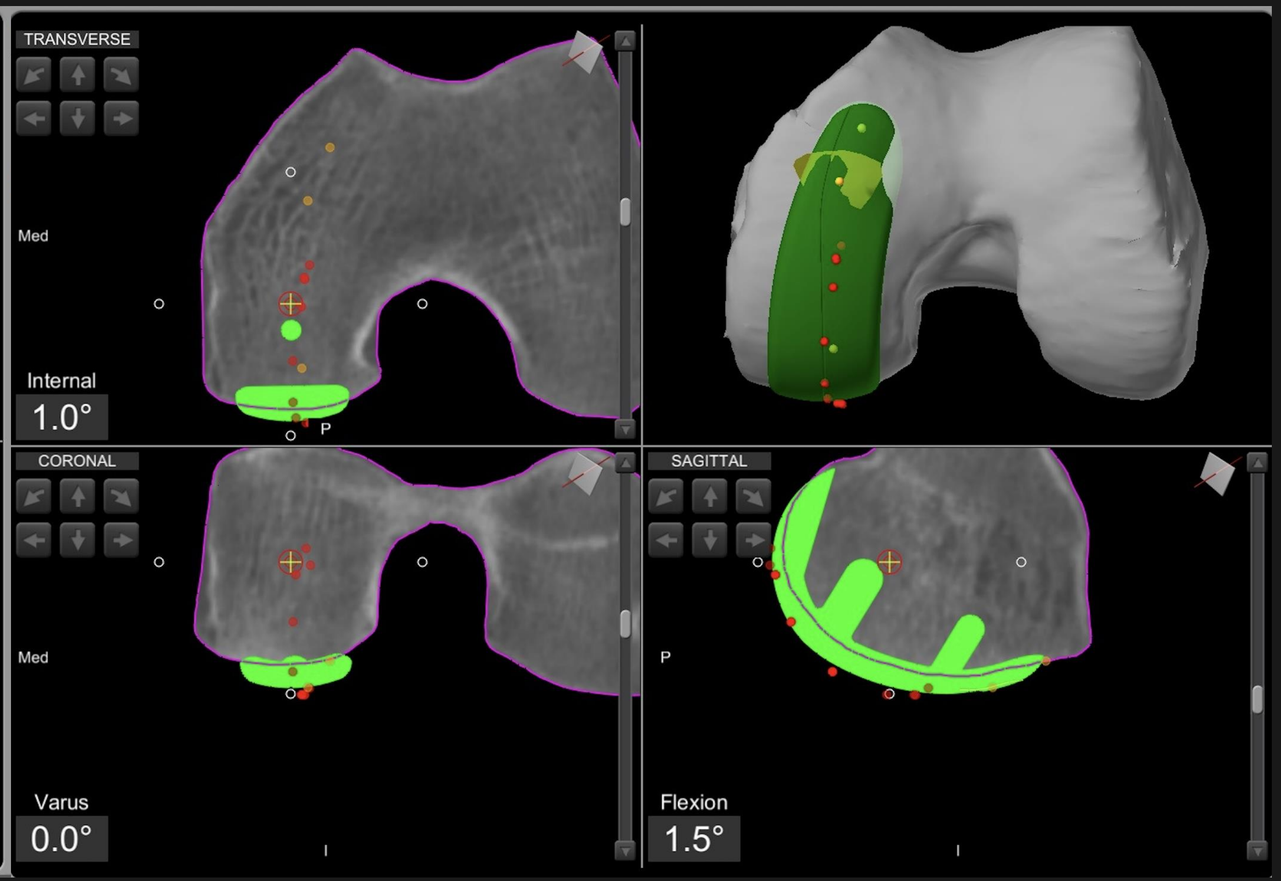


TECHNIQUE UKA
GET TO KNOW YOUR PHILOSOPHY



TECHNIQUE UKA





OUTCOMES OF UKA VS. HTO

Short-term Outcomes

UKA patients typically experience quicker recovery and less post-operative pain.
HTO patients may have a longer recovery but can maintain a more active lifestyle.

Long-term Outcomes

Both procedures show good durability, with UKA having a higher revision rate compared to HTO.
Functional outcomes and patient satisfaction are high for both when appropriately selected.

Complications

UKA risks include implant wear and loosening;
HTO complications can involve nonunion or malunion of the osteotomy site.

Knee

Journal of Orthopaedic Surgery

Unicompartmental knee arthroplasty versus high tibial osteotomy for medial knee osteoarthritis: A systematic review and meta-analysis

Bin Zhang, Hanguang Qian, Hongfu Wu and Xiaofei Yang

Journal of Orthopaedic Surgery
31(1) 1–14

DOI: 10.1177/10225536231162829
journals.sagepub.com/home/osj
SAGE

Our meta-analysis shows that **UKA** may be associated with **reduced postoperative pain**, **less postoperative complication** and **good knee function**, while the **HTO** procedure showed **superior ROM** and **less revision rate**.

Both surgery options yielded satisfactory results, and the treatment options should be carefully considered based on **appropriate clinical indications**.

Knee Surgery, Sports Traumatology, Arthroscopy (2023) 31:4861–4870
https://doi.org/10.1007/s00167-023-07526-5

KNEE

High tibial osteotomy versus unicompartmental knee arthroplasty for Kellgren–Lawrence grade 3–4 knee osteoarthritis in younger patients: comparable improvements in patient-reported outcomes, adjusted for osteoarthritis grade and sex

A. Hoorntje[1,2] · Y. Pronk[3] · J. M. Brinkman[4] · R. C. I. van Geenen[5] · R. J. van Heerwaarden[4]

Received: 25 April 2023 / Accepted: 23 July 2023 / Published online: 12 August 2023

Younger (50–60 years) patients had better function (OKS), pain and satisfaction scores over time after UKA than HTO, adjusted for preoperative PROs, OA grade and sex.

Yet, the observed differences were below their established minimal clinically important differences.

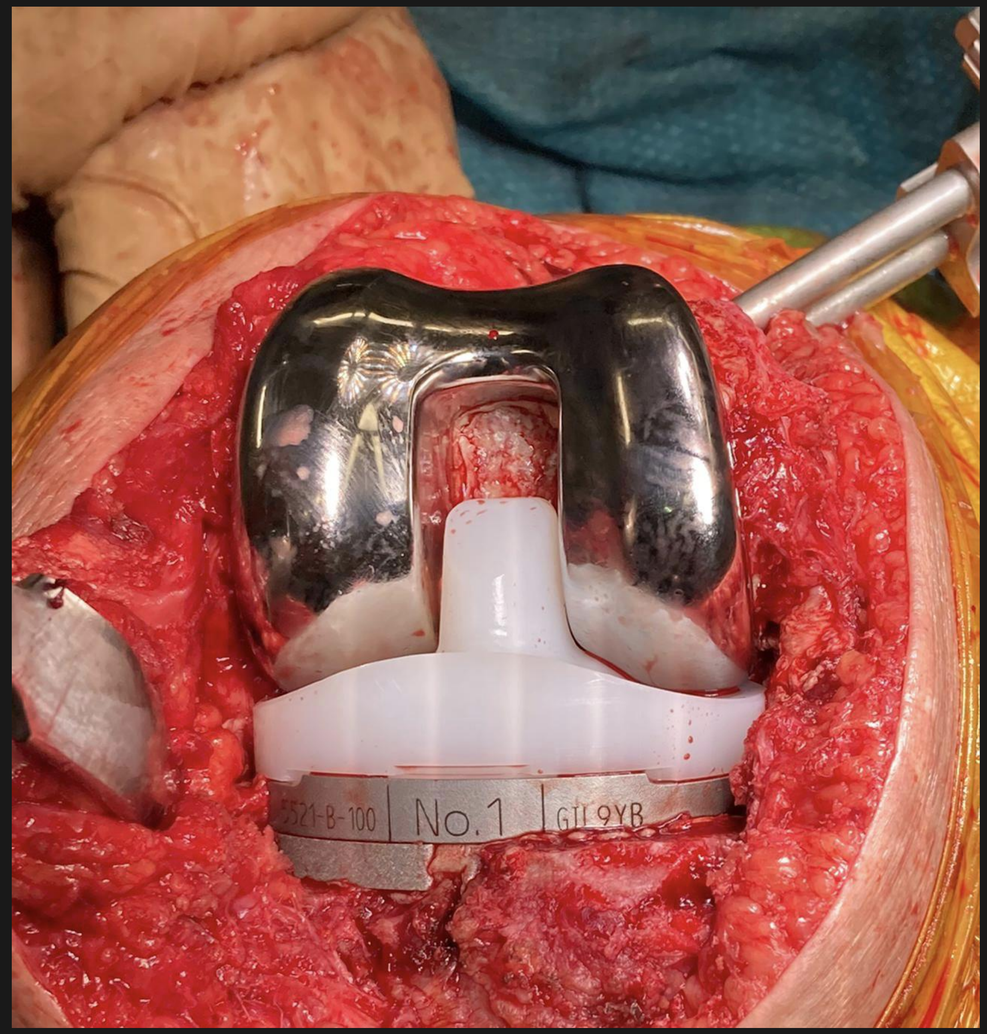
RESULTS WHEN CONVERTING TO TKA

knee score for the revision TKA after HTO group better

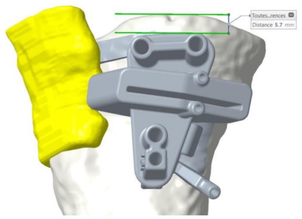
REVISION RISK TKA 2X higher for UKA
compared to HTO

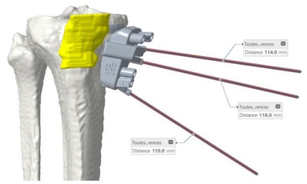
TKA after UKA needing more components and thicker polyethylene in contrast to conversion TKA after HTO sometimes requiring a stem to bypass the osteotomy gap.

However…
most people that have a HTO or UKA never need a TKA…



CURRENT RESEARCH AND FUTURE DIRECTIONS



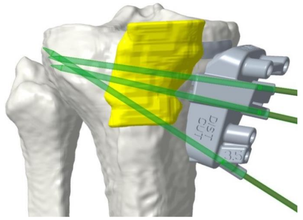


114

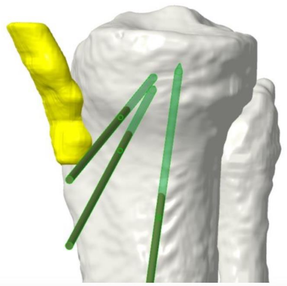
116

110

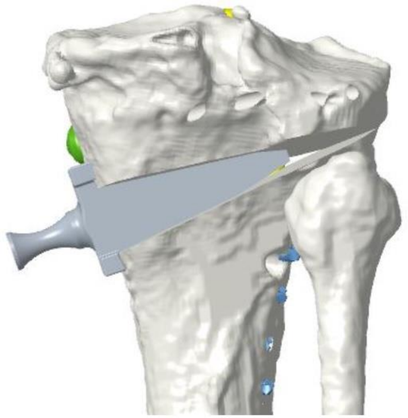
3. First X-Ray



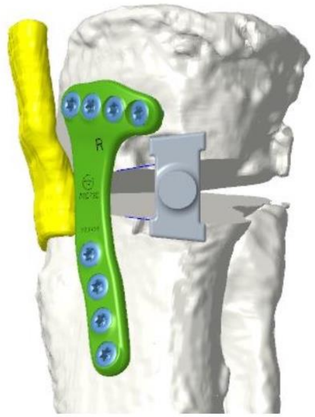
3. Second X-Ray



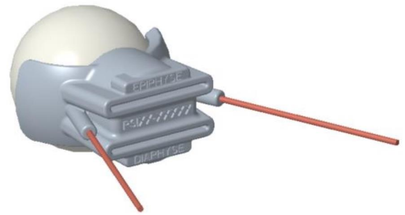
First view



Second view

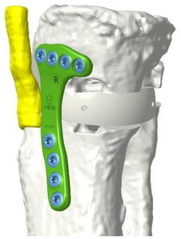


1. Guide placement and cuts



2. Graft

3. Graft placement

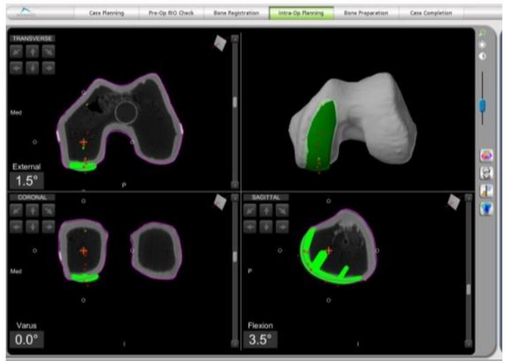


ESSKA FORMAL CONSENSUS PROJECT

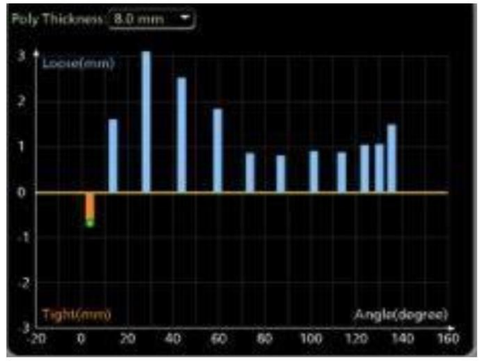
CURRENT RESEARCH AND FUTURE DIRECTIONS

Mako Partial Knee

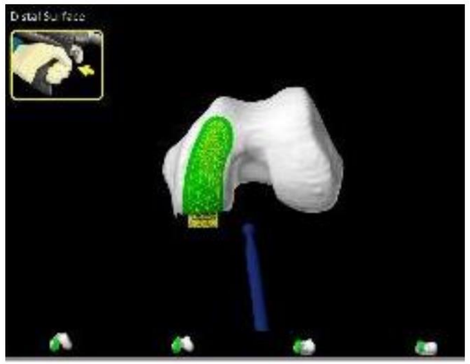
Enhanced planning



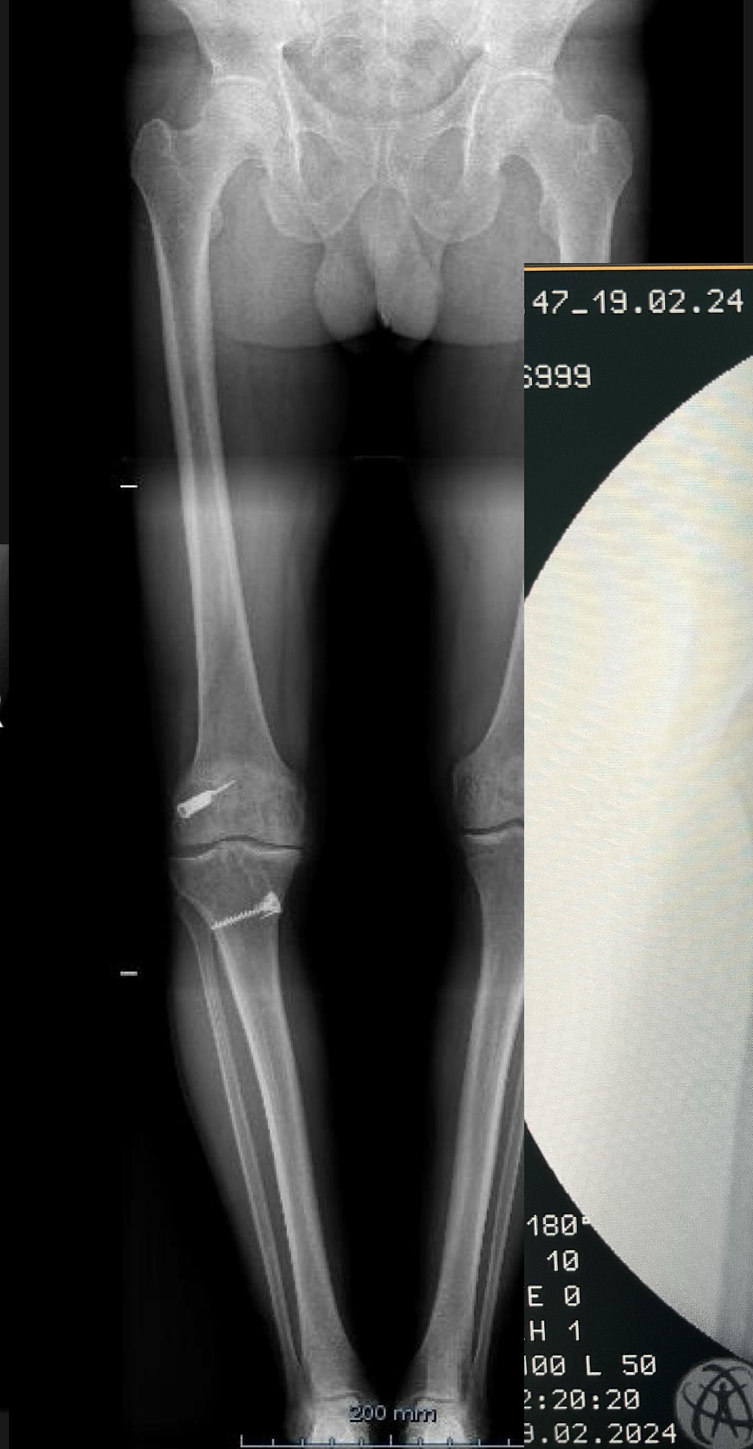
Dynamic joint balancing



Haptic guidance

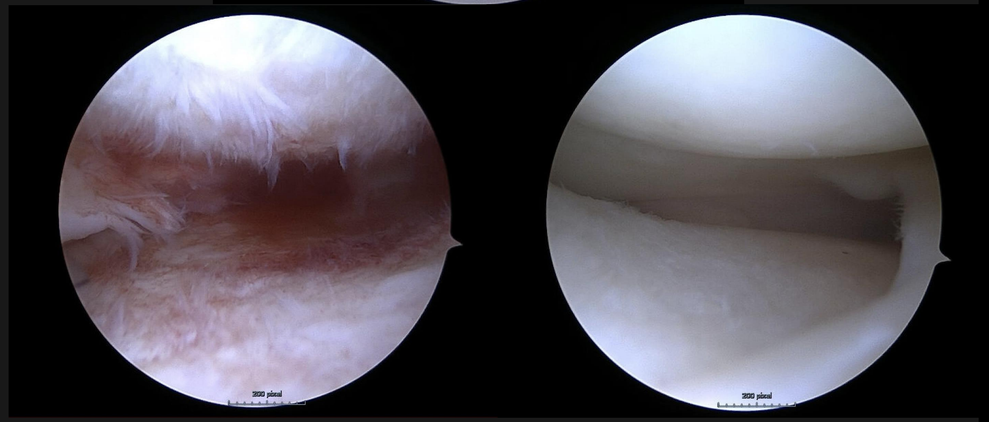


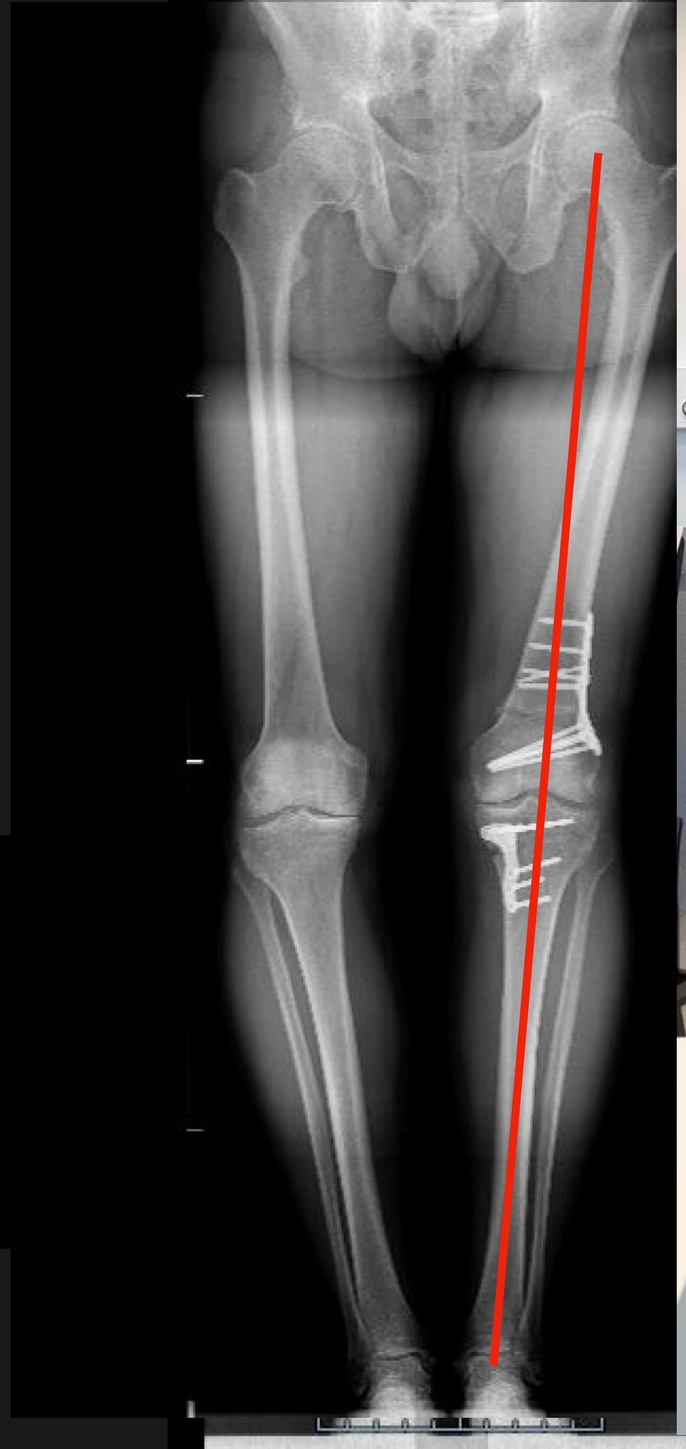
CASE
F.F. MALE 49Y



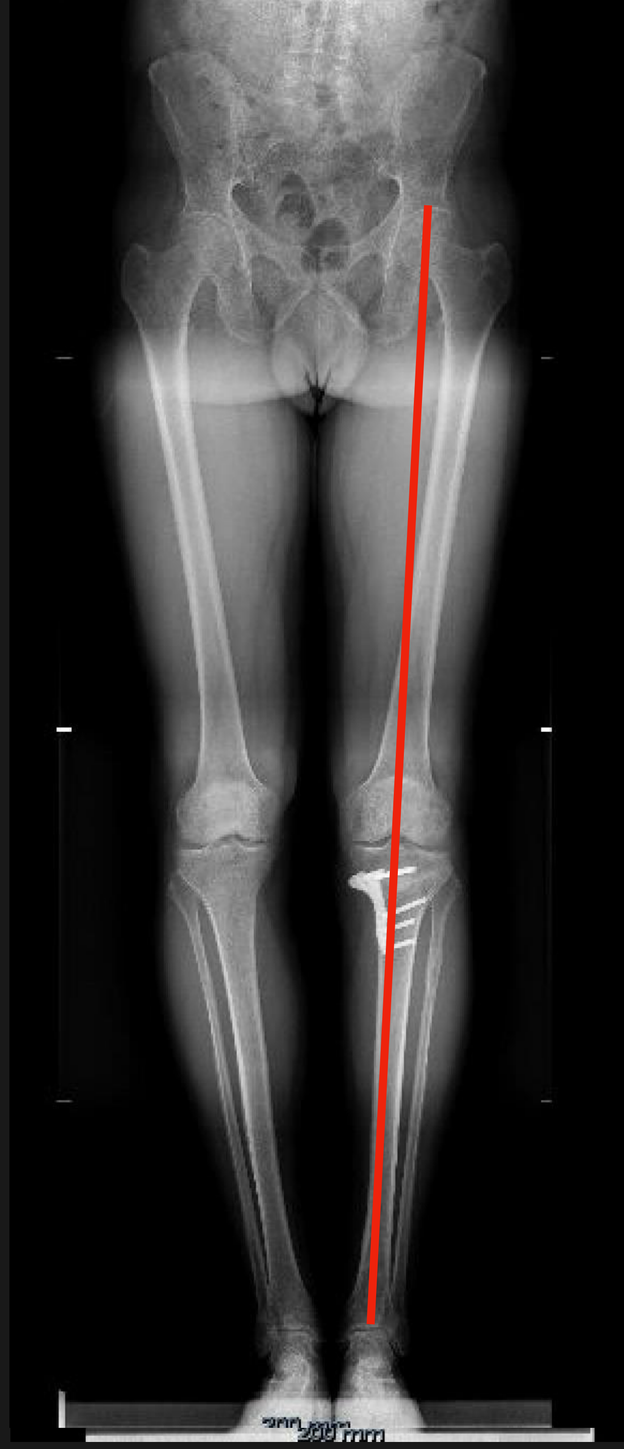
CASE
K.D. MALE 52Y

CASE
W.M MALE 50Y

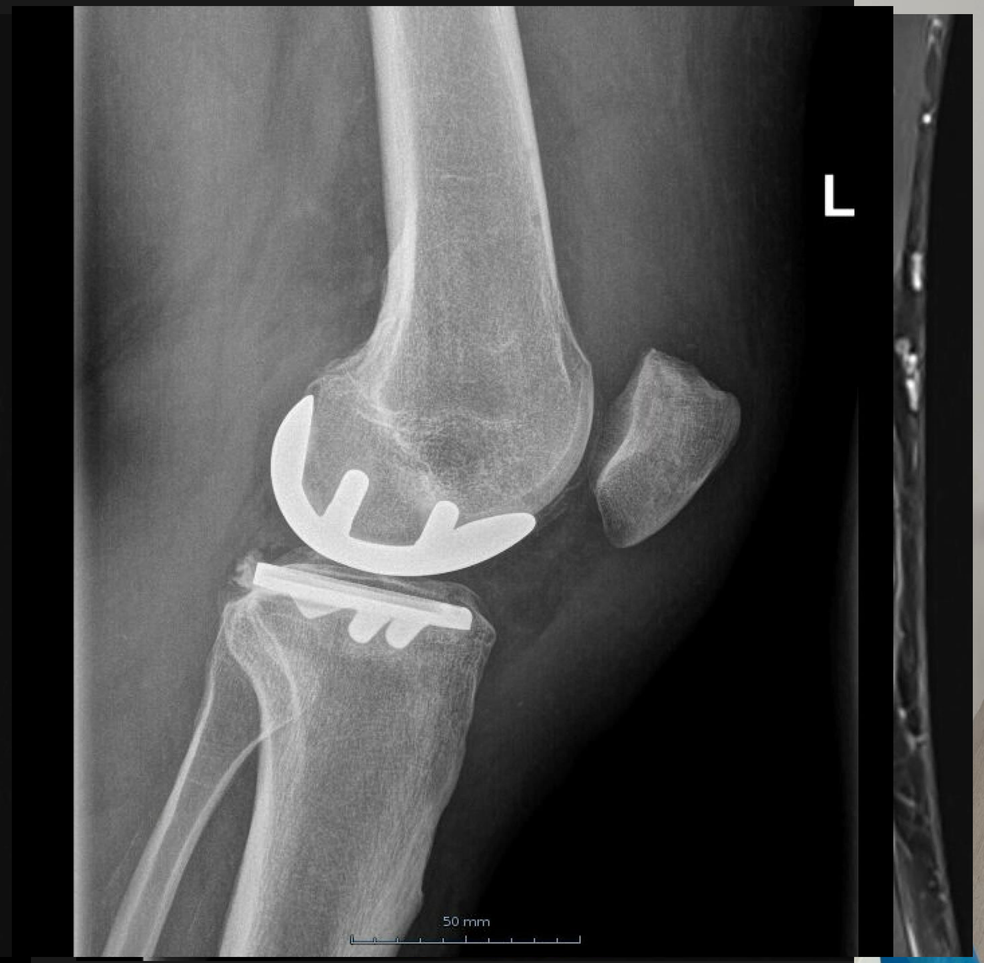




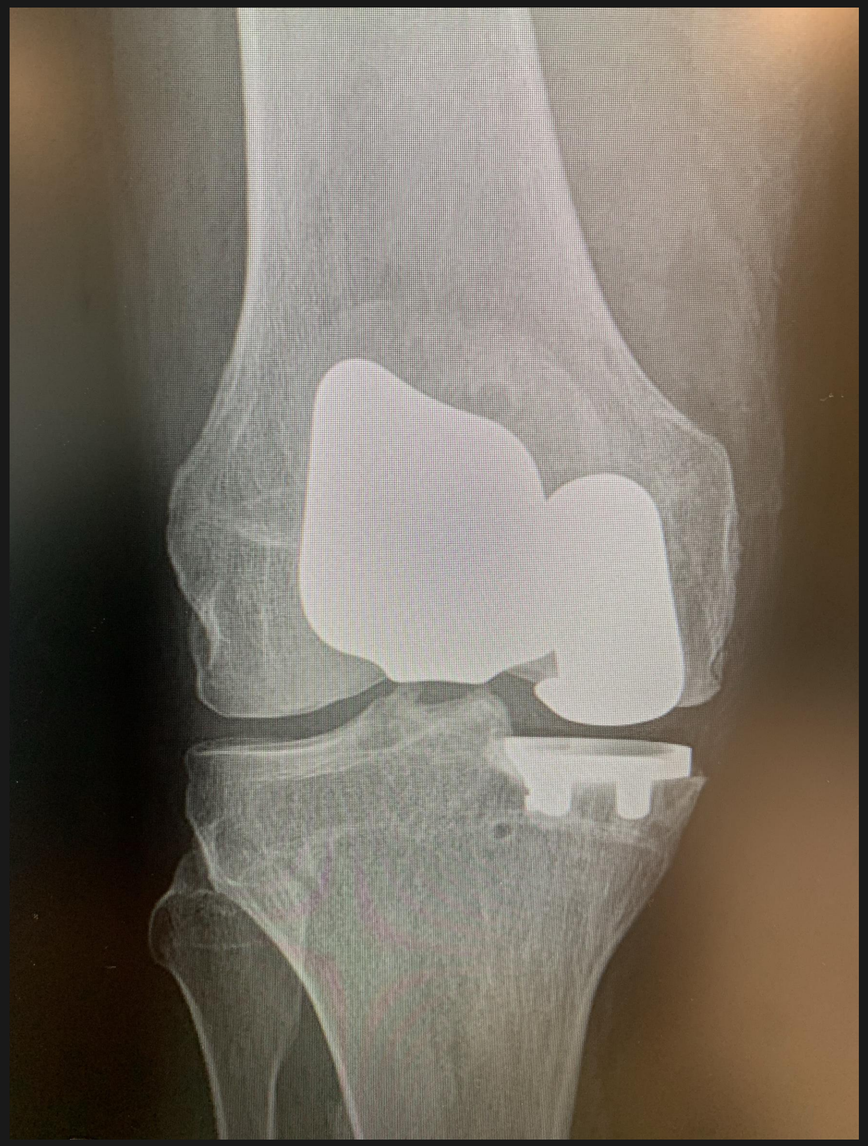
CASE
VD.T MALE 44Y



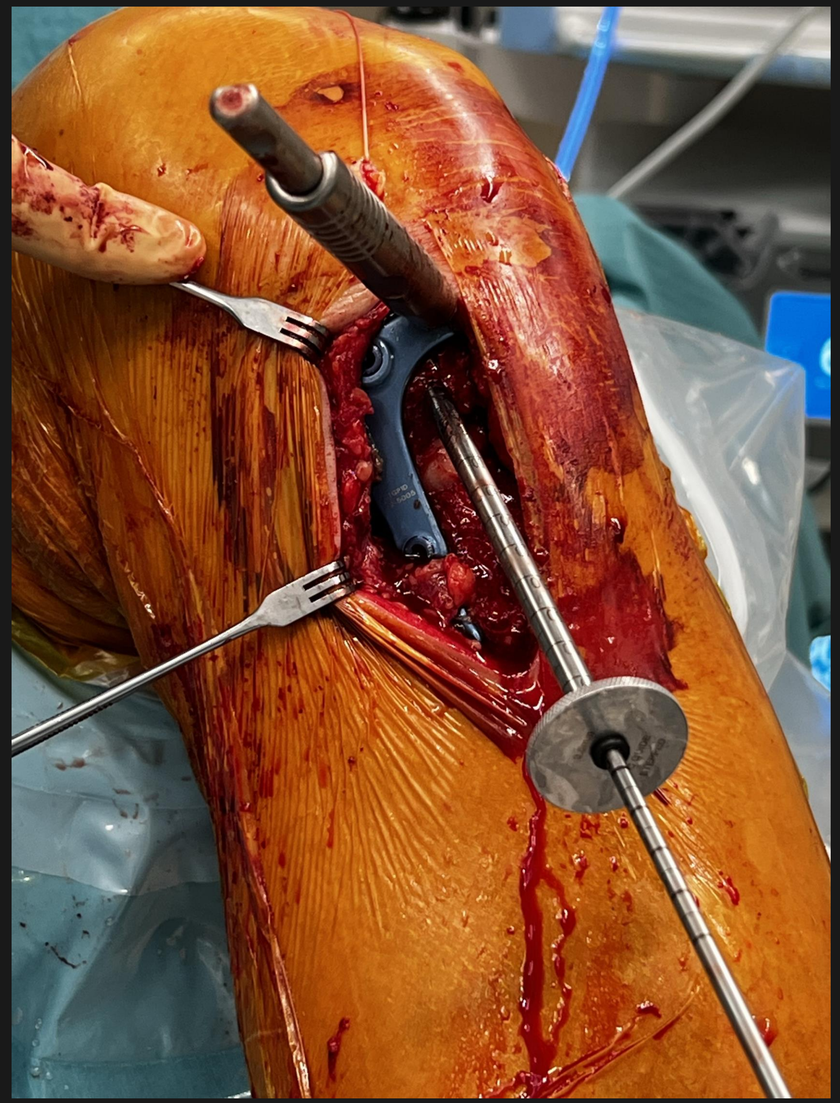
CASE
L.T. MALE 55Y



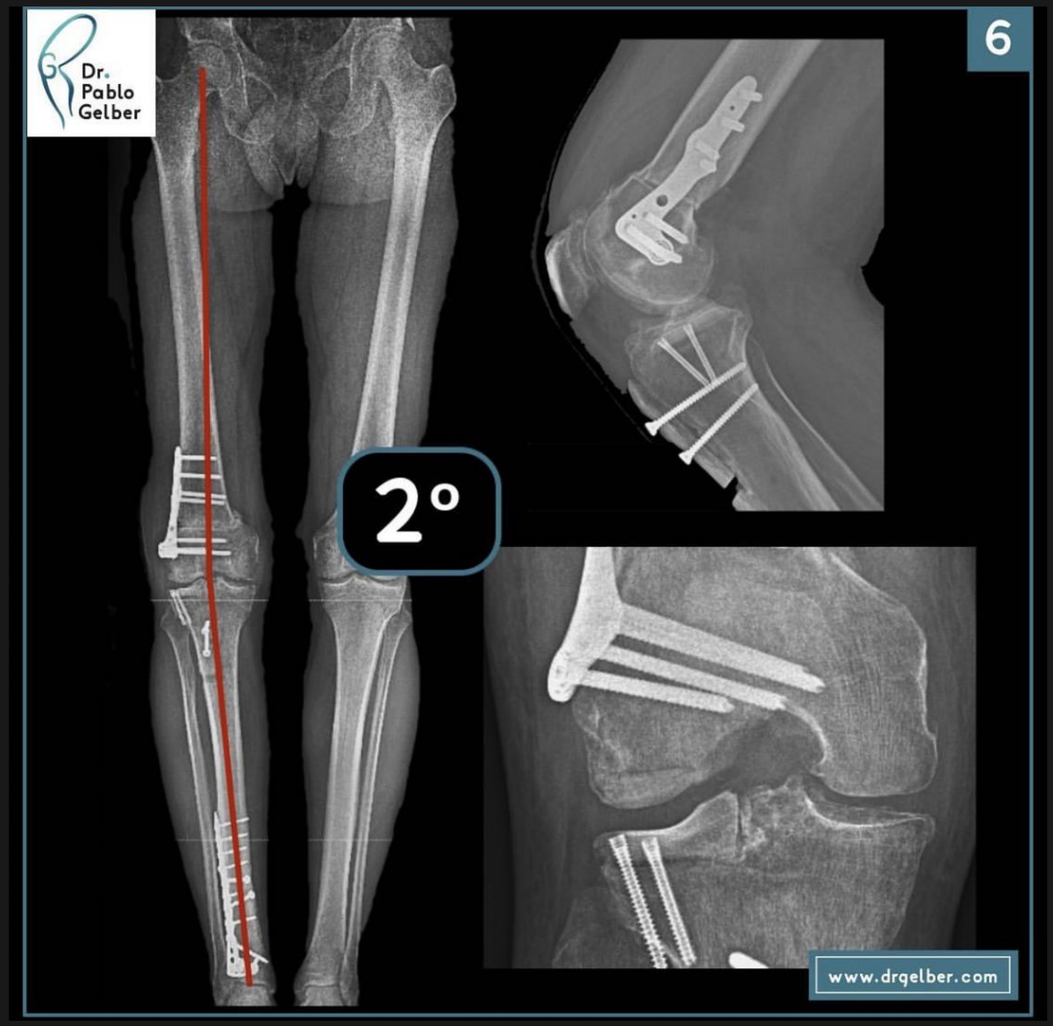
BICOMP OR POST ACL



HTO + ACL



BIO-UKA?



The extremes

CONCLUSION

Both very sucessful techniques

importance of individualized treatment approaches
considering the patient's lifestyle, preferences, and specific knee pathology.


FELLOWSHIP APPLICATIONS ARE OPEN!
Knee Surgery fellow
Hip Surgery fellow
Residency applications are also possible
Contact: stefaan.vanonsem@azalma.be
or orthopedie@azalma.be

EEKLO ORTHOPAEDICS

AZ ALMA

Regional Hospital in Flanders
30km from Gent / 30km from Brugge
500+ beds
8 orthopedic surgeons - 2/3 assistenten
    4 knee surgeons
>900 TKA procedures per year
>130 ACL reconstructions per year
>800 artroscopy per year
>50 osteotomies per year
also biological cartilage solutions and meniscal transplants

az alma
zorg met een hart

BEDANKT VOOR JULLIE AANDACHT!

STEFAAN
VAN ONSEM

stefaan.vanonsem@azalma.be
Afspraken 09 310 04 36

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