

TKA for post-traumatic arthritis management of stiffness

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6th Advanced Course on Knee Surgery

January 31st – February 5th, 2016 Val d'Isère - France

IML

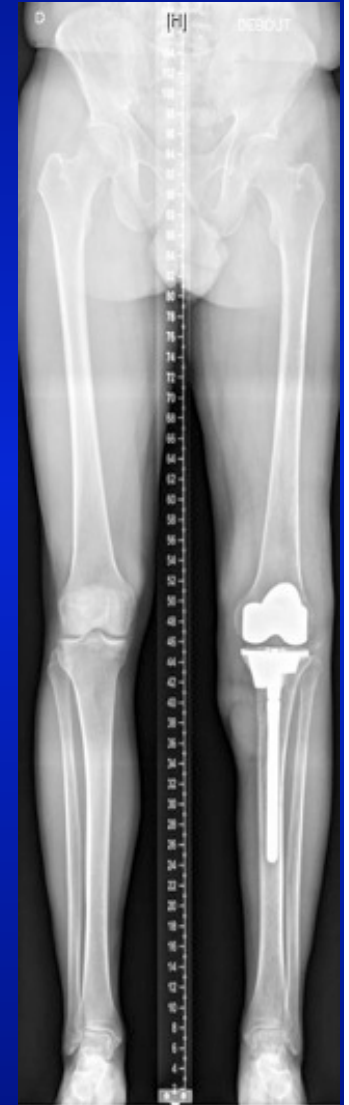


Institut du Mouvement et de l'appareil Locomoteur

Aix*Marseille
université



Male 48
Post-traumatic arthritis
Skying instructor



What can we expect ?

Manage the soft tissues



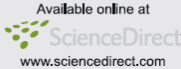

Manage the bony defects

=>restore the axis and the joint line

Not Much ?

Limited gain

Orthopaedics & Traumatology: Surgery & Research (2011) 97, 28–33



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ORIGINAL ARTICLE

Total knee replacement in post-traumatic arthritic knees with limitation of flexion

P. Massin^{a,*}, M. Bonnin^b, S. Paratte^c, R. Vargas^b, P. Piriou^d, G. Deschamps^e,
The French Hip Knee Society (SFHG) 56, rue Boissonade, 75014 Paris,
France

[Total knee replacement following intra-articular malunion.](#)

Paratte S, Boyer P, Piriou P, Argenson JN, Deschamps G, Massin P; SFHG (French Hip and Knee Society).

Orthop Traumatol Surg Res. 2011 Oct;97(6 Suppl):S118-23. Epub 2011 Aug 26.

PMID: 21872547 [PubMed - in process]

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ORIGINAL ARTICLE

Total knee replacement in post-traumatic arthritic knees with limitation of flexion

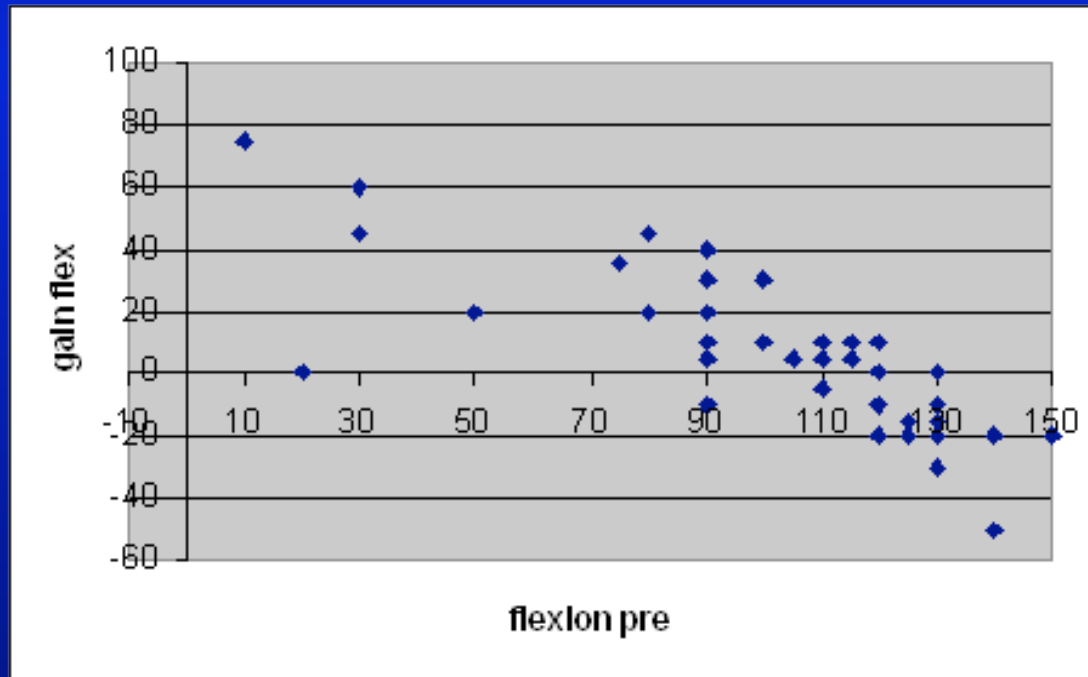
P. Massin^{a,*}, M. Bonnin^b, S. Paratte^c, R. Vargas^b, P. Piriou^d, G. Deschamps^e,
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France

Pre-op Flexion : $104^\circ \pm 28^\circ$ (10- 150°)
Post-op Flexion : $110^\circ \pm 19^\circ$ (20- 130°)
Mean Gain of flexion: 6°

Flexion contracture pre-op: $6^\circ \pm 8^\circ$ (0-25°)

Flexion contracture post-op: $1^\circ \pm 3^\circ$ (0- 10°)

Mean gain of extension: 5°



Modest

Our Experience



Are the Results of TKA for post-traumatic arthritis comparable to those of primary TKA?

1. Objective functional outcomes ?
2. Quality of life Outcomes ?



Acta Orthopaedica 2015; 86 (1): x-x

1

Lower function, quality of life, and survival rate after total knee arthroplasty for posttraumatic arthritis than for primary arthritis

Alexandre LUNEBOURG ^{1,3}, Sebastien PARRATTE ^{1,3}, André GAY ^{2,3}, Matthieu OLLIVIER ^{1,3}, Kleber GARCIA-PARRA ¹, Jean-Noël ARGENSON ^{1,3}

Material and Methods

Study design:
Retrospective
Comparative study

Post-traumatic Group

33 Patients

Clinical
Radiographic
QOL
Evaluation



Osteoarthritis Group

407 Patients

No patients
lost of follow up

Material and Methods

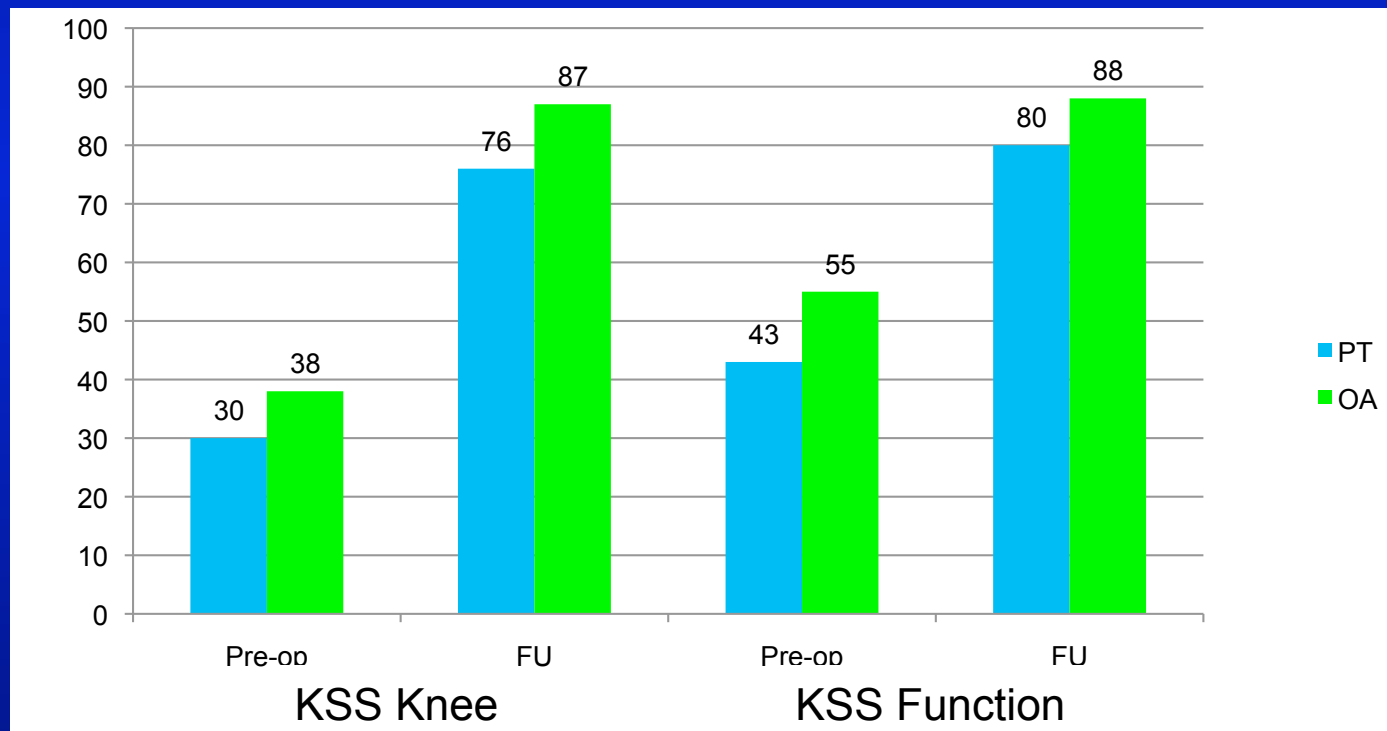
- **Post-traumatic arthritis group (n = 33)**
 - Delay from the initial trauma to total knee arthroplasty
 - **14 ± 6,4 years**
 - Fracture location
 - **Intra-articular fracture : 22**
 - **Extra-articular fracture : 11**
 - Bone involved
 - Tibia : 23
 - Femur : 6
 - Both : 4
 - **Bone defect (27%) type II (AORI Classification)**
 - Tibia : 7
 - Femur : 6
 - **15% : History of infection**



Results

- KSS**

Mean follow-up at the time of evaluation = **51.7±3 months**



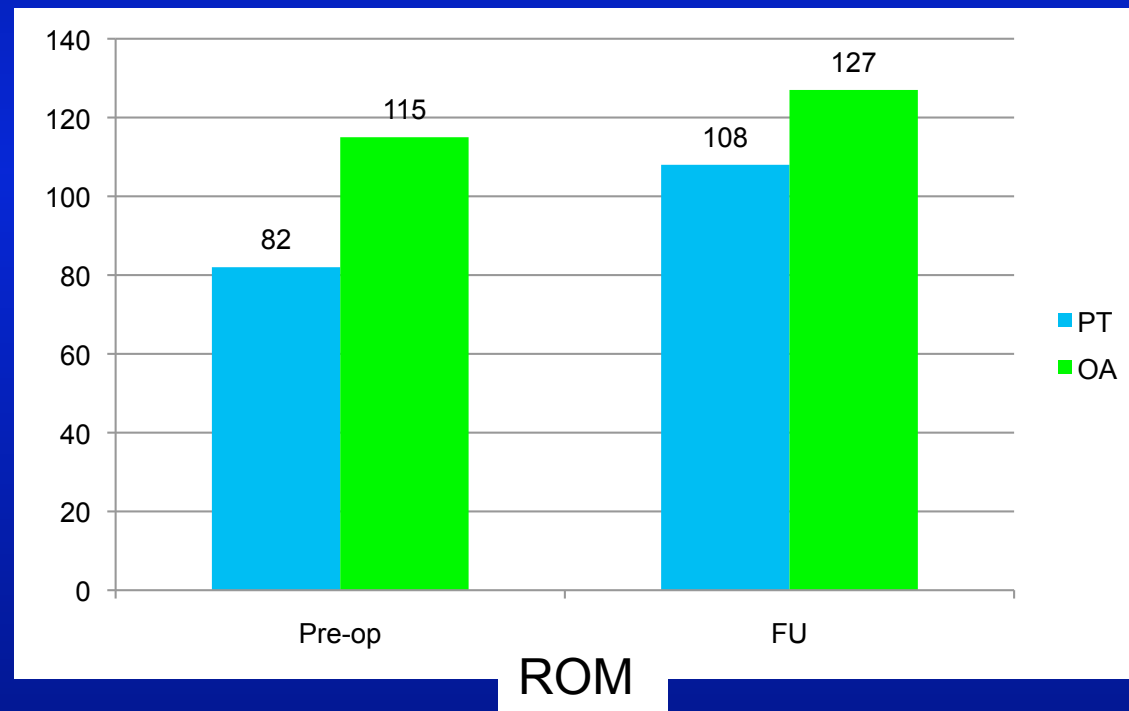
Significant improvement in both groups

KSS knee ($p < 0,001$) KSS function ($p < 0,008$)

Results

- **ROM**

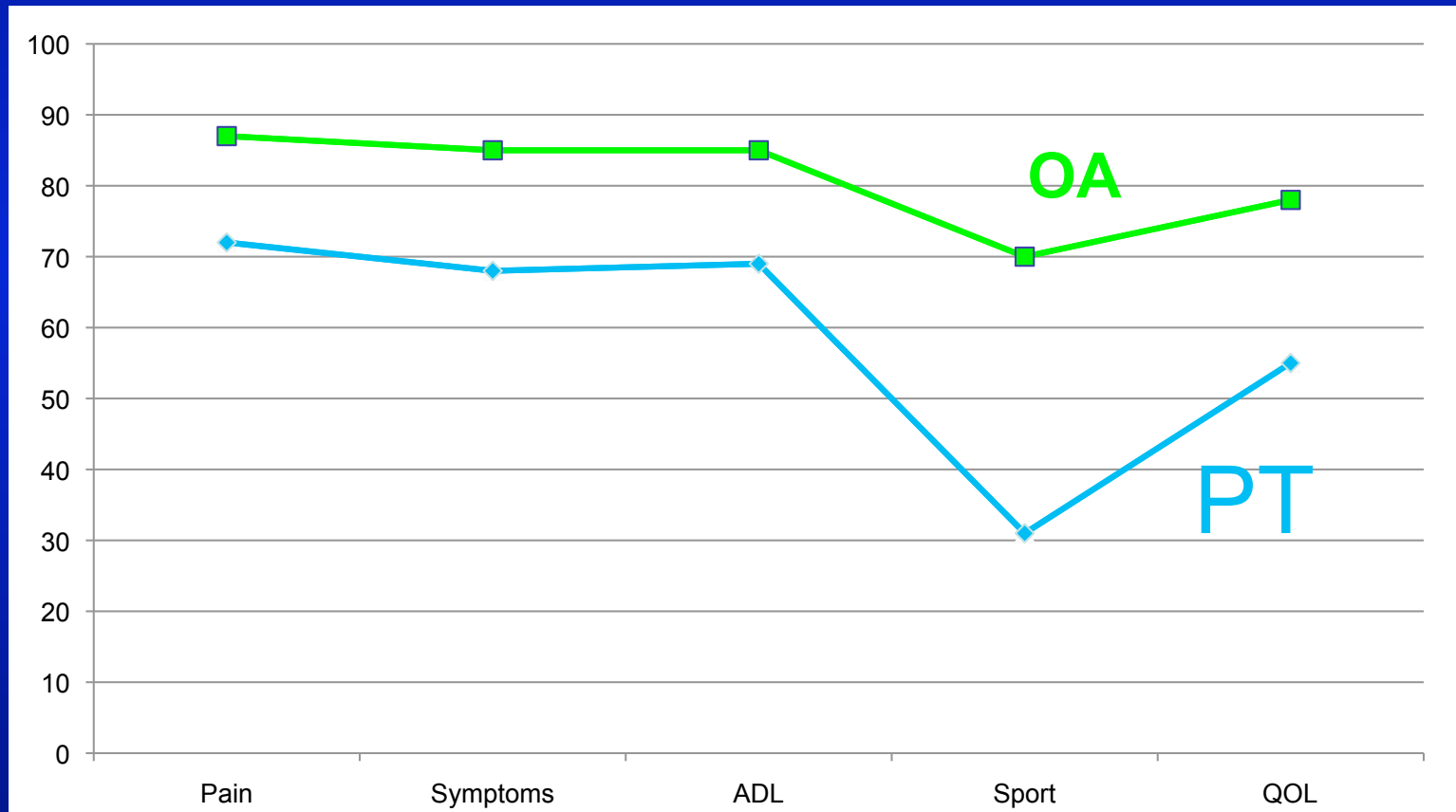
Mean follow-up at the time of evaluation = **51.7±3 months**



Significant improvement in both groups
($p < 0,001$)

Results

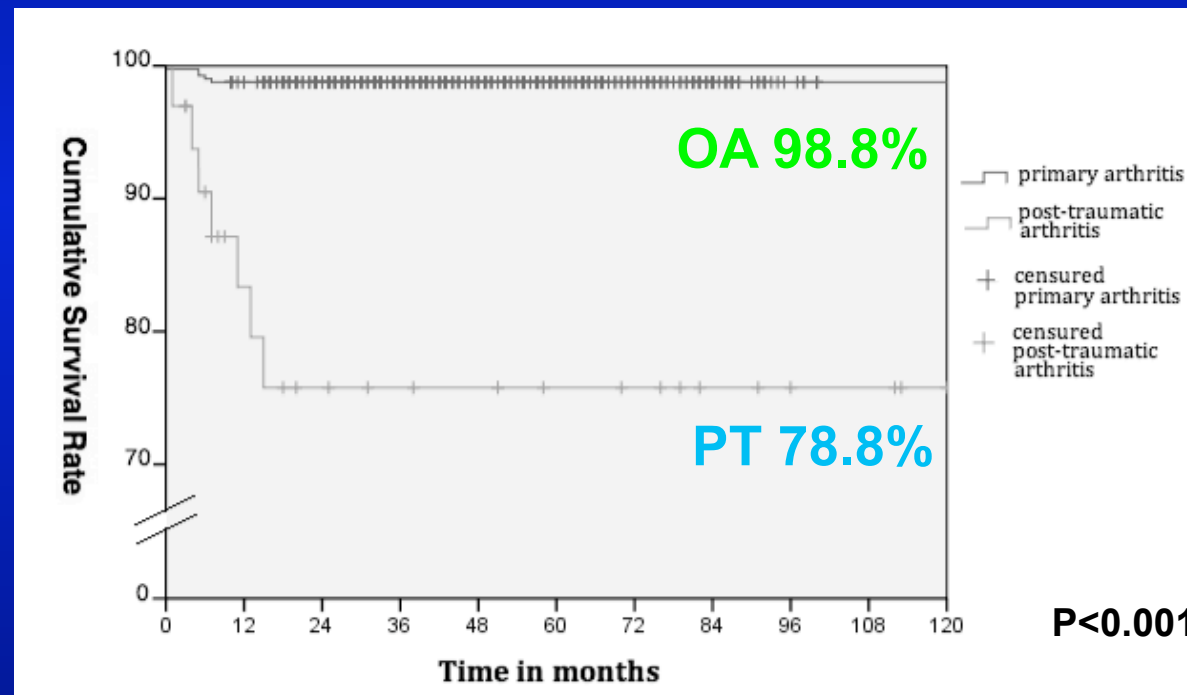
- QOL results (KOOS)



Significant difference between two groups
($p < 0,001$)

Results

- **Survival rate at 10 years**
 - End point : **any surgery on operated knee**



Complications

PT group 6/33 (18.2%)
→ 2 infections



High revision rate in PT group during the first 2 years

What can we expect ?

Manage the soft tissues

Manage the bony defects

=>restore the axis and the joint line

1. Skin



If not => necrosis when
restoration of ROM

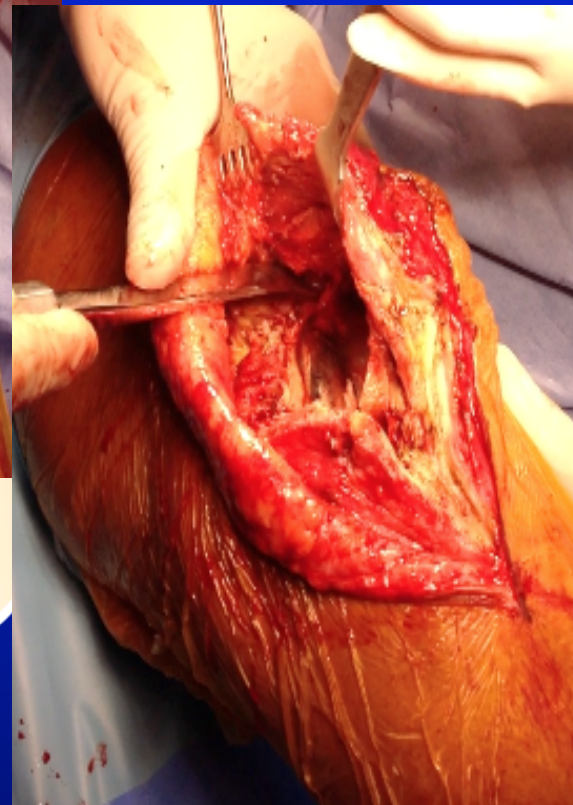
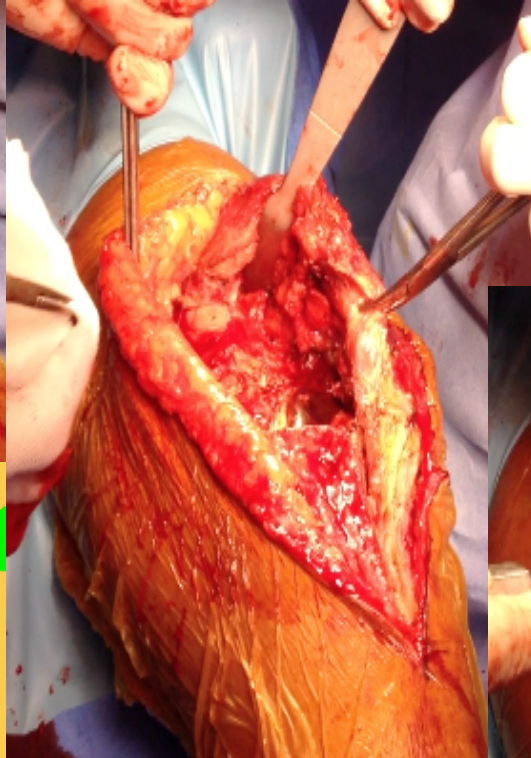
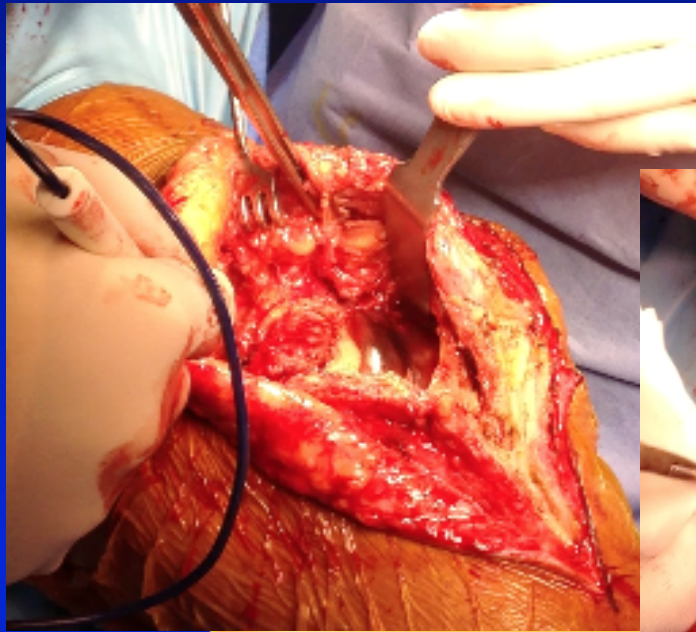


Gastro flap before

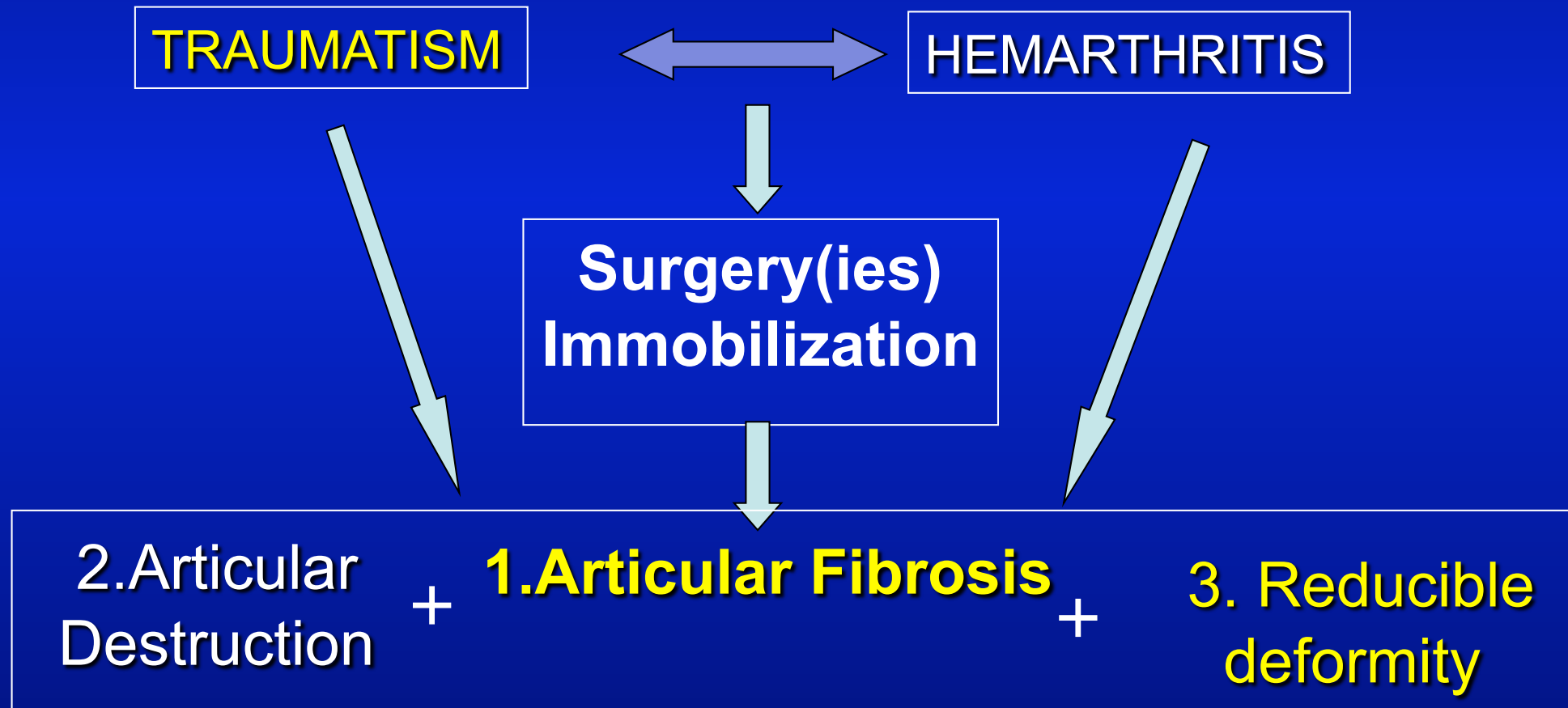
Simultaneous :
40 % of infection



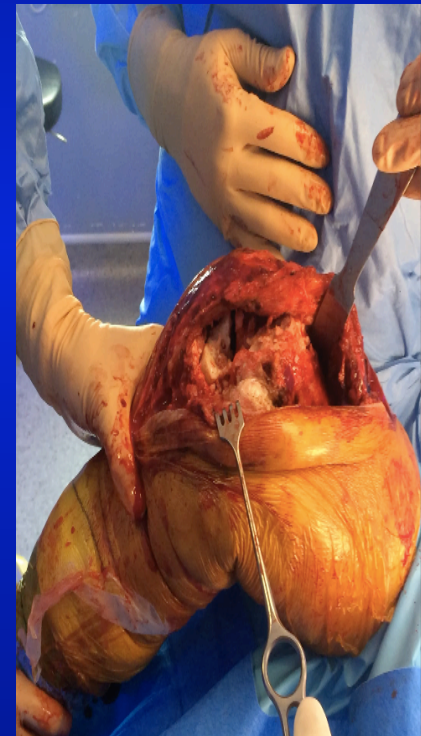
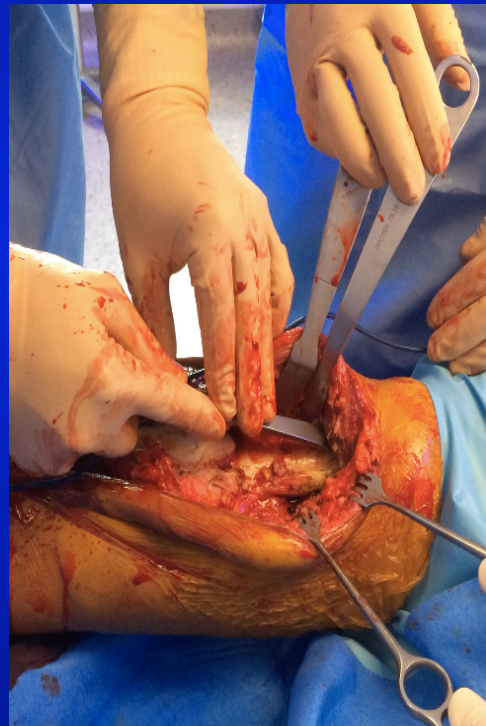
2. Remove fibrosis



NATURAL HISTORY OF stiffness in PT Arthritis



Quadriceps plasty : Like a Judet Procedure



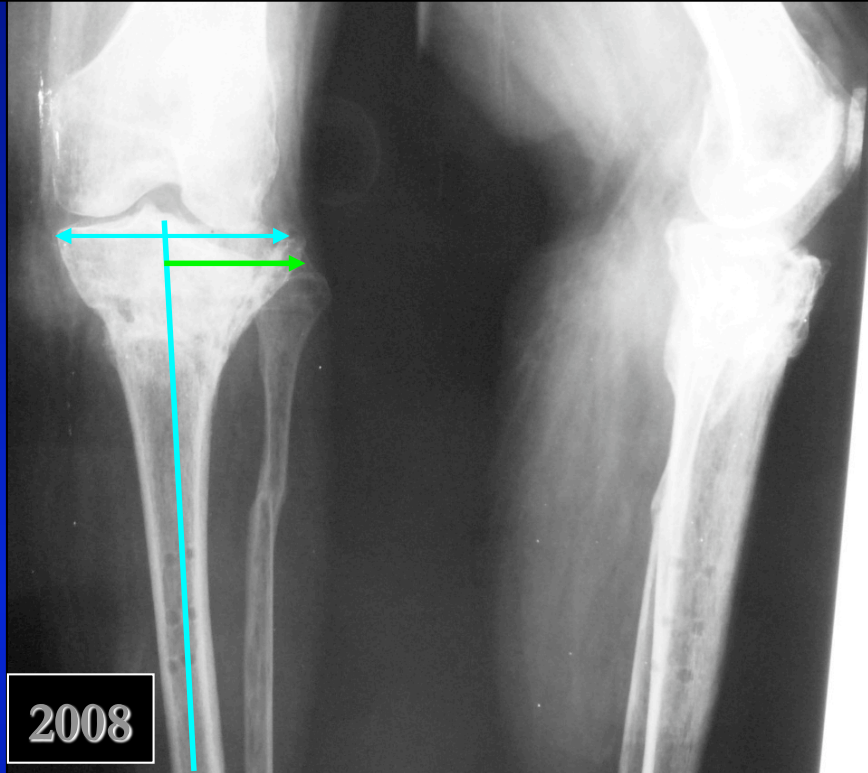
What can we expect ?

Manage the soft tissues

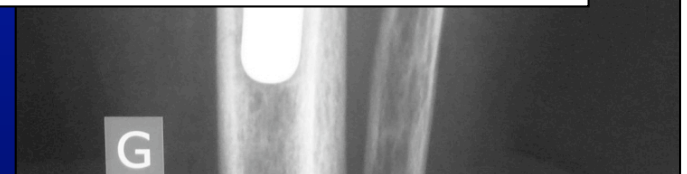
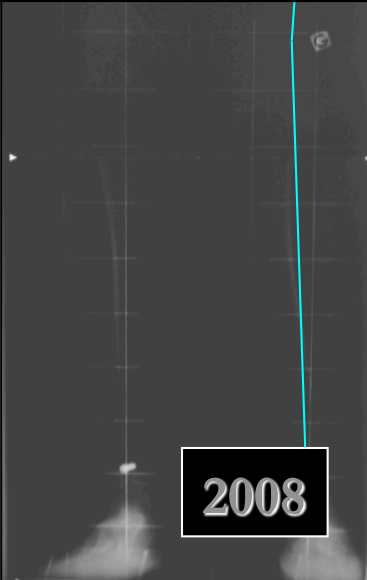
Manage the bony defects

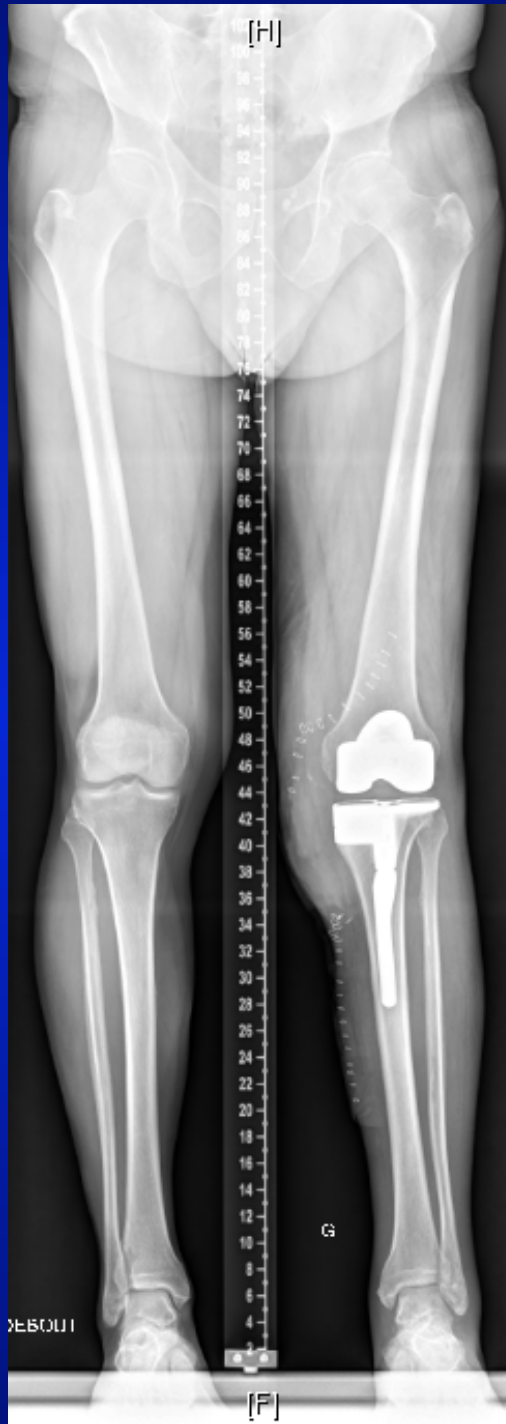
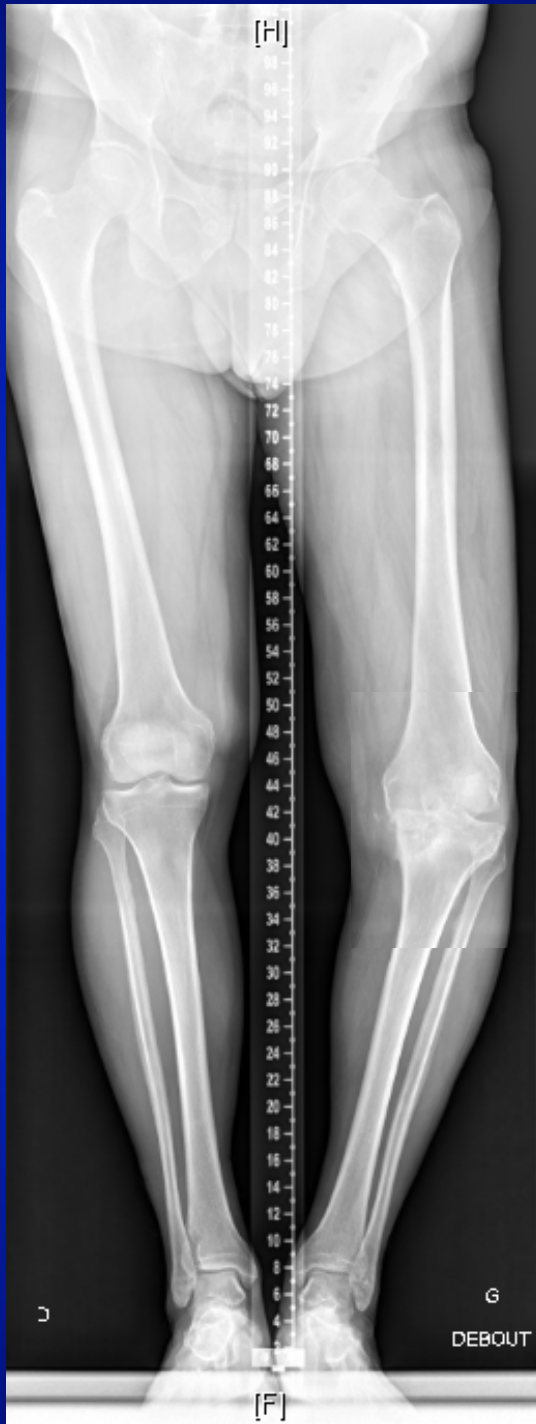
=>restore the axis and the joint line

Intra-articular PT TKA



⇒ Need for an augment
= Stems +++





Male 42 years-old

History of bar accident : “between the counter and the table”

ORIF 18 months ago

Hardware removal 8 months ago

Referred by a “ friend”

Can not walk without crutches

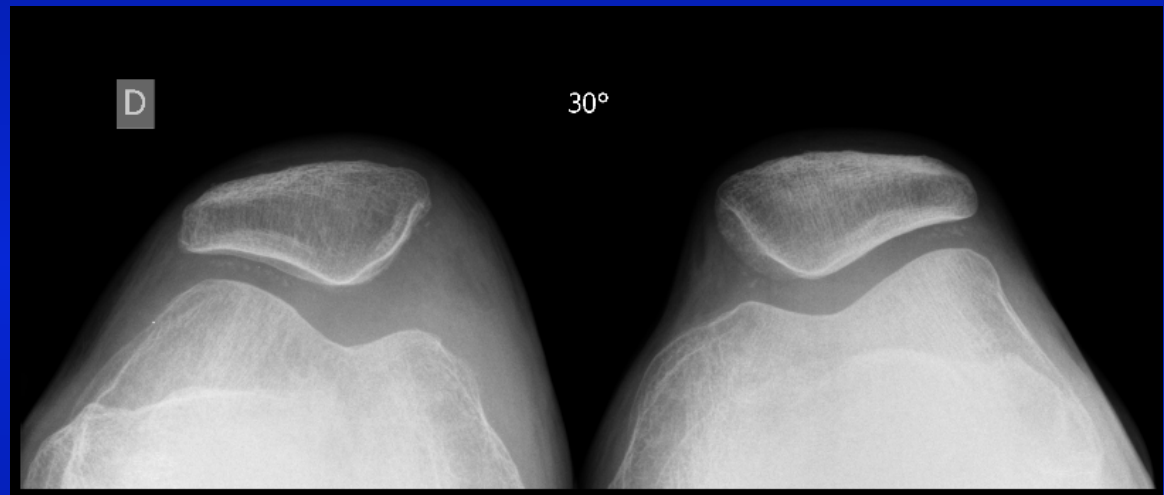
Permanent pain

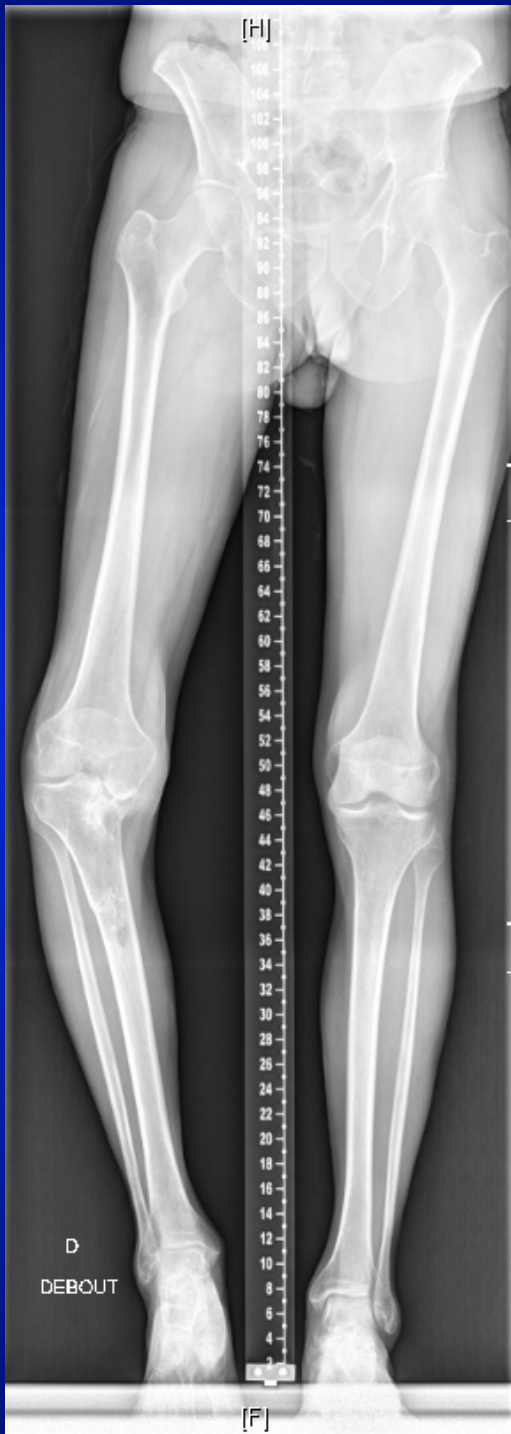
110/-10/-10°

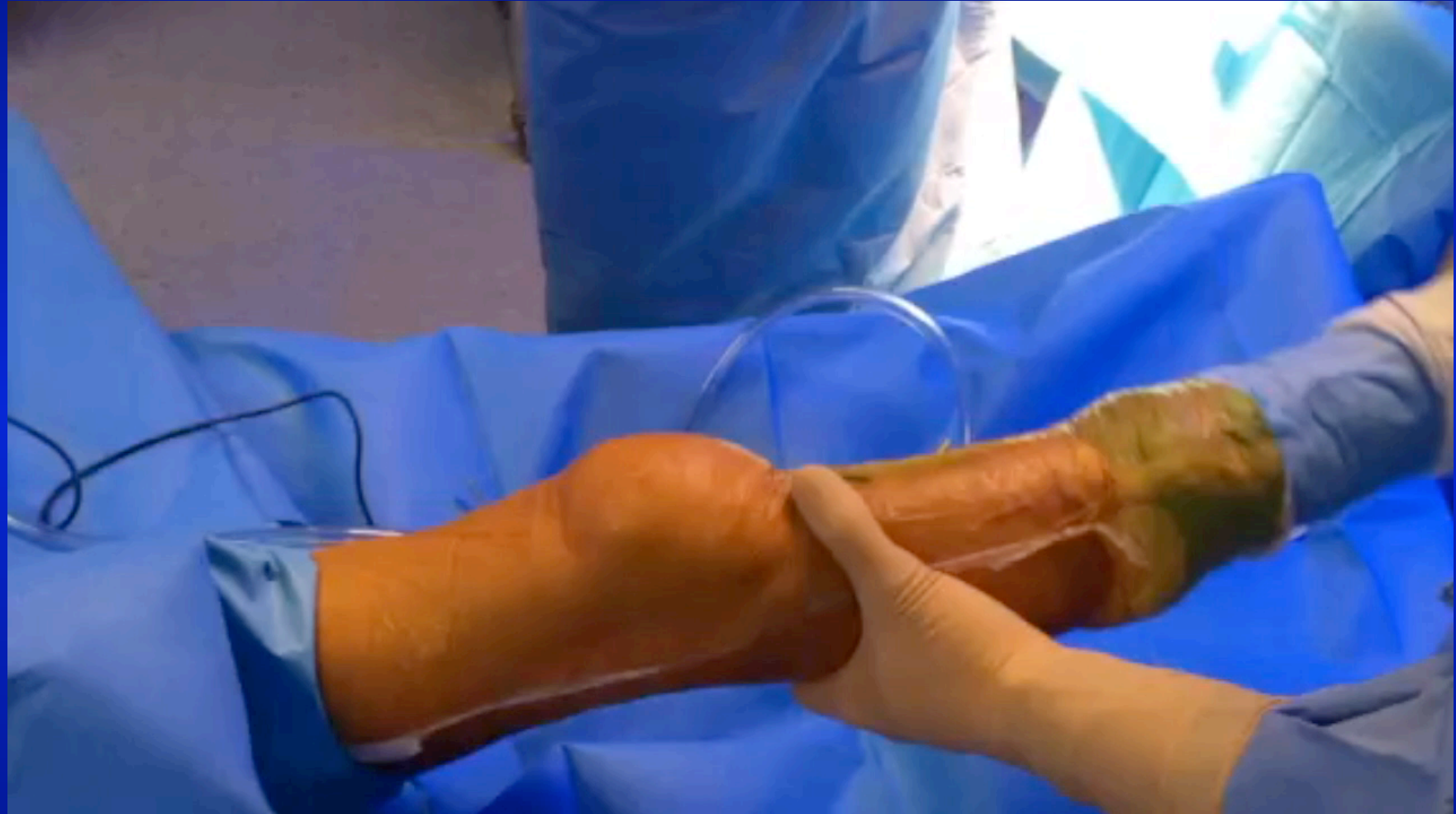
No sign of infection

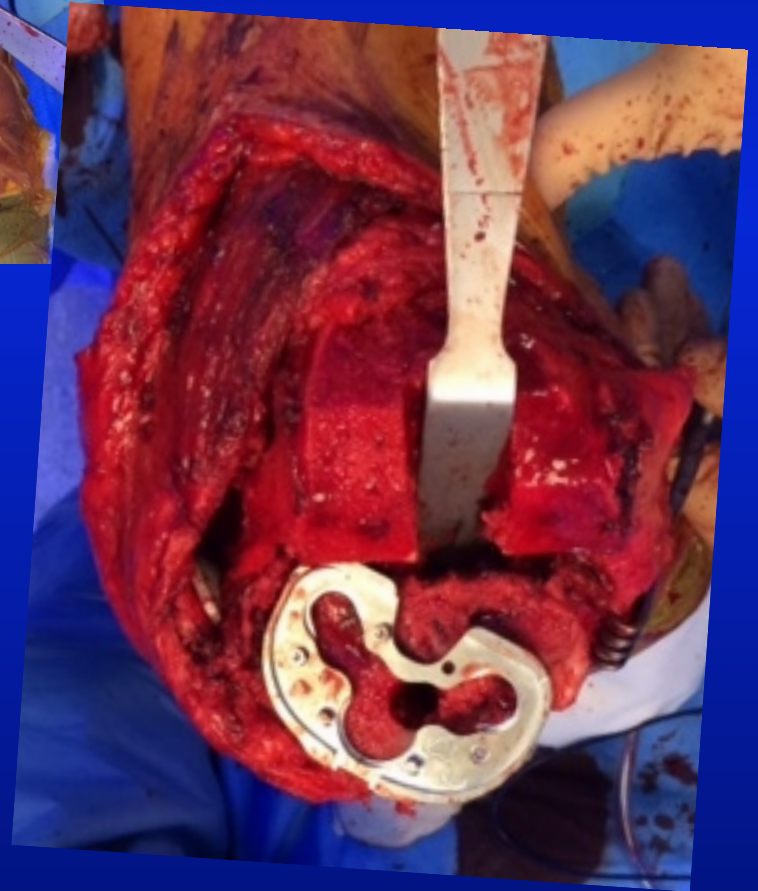
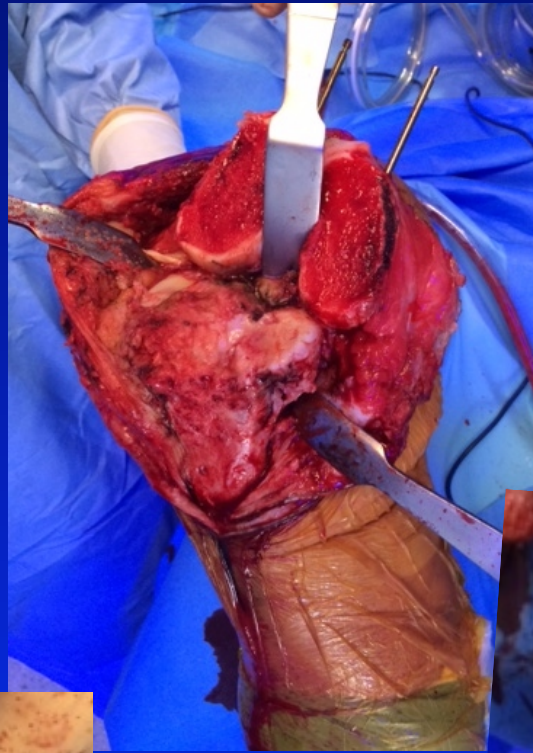
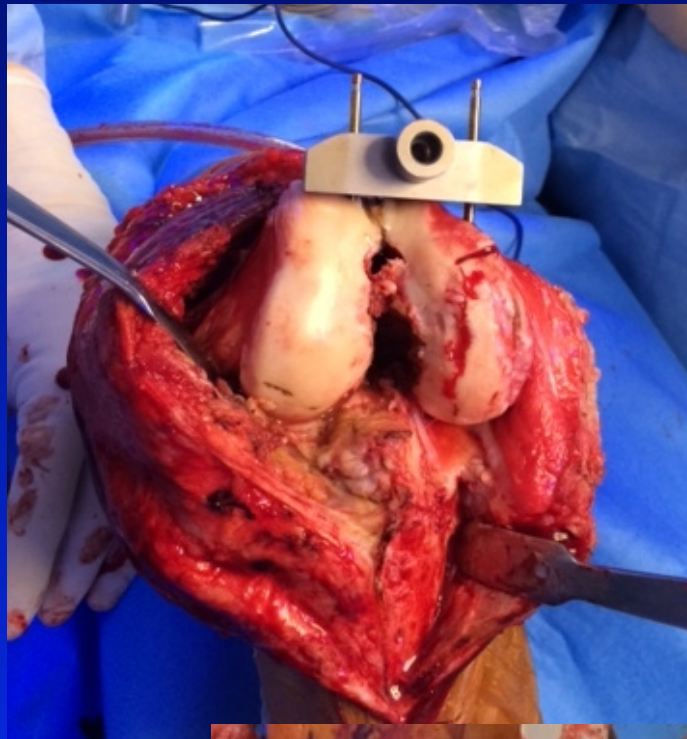


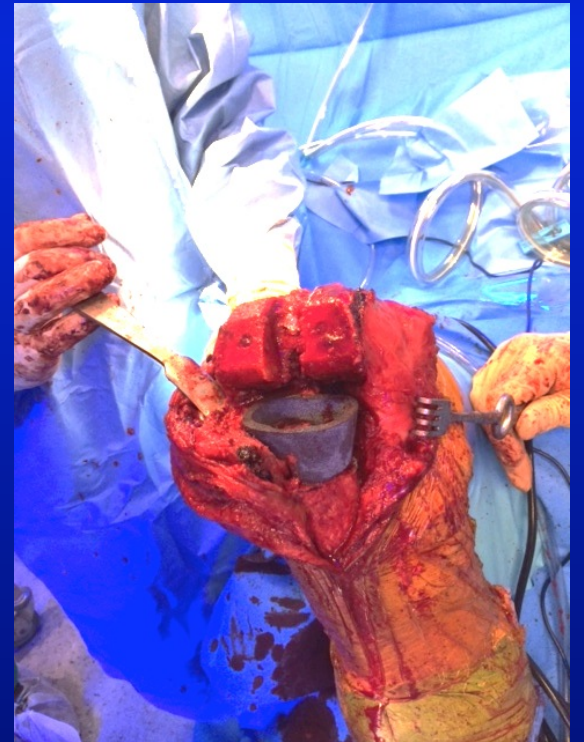
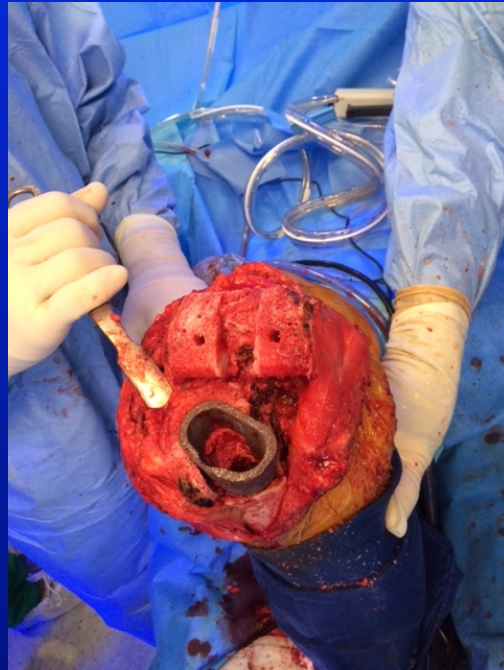
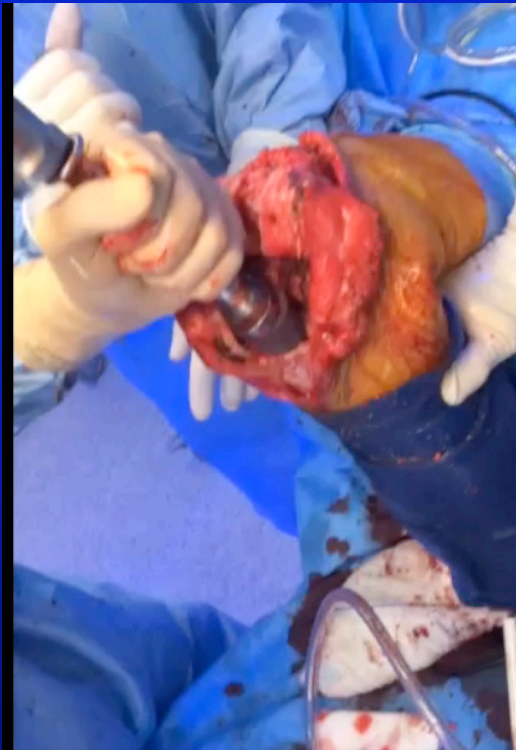
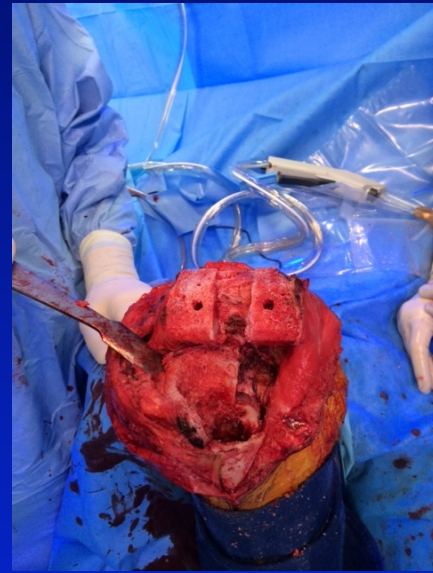












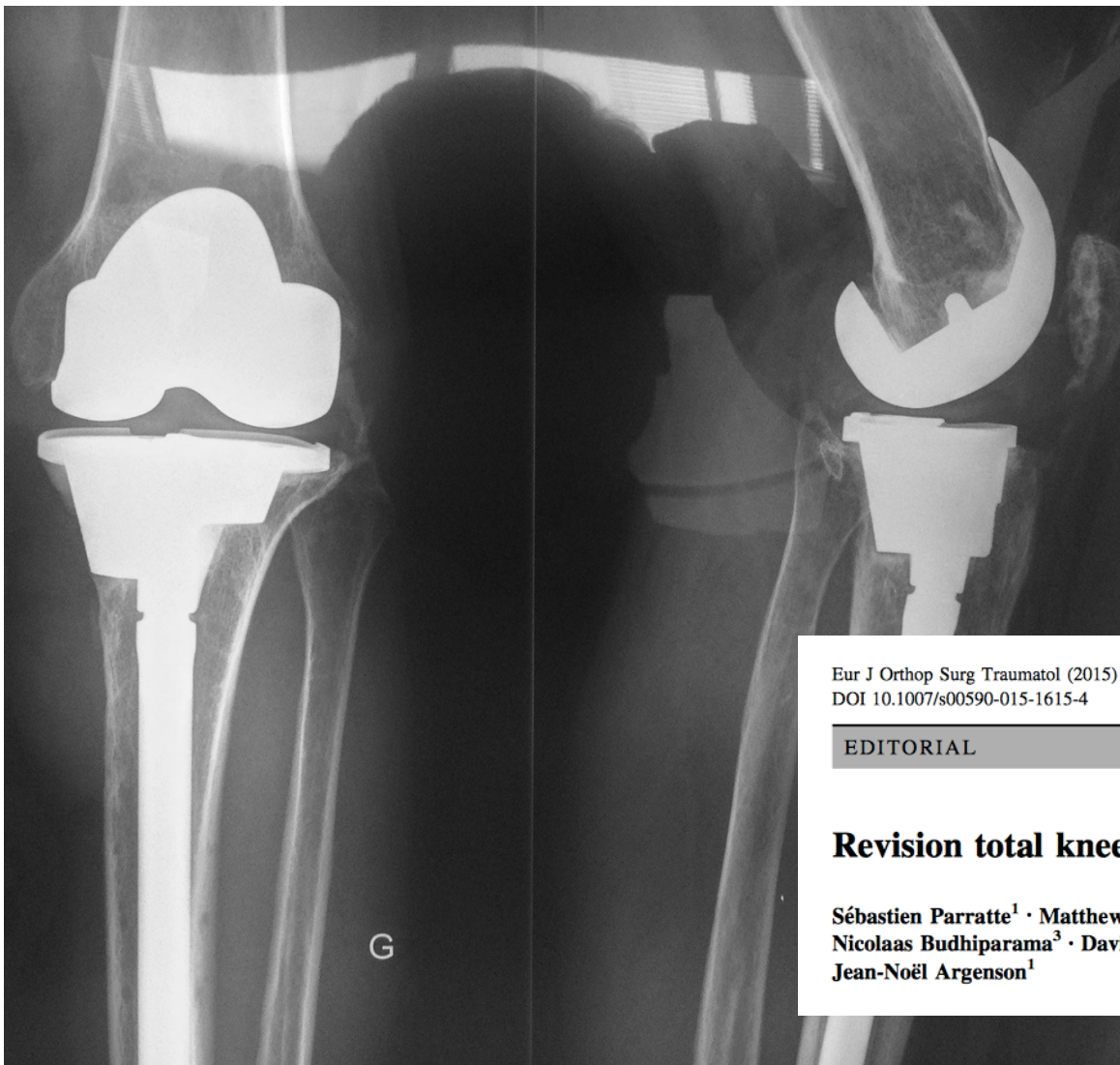












Eur J Orthop Surg Traumatol (2015) 25:621–622
DOI 10.1007/s00590-015-1615-4

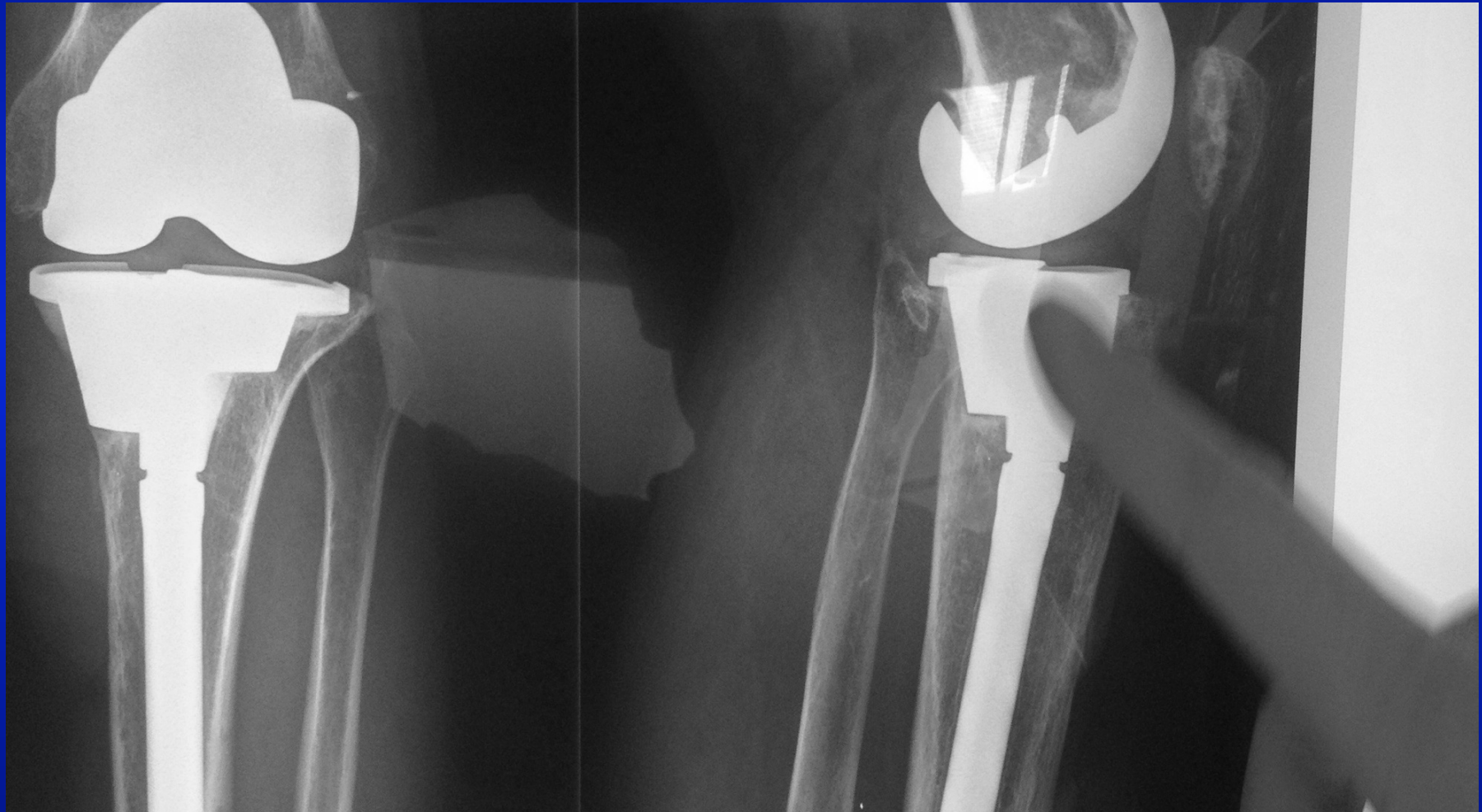


EDITORIAL

Revision total knee arthroplasty: the end of the allograft era?

Sébastien Parratte¹ · Matthew P. Abdel² · Alexandre Lunebourg¹ ·
Nicolaas Budhiparama³ · David G. Lewallen² · Arlen D. Hanssen² ·
Jean-Noël Argenson¹

TMT principals adapted for PT arthritis









Conclusion

TKA Post-trauma : Stiffness

Be modest

Soft tissues: skin and fibrosis

Bony defects => restore the joint
line and the axis