

UKA + ACL deficient knee

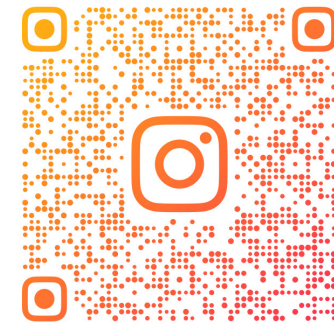


LYON ORTHO CLINIC

Ramsay Santé
Clinique
de la
Sauvegarde



Guillaume DEMEY, Hamza BETMI,
Andrea DE FAZIO, David DEJOUR
Lyon Ortho Clinic, Lyon, France



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<https://lyon-knee-congress.com>



Modérateurs
Jean-Marie FAYARD, David DEJOUR

LE LCA POUR COMMENCER

La session portera sur la première rupture du Ligament Croisé Antérieur (LCA).

> OP : définir la sélection du patient à opérer ou non, la place des différentes techniques chirurgicales de reconstruction et de réparation du LCA ainsi que celle des plasties antérolatérales chez l'adulte, l'enfant et l'adolescent.

13:30-13:35 | Le mot des Présidents. JM. Fayard, C. Batailler, G. Demey

13:35-14:40 | Bilan de la rupture du LCA

13:35-13:43 | Examen clinique (vidéo). C. Batailler

13:43-13:53 | Analyse de la laxité.

13:43-13:48 | - Analyse statique. D. Dejour

Samedi 05 Septembre 2024

Matin



Modérateurs

Sébastien LUSTIG, Cécile BATAILLER, Jérémie COGNAULT

DE L'ARTHROSE A L'INNOVATION

La session portera sur le LCA dans le cadre de l'arthrose du genou et les technologies innovantes.

> OP : définir la place et la stratégie chirurgicale des ostéotomies ainsi que des prothèses de genou dans le cadre défini précédemment. Le congrès se terminera sur la place des technologies innovantes en chirurgie ligamentaire (réalité augmentée, robotique, etc..)

10:20-11:52 | Chirurgie prothétique et LCA

10:20-11:04 | UNI et reconstruction du LCA associée.

10:20-10:26 | Les contre-indications. C. Debette

10:26-10:32 | Planification et bilan pré-opératoire. N. Pujol

10:32-10:42 | Spécificités de la PUC médiale associée à un LCA. T. Neri

10:42-10:47 | Technique conventionnelle (vidéo). G. Demey

10:47-10:52 | Technique robotique (vidéo). S. Lustig

10:52-10:59 | Les modes d'échecs ou comment les éviter. S. Parratte

10:59-11:04 | Résultats des PUC avec LCA associée. C. Foissey

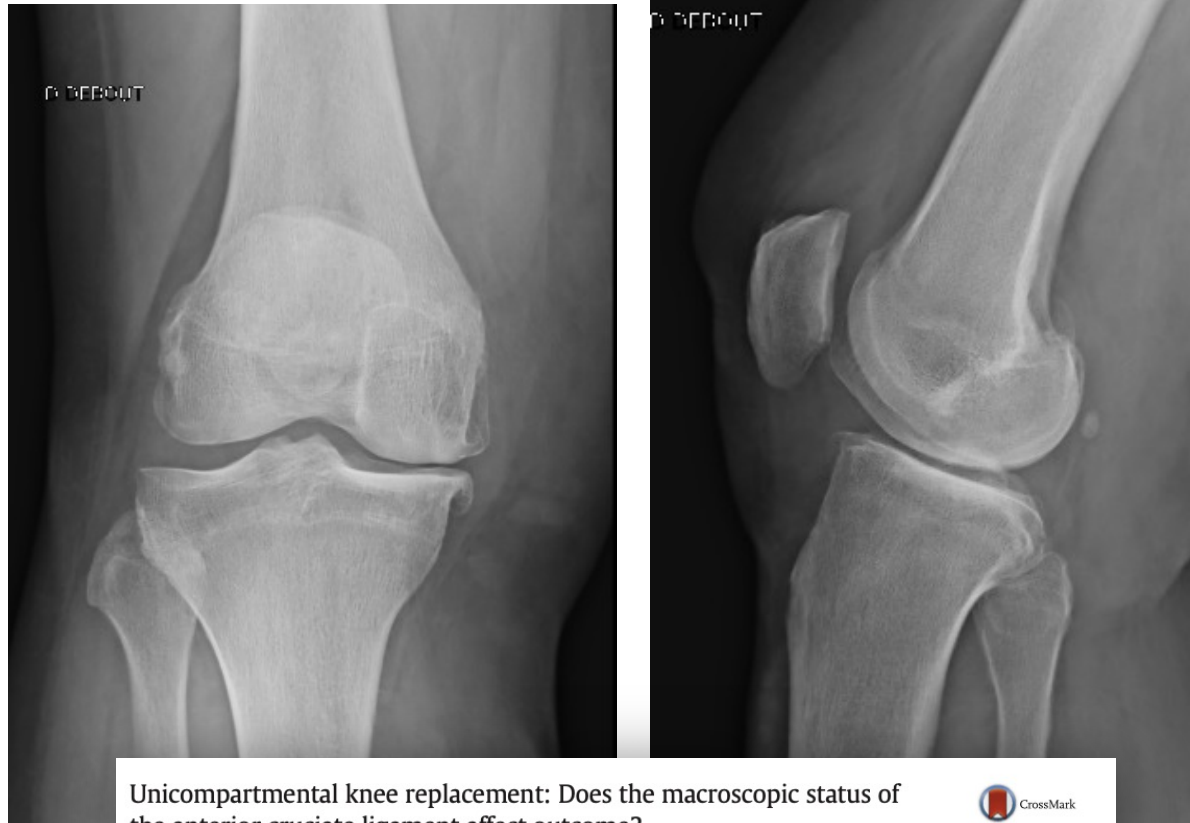
11:04-11:12 | PUC isolée sur rupture du LCA – Technique et résultats. S. Martres

11:12-11:22 | Pourquoi mettre une prothèse à conservation des croisés ? F. Lavoie

11:22-11:52 | PUC et LCA : session cas cliniques. S. Lustig, C. Batailler, J. Cognault

Experts : G. Demey, F. Haddad, F. Lavoie, S. Martres, S. Parratte, P. Verdonk

PRIMITIVE OA ➡ SECONDARY ACL DEFICIENCY



Unicompartmental knee replacement: Does the macroscopic status of the anterior cruciate ligament affect outcome?



T.W. Hamilton ^{a,*}, C. Pistrutto ^b, C. Jenkins ^b, S.J. Mellon ^a, C.A.F. Dodd ^b, H.G. Pandit ^{a,b}, D.W. Murray ^{a,b}

^a Nuffield Department of Orthopaedics, Rheumatology, Musculoskeletal Sciences, University of Oxford, Windmill Road, Oxford, UK

^b Nuffield Orthopaedic Centre, Oxford University Hospitals NHS Foundation Trust, Windmill Road, Oxford, UK

- Indication of UKA
- Elderly patient
- Low functional demand

Isolated UKA is not forbidden

The Journal of Arthroplasty Vol. 11 No. 7 1996

Unicompartmental Knee Arthroplasty Surgery

10-Year Minimum Follow-up Period

1996

Philippe Cartier, MD,* Jean-Louis Sanouiller, MD,* and Ronald P. Grelsamer, MD†

506

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POSTERIOR SLOPE OF THE TIBIAL IMPLANT AND THE OUTCOME OF UNICOMPARTMENTAL KNEE ARTHROPLASTY

BY PHILIPPE HERNIGOU, MD, AND GERARD DESCHAMPS, MD

Investigation performed at Hôpital Henri Mondor, Creteil, France

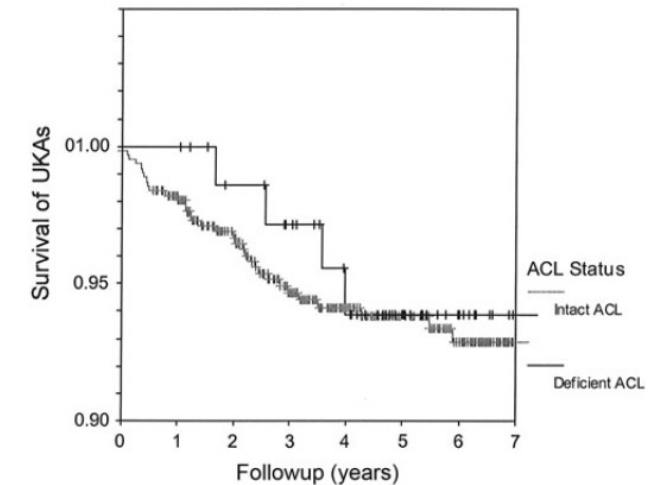
2004

- 60 UKA 10y FU min
 - 93% survival rate at 12 y
 - **10 knees without ACL.** 7 no symptom. 2 slight instability. 1 ACL reconstruction
-
- 99 UKA. Mean FU: 16 y
 - **18 knees without ACL.** 11 no revisions with PS 0° (-6;4). 7 revisions . PS > 8°

Unicondylar Arthroplasty in Knees With Deficient Anterior Cruciate Ligaments

Gerard A. Engh MD, Deborah J. Ammeen BS

- 68 UKA deficient ACL
- *Patient selection* : negative drawer test, no instability
- *Modified technique* : Reduced posterior slope
- 6 y FU No difference between UKAs with or without intact ACL





Contents lists available at ScienceDirect

The Journal of Arthroplasty

journal homepage: www.arthroplastyjournal.org



Systematic Review and Meta-Analysis

No Difference Unicompartmental Knee Arthroplasty for Medial Knee Osteoarthritis With or Without Anterior Cruciate Ligament Deficiency: A Systematic Review and Meta-analysis



Genfa Du, MD ^a, Hongtao Qiu, MD ^b, Jianzong Zhu, MD ^a, Hongbo Wang, BS ^a,
Qinghua Xiao, MD ^a, Zhen Zhang, MD ^a, Xiaosheng Lin, MD ^{a,*},
Guangming Zheng, MM ^{c,**}

^a Department of Orthopedics, Shenzhen Hospital of Integrated Chinese and Western Medicine, Guangzhou University of Chinese Medicine, Shenzhen, China

^b Department of Orthopedics, Shenzhen Bao'an Traditional Chinese Medicine Hospital, Guangzhou University of Chinese Medicine, Shenzhen, China

^c Department of Orthopedics, Shunde Hospital Guangzhou University of Chinese Medicine, Foshan, China



2516 UKA

2100 Intact ACL

416 deficient ACL



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^a Department of Orthopedics, Shenzhen Hospital of Integrated Chinese and Western Medicine, Guangzhou University of Chinese Medicine, Shenzhen, China

^b Department of Orthopedics, Shenzhen Bao'an Traditional Chinese Medicine Hospital, Guangzhou University of Chinese Medicine, Shenzhen, China

^c Department of Orthopedics, Shunde Hospital Guangzhou University of Chinese Medicine, Foshan, China



- Mean Follow Up : 6 years
- No significant difference between 2 groups
 - Tegner Activity Scale (86% < Tegner 4)
 - OKS : 1, 3 and 5 y
 - KOOS
 - Lysholm Score
 - Revision rate

2516 UKA

2100 intact ACL

416 deficient ACL

The Journal of Arthroplasty 38 (2023) 586–593

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^c Department of Orthopedics, Shunde Hospital Guangzhou University of Chinese Medicine, Foshan, China



- Patients Selection :

- mean age > 66y
- BMI < 30 kg/m²

- Post op Tibial slope lower than pre op and < 7°

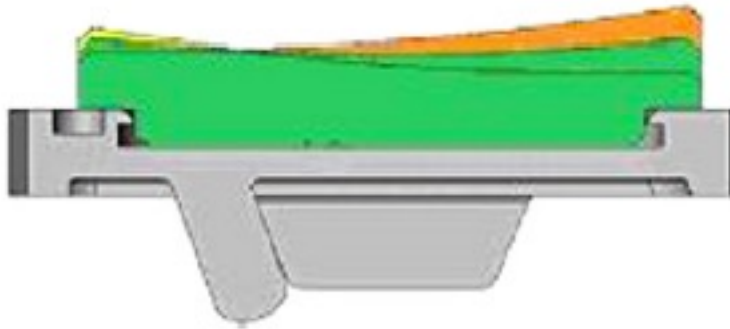
- Limits :

- Mid term follow-up
- Experienced surgeon ?

Effects of tibial slope changes in the stability of fixed bearing medial unicompartamental arthroplasty in anterior cruciate ligament deficient knees

Eduardo M. Suero, Musa Citak, Michael B. Cross, Marianne R.F. Bosscher, Anil S. Ranawat, Andrew D. Pearle*

Hospital for Special Surgery, New York, NY, United States



- UKR with tibial slope leveling (by 4°) decreases anteroposterior tibiofemoral translation in the sagittal plane to a magnitude similar to that of the intact knee
- No variation in slope can alter the pivot shift in an ACL deficient knee sagittal plane to a magnitude similar to that of the intact knee

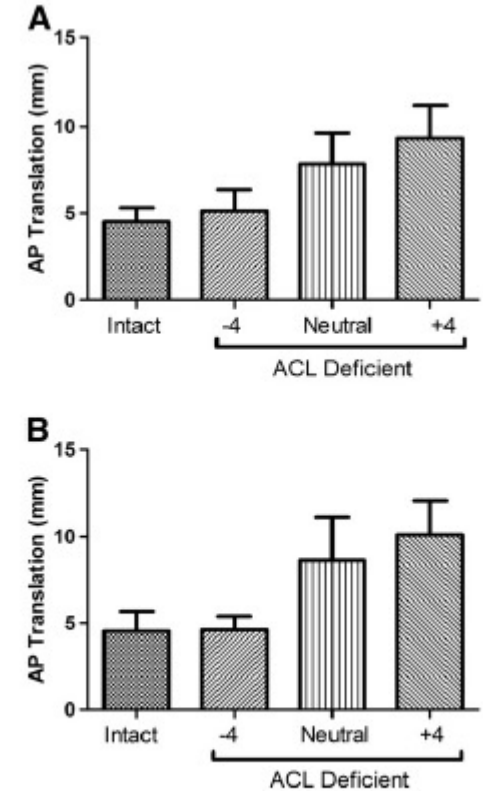


Fig. 4. The polyethylene insert with 4° of anterior slope restricted sagittal anteroposterior translation in the Lachman test to a magnitude close to that of the intact ACL knee. A. Lateral compartment. B. Medial compartment.

Patient selection

Archives of Orthopaedic and Trauma Surgery (2019) 139:113–120
<https://doi.org/10.1007/s00402-018-3069-8>

KNEE ARTHROPLASTY



A novel preoperative scoring system for the indication of unicompartmental knee arthroplasty, as predictor of clinical outcome and satisfaction

Alexander Antoniadis¹ · Dimitris Dimitriou¹ · Jean Pierre Canclani² · Naeder Helmy¹

Table 1 UIS

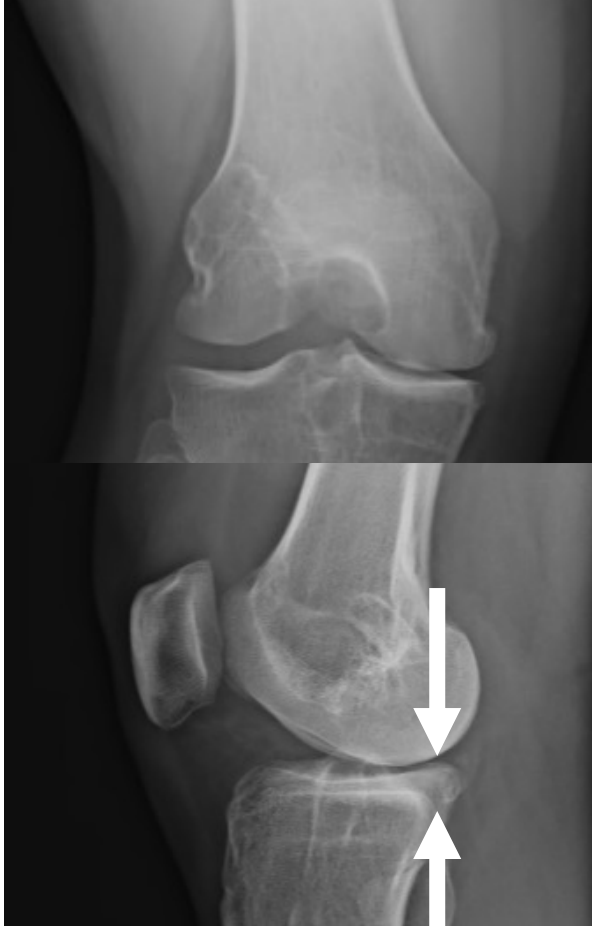
Independent variable	1-point	2-points	3-points
Age (years)	50–60	60–80	> 80
Cause of symptoms	Inflammatory	Chondrocalcinosis	Osteoarthritis/osteonecrosis
BMI (kg/m ²)	≥ 40	30–40	≤ 30
Past history in the affected knee	Trauma ^a	Osteotomy	None
Clinical ACL function	None	Partial ^b	Normal
Fixed varus/valgus (°)	≥ 10	5–10	0–5
Patellofemoral Degeneration (modified Altman) [23]	Grade 3 with or without subluxation	Grade 1–2	Grade 0
Range of motion (flexion/extension°)	100/15/15	120/15/15	≥ 120/0/0
Affected compartment status (Kellgren–Lawrence) [22]	Grade 2	Grade 3	Grade 4
Opposite compartment status (Kellgren–Lawrence) [22]	Grade 2	Grade 1	Grade 0

- Analyse many independent variables
- Isolated ACL rupture seems not to be a contraindication ...
- But long term FU is less known (elderly patient ++)

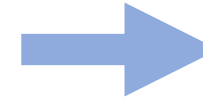
ANTERIOR LAXITY



SECONDARY OA



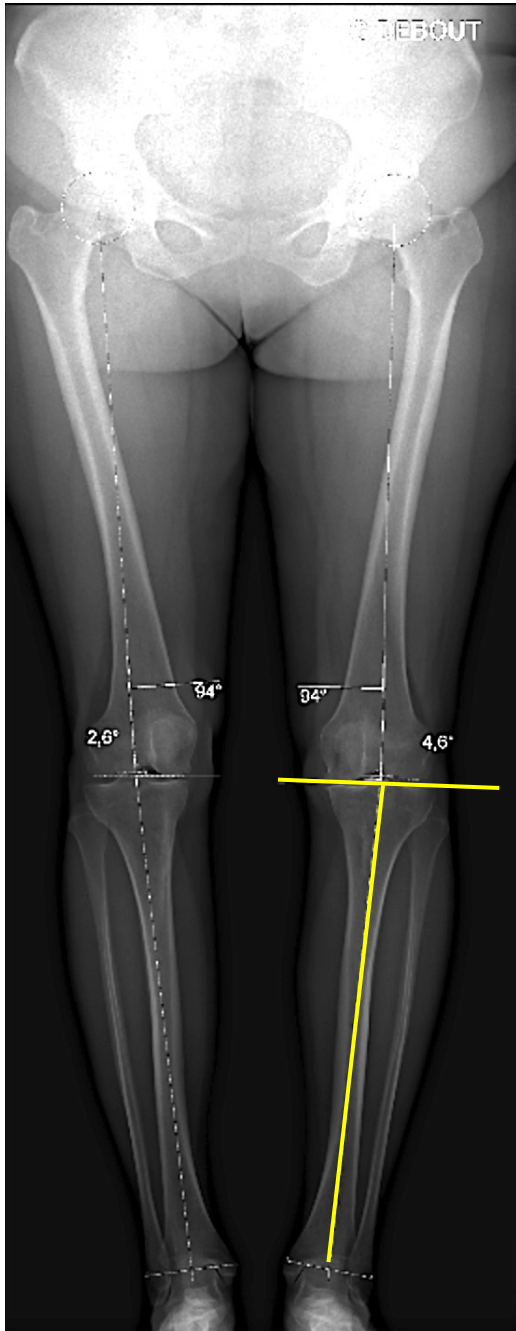
- Younger
- Traumatic
- Instability



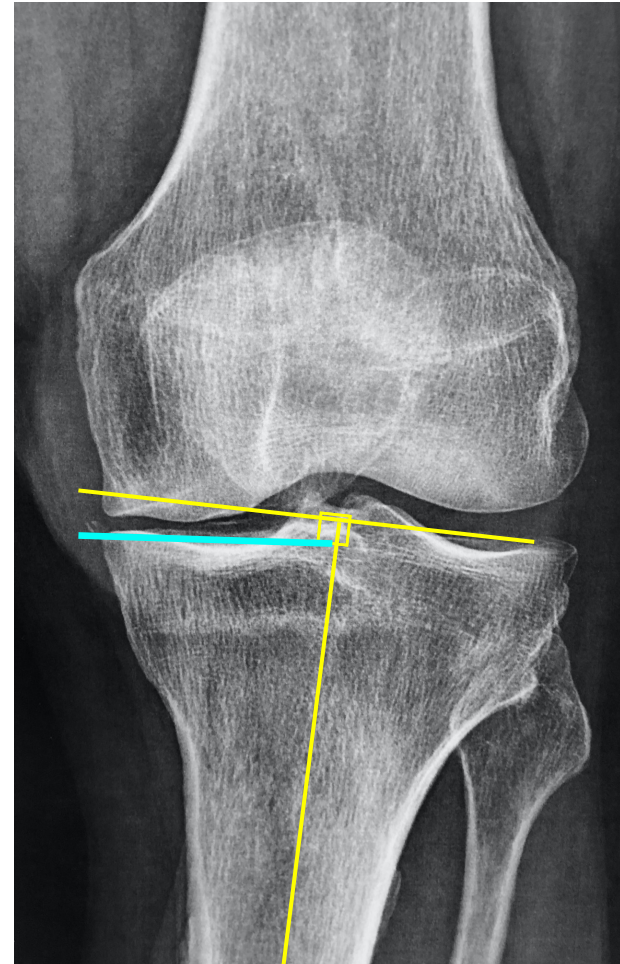
UKA + ACL

Or

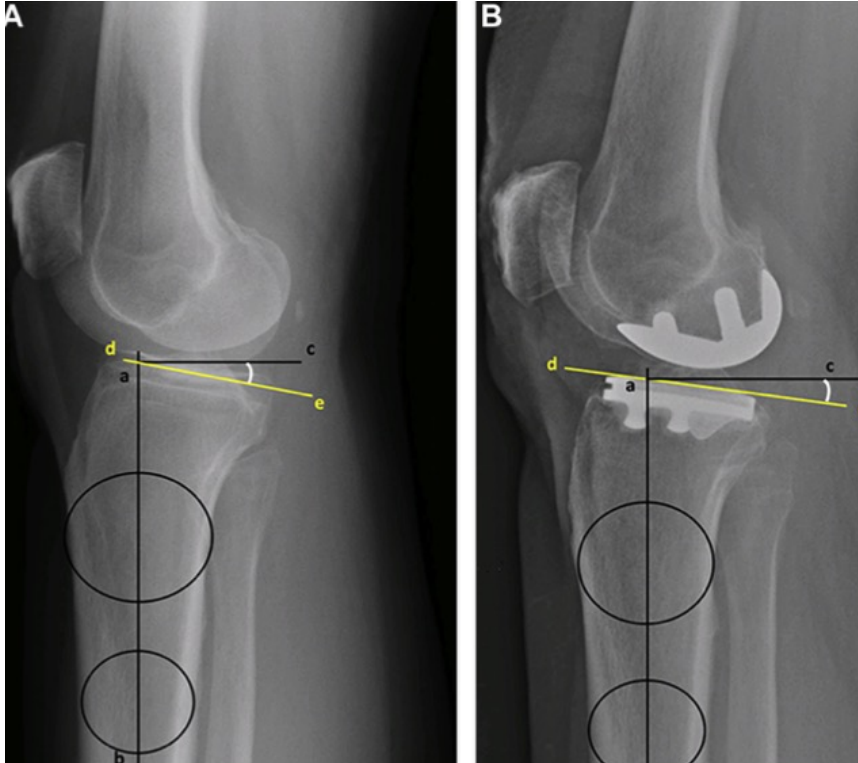
HTO + ACL



INDICATION =
bone to bone OA + normal MPTA



Tibial slope



Posterior slope of the tibial implant and the outcome of
unicompartmental knee arthroplasty

Philippe Hernigou, Gerard Deschamps

JBJS Am 2004

Relevance of the Tibial Slope on Functional Outcomes in ACL-Deficient and
ACL Intact Fixed-Bearing Medial Unicompartmental Knee Arthroplasty

Kevin D Plancher , et al

J Arthroplasty 2021

Posterior Tibial Slope Angle Correlates With Peak Sagittal and Frontal
Plane Knee Joint Loading During Robotic Simulations of Athletic Tasks.

Bates NA, Nesbitt RJ, Shearn JT, Myer GD, Hewett TE

Am J Sports Med. 2016



Anterior tibial translation

Tibial translation after anterior cruciate ligament rupture. Two radiological tests compared.

Dejour H, Bonnin M.

J Bone Joint Surg Br. 1994

Radiographic Investigation of Differences in Static Anterior Tibial Translation With Axial Load Between Isolated ACL Injury and Controls.

Cance N, Dan MJ, Pineda T, Demey G, Dejour DH.

Am J Sports Med. 2024

Passive Anterior Tibial Subluxation in the Setting of Anterior Cruciate Ligament Injuries: A Comparative Analysis of Ligament-Deficient States

Lucas S McDonald et al

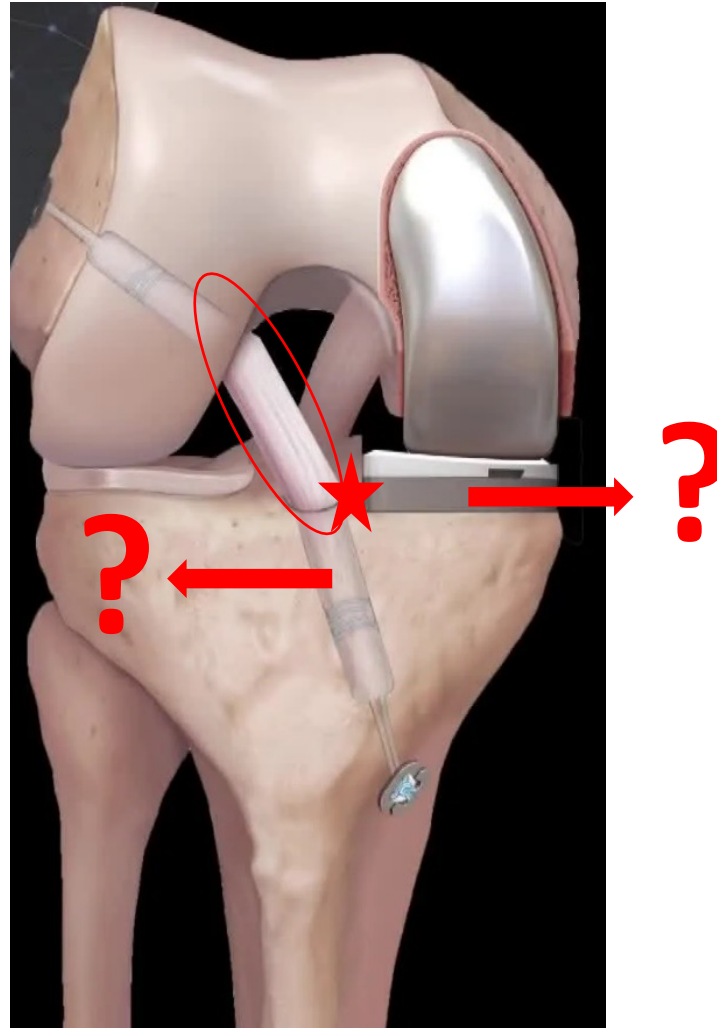
Am J Sports Med 2017

<6 mm



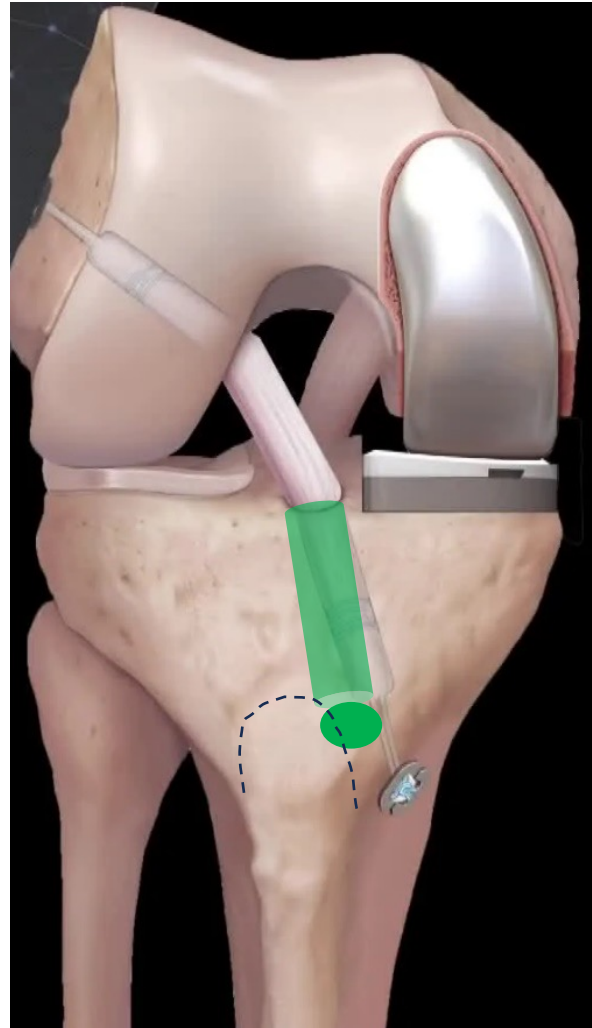
LYON KNEE
SCHOOL of SURGERY

Tibial tunnel / implant conflict



Courtesy T Neri

Vertical tibial tunnel



Courtesy T Neri

What are the results ?

SICOT-J 2022, 8, 4
© The Authors, published by EDP Sciences, 2022
<https://doi.org/10.1051/sicotj/2022002>



Available online at:
www.sicot-j.org

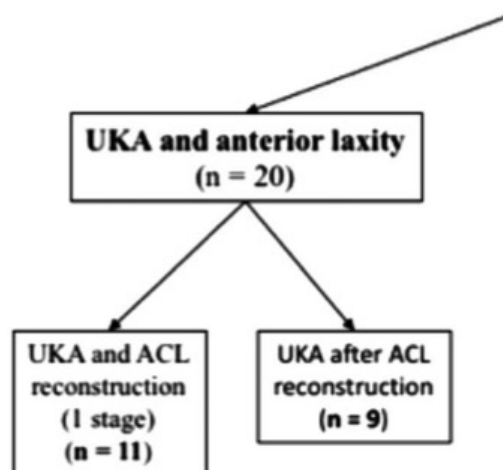
ORIGINAL ARTICLE

OPEN ACCESS

Combined procedures with unicompartmental knee arthroplasty: High risk of stiffness but promising concept in selected indications

Vianney Derreveaux¹, Axel Schmidt^{1,*}, Jobe Shatrov^{2,3,4}, Elliot Sappey-Marini^{1,5},
Cécile Batailler^{1,5}, Elvire Servien^{1,6}, and Sébastien Lustig^{1,5}

Stiffness



Complications

Seven patients (21.8%) experienced persistent stiffness with limited flexion under 90° requiring an arthroscopic arthrolysis. The mean time between UKA and arthrolysis was 6.8 months $\pm$ 9.6 (1–26.4). Of the UKA patients experiencing stiffness, 3 had associated ACL surgery and were 4 bicompart-



Tibial Loosening

High risk for UKA + ACL deficient knee

Anterior translation

Posterior edge loading => loosening

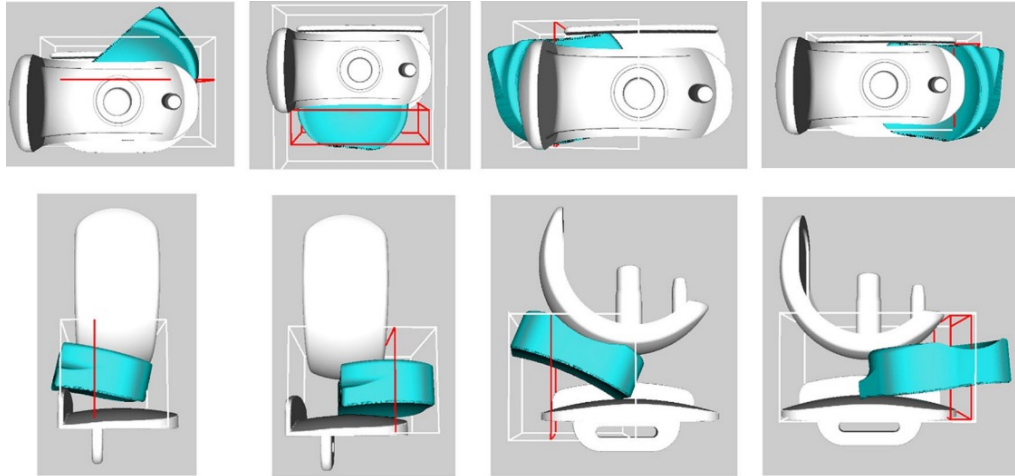
Solution

No slope

Strong graft

Bearing dislocation

Oxford specific complication



Solution :

Fixed-bearing Uni

Tight the graft after the PE insertion

Courtesy S Parratte

Rare indications

Knee Surgery, Sports Traumatology, Arthroscopy (2023) 31:1382–1387
<https://doi.org/10.1007/s00167-022-07102-3>

KNEE



Combined treatment with medial unicompartmental knee arthroplasty and anterior cruciate ligament reconstruction is effective on long-term follow-up

Ayham Jaber¹ · Chang min Kim² · Alexander Barié³ · Marcus Streit⁴ · Holger Schmitt⁵ · Michael Clarius⁶ · Christian Merle¹ · Yannic Bangert¹

Methods Twenty-three patients with ACL deficiency and concomitant medial knee OA were treated from 2008 to 2016 with a combined UKA (Oxford Partial Knee) and ACLR using a hamstring tendon autograft. The follow-up assessment included UKA. The surgeries were performed in 3 institutions by 4 senior surgeons who were trained in the same institution and are experienced with ACLR and UKA.

Michael Clarius is the second
Biggest user of Oxford in Germany
More than 300/ year

8 years
23 patient
4 surgeons

Less than one per year per surgeon!

Rare indications

SICOT-J 2022, 8, 4
© The Authors, published by EDP Sciences, 2022
<https://doi.org/10.1051/sicotj/2022002>



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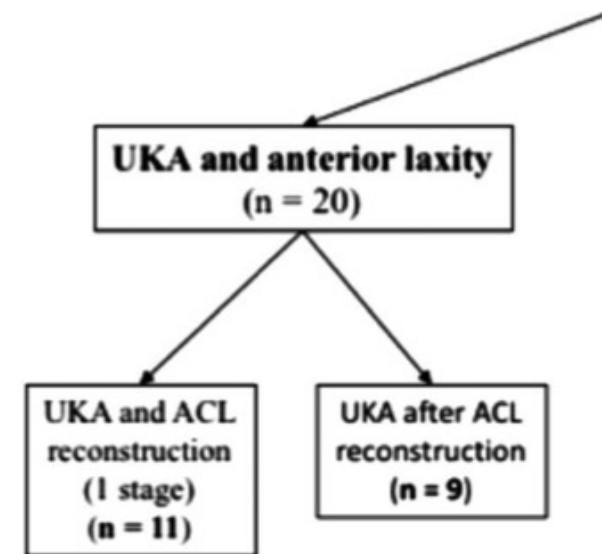
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Cécile Batailler^{1,5}, Elvire Servien^{1,6}, and Sébastien Lustig^{1,5}

This was a retrospective cohort study of patients undergoing UKA between December 2015 and October 2020 at a single institution. A total of 480 patients underwent UKA in the study period. A flowchart representing patient selection is presented in [Figure 1](#).



Eleven patients underwent combined ACL reconstruction with UKA. Hamstring graft with interference screw fixation was used for all ACL reconstruction's using an outside-in drilling technique. Briefly, the graft is harvested (gracilis and

Take home message



1. Do what you do frequently...
UKA user
+
ACL user
2. Do not push the indications : patient selection +++
3. Slope is (again) the key

Merci c'était énorme !

