

## Place of Double UKA ?

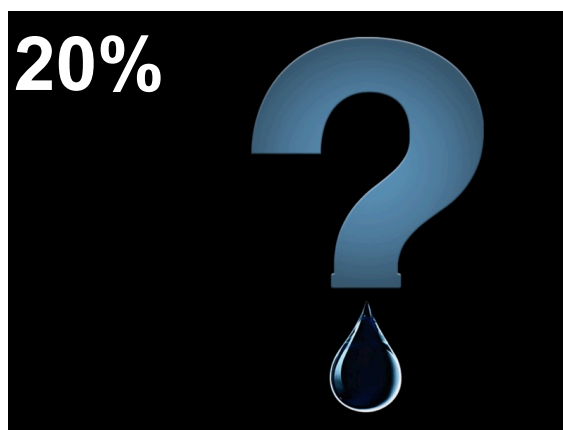
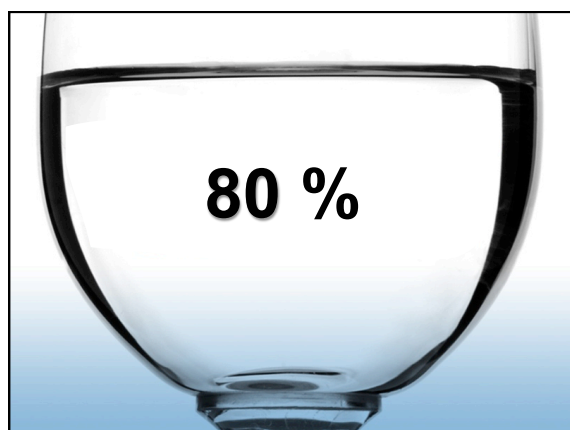
*Sebastien Parratte, Jean-Manuel Aubaniac,  
Jean-Noël Argenson*

**Locomotion Institute  
Sainte Marguerite Hospital  
Marseille, France**

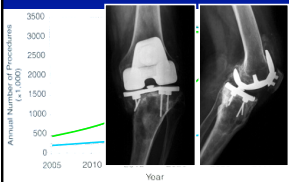





## → Results of Total Knee Arthroplasty in the literature ?

## The Total Knee Paradox

**Primary** Estimated number for 2030 in the US (AAOS)

- THA: 571,100 / year
- TKA: 3.48 millions

**Large growth potential for knee in Europe**

## What is a good

Knee Surg Sports Traumatol Arthrosc  
DOI 10.1007/s00167-009-1009-4

### KNEE

### Can patients really do sport after TKA?

Michel Bonnin · J. R. Laurent · S. Parratte ·  
F. Zidegan · R. Badet · A. Bisery



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ORIGINAL ARTICLE

**Function and quality of life following medial unicompartmental knee arthroplasty in patients 60 years of age or younger**

E. Felts\*, S. Parratte\*, V. Pauly\*, J.-M. Aubaniac\*, J.-N. Argenson\*\*

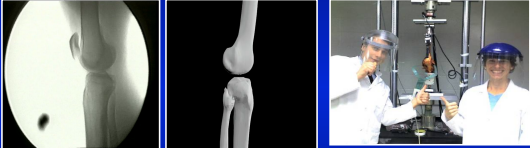
SPORT ?

of Knee Surgery

**Flexion, Fonction and.....**

**Goal: "The forgotten knee"**


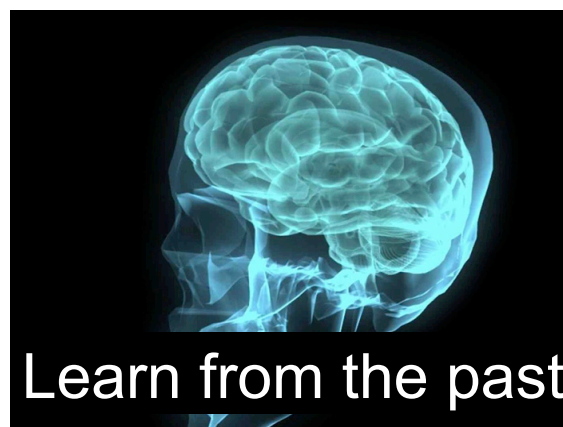

In vitro → Key point = ACL  
In vivo



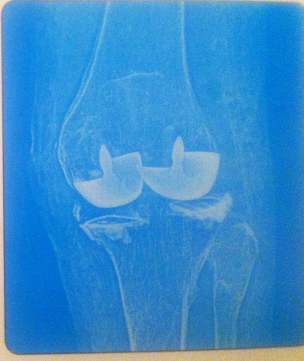
*The Journal of Arthroplasty* Vol. 17 No. 8 2002

**In Vivo Determination of Knee Kinematics for Subjects Implanted With a Unicompartamental Arthroplasty**

Jean-Noël A. Argenson, MD,\* Richard D. Komrook, PhD,†  
Jean-Marcus Aubaniac, MD,\* Douglas A. Dennis, MD,† Eric J. Northcutt, MS,†  
Dylan T. Anderson,† and Serge Agosti, MD‡

Leonard Marmor



**SURGICAL TECHNIQUE of the MARMOR MODULAR KNEE**

by Leonard Marmor, M.D., F.A.C.S.

© 1988 British Editorial Society of Bone and Joint Surgery  
0969-6208/88/0363-692 \$3.00  
*J Bone Joint Surg [Br]* 1988;70-B:692-701.

**THE OXFORD KNEE FOR UNICOMPARTMENTAL OSTEOARTHRITIS**

THE FIRST 103 CASES

J. W. GOODFELLOW, C. J. KERSHAW, M. K. D'A BENSON, J. J. O'CONNOR

*From the Nuffield Orthopaedic Centre and the Department of Engineering Science, University of Oxford*

by pre-operative stress radiographs which also showed whether the pre-operative varus/valgus deformity was correctable (Gibson and Goodfellow 1986) (Fig. 3). However, the final decision was taken during operation when the exact state of the articular surfaces could be assessed (Fig. 4). In many cases there was fibrillation of the cartilage in the contralateral compartment, but this was not regarded as a contra-indication. Frank erosion suggested the need for bicompartamental or total condylar replacement.



**Bicompartamental Arthroplasty**

Lonner et al. JOA 2013


Thienpont et al. KSSTA 2012

Leffler et al. Gait posture 2012; 36: 454-460

Heyse et al. AOTS 2010; 130: 1227-1230

Parratte et al. CORR 2010; 468: 64-72

Rolston et al. Orthopedics 2007; 30: 70-73




## Bi-Unicompartmental Arthroplasty

Confalonieri et al. AOTS 2009; 129: 1157-1163

Confalonieri et al. CORR 2007; 463: 63-67

Banks et al. KSSTA 2005; 13: 551-556




## Terminology

**Unicompartmental:** Medial & Lateral Uni, PFJ

**Bicompartmental:** Uni + PFJ

**Bi – Uni:** Medial & Lateral Unicompartmental

**Tricompartmental:** Resurfacing with 3 implants



## 1. Indications: the type of patient ?

### What do they want ?



J Bone Joint Surg Am. 2009;91 Suppl 5:43-8 • doi:10.2106/JBJS.J090406

### The New Arthritic Patient and Arthroplasty Treatment Options

By Jean-Noël A. Argenson, MD (moderator), Sébastien Parratte, MD, Antoine Bertani, MD, Jean-Manuel Aubaniac, MD, Adolph V. Lombardi Jr., MD, Keith R. Berend, MD, Joanne B. Adams, BFA, Jew H. Lonner, MD, Ormonde M. Mahoney, MD, Tracy L. Kinsey, MSPH, Thomas K. John, MD, and Michael A. Condit, PhD

## 4 mains categories of patients

- The active patient
- The low demand patient
- The pickwick man (Dickens )
- The patient with « social reasons » to get surgery

## Category 1

### The young, active and



They want a normal knee

## Category 2

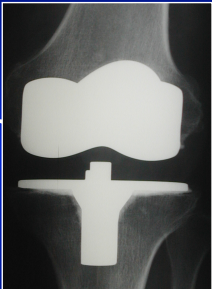
### The low demand patient



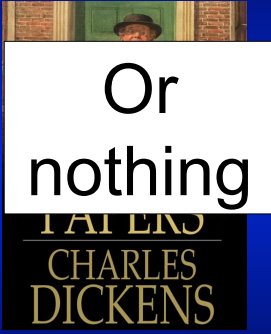
A stable knee with not to much pain

### Category 3

« ar



They want to survive the knee surgery



Or nothing  
TATERS  
CHARLES DICKENS

### Category 4: « Bob Booth Criteria


Female Male

...Or nothing

- In
- Fit
- > 2
- > 2

- White shoes in Winter
- More than 2 gold chains

They do not know what they want !




### Evaluation


Pre-operative patient selection protocol  
Parratte, Argenson et al, AAOS 2010

- Clinical evaluation:**
  - Full range of knee motion
  - Frontal and sagittal knee stability
  - Status of the "uninvolved" compartment
- Radiological evaluation:**


Long leg radiography



ACL



Varus Stress Valgus Stress



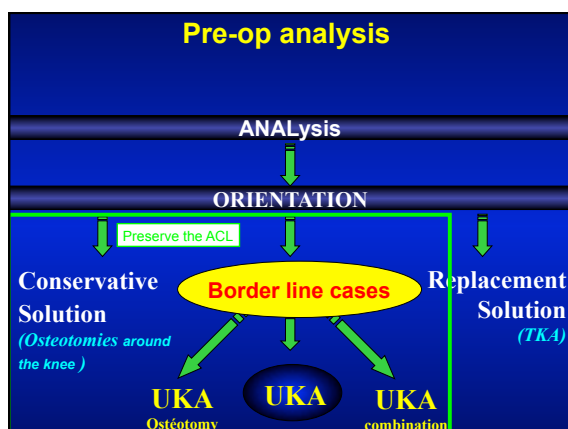
Patello femoral evaluation: Sky-view

### Patient selection

«SAW» concept

- Stability
- Alignment
- Wear

Pr. J.M. Aubaniac, 1972



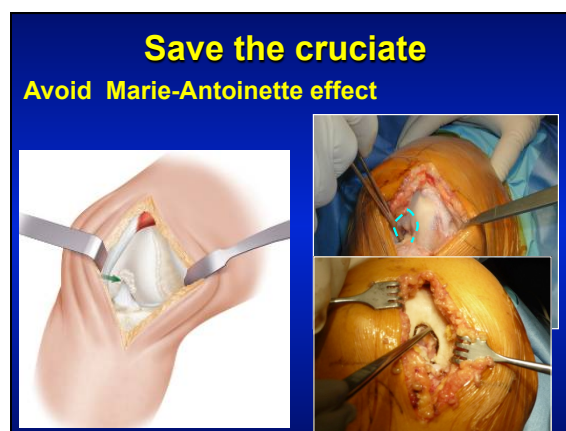
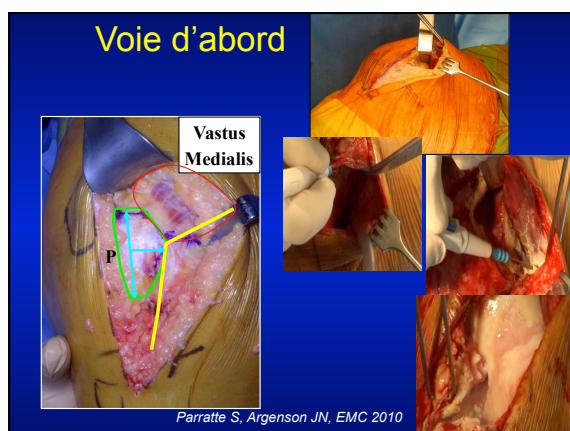
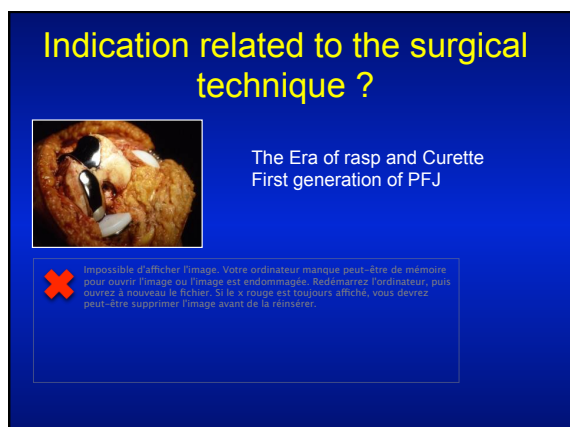
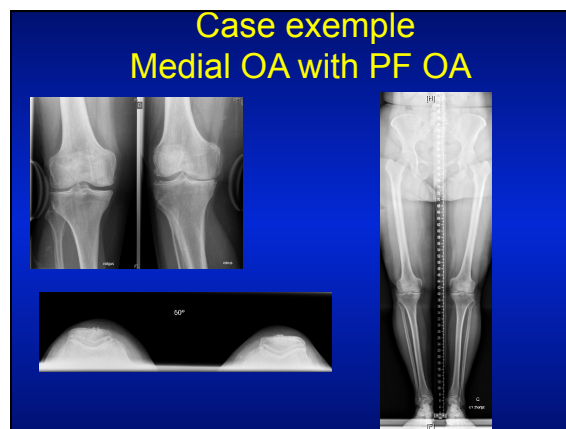
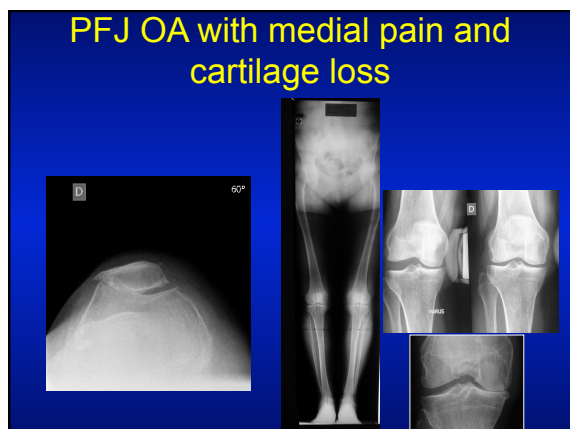
Indication: the type of arthritis ?

2 main type of indications

Medial OA with PF joint OA

PF OA with Medial OA

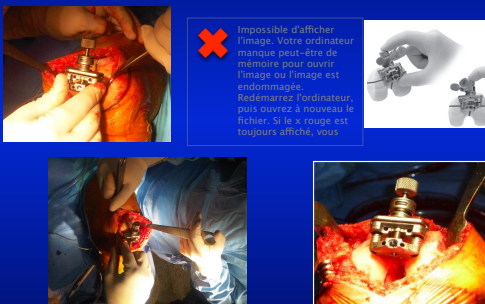




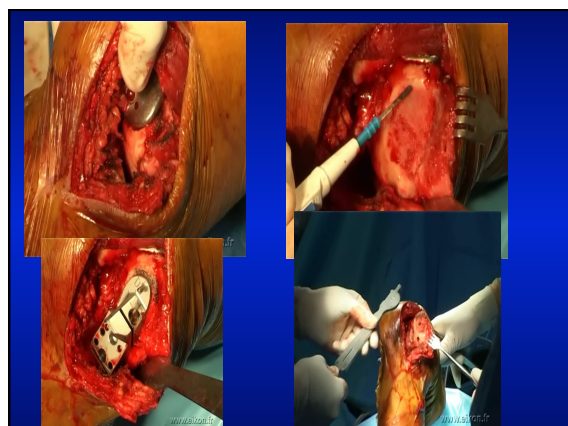
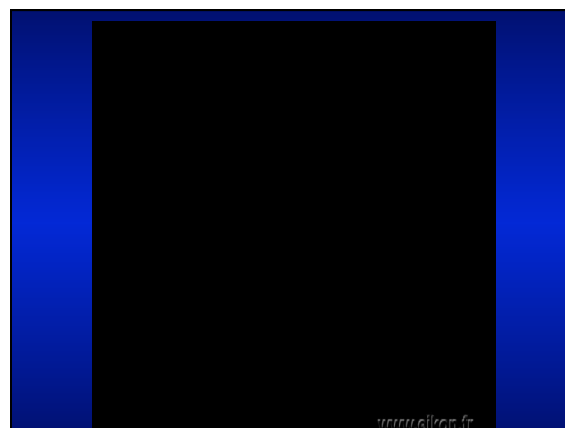
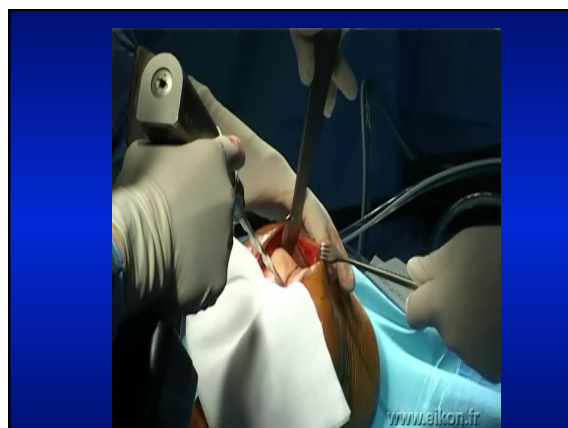
## Witheside ligne




## Anterior Cut Rotation/thickness



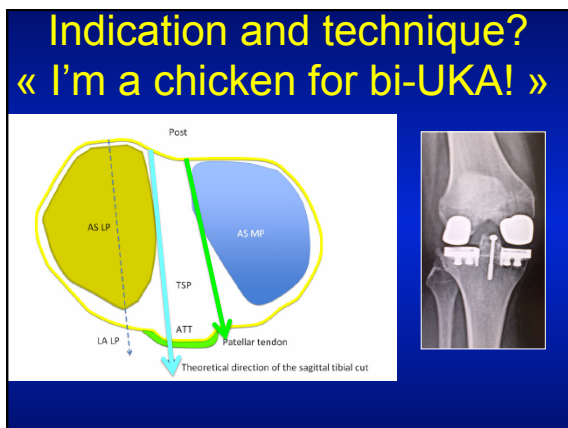
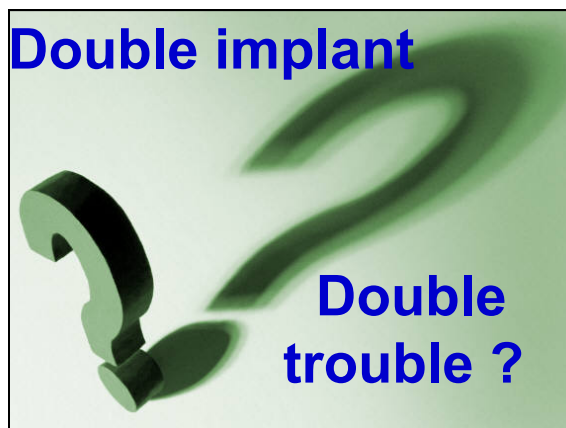
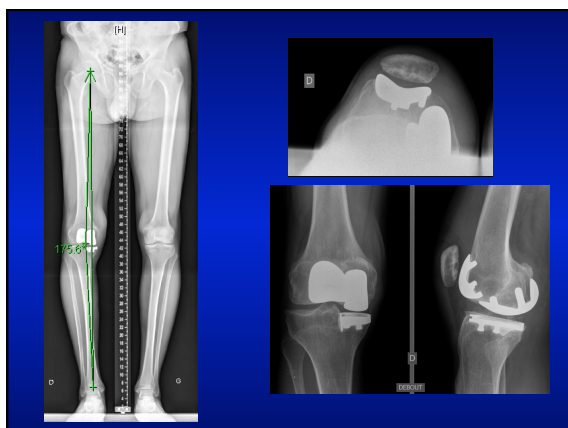
✘ Impossible d'afficher l'image. Votre ordinateur manque peut-être de mémoire pour ouvrir l'image ou l'image est endommagée. Redimensionnez l'ordinateur, puis ouvrez à nouveau le fichier. Si le x rouge est toujours affiché, vous



## Rotule en extension

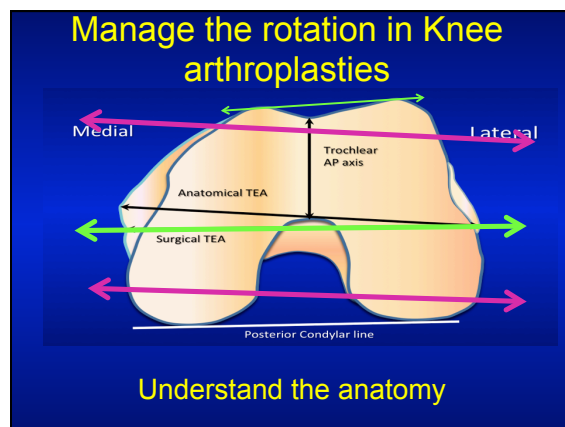
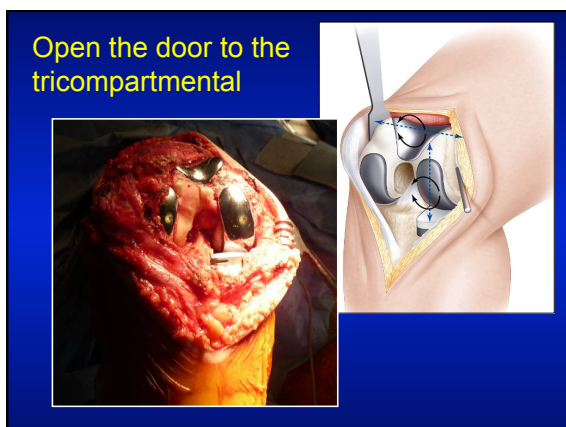


- Epaisseur
- Patellectomie verticale externe



Indication and technique?  
« I'm a chicken for bi-UKA! »

Robotic  
Controlled milling ?



Short-term result with modern implants

2 centers : E Thienpont and Marseille

70 patients at mini FU: 2 years

One revision for infection at 19 months: (untreated bite boar on a hunter )

Knee Society Function and Knee scores  
54 to 91 and from 48 to 94  
KOOS  
Mean pre-operative flexion was 125° and 130° post-operatively

Solution in 2014 for an active patient?

CORR 2006    Goal Study    Jbjs Am 2013    CORR 2010    CORR 2007  
CORR, JBJS Br    Combine series    JBJS Am 2012

Key point messages

- Indication for Bi-Compartmental Knee
- Category of patient
- Type of arthritis
- Technique related

We do not meet the patient at the same point on the road of arthritis

