

Fracture around TKA: When to fix and when to revise

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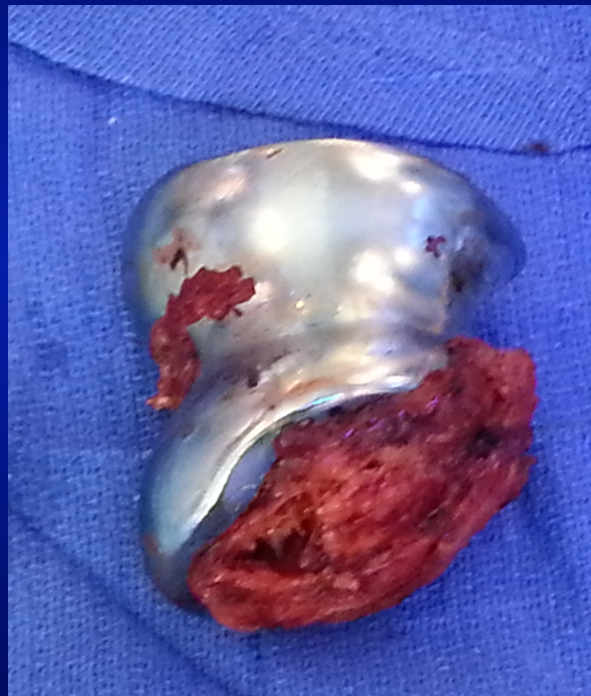


6th Advanced Course on Knee Surgery

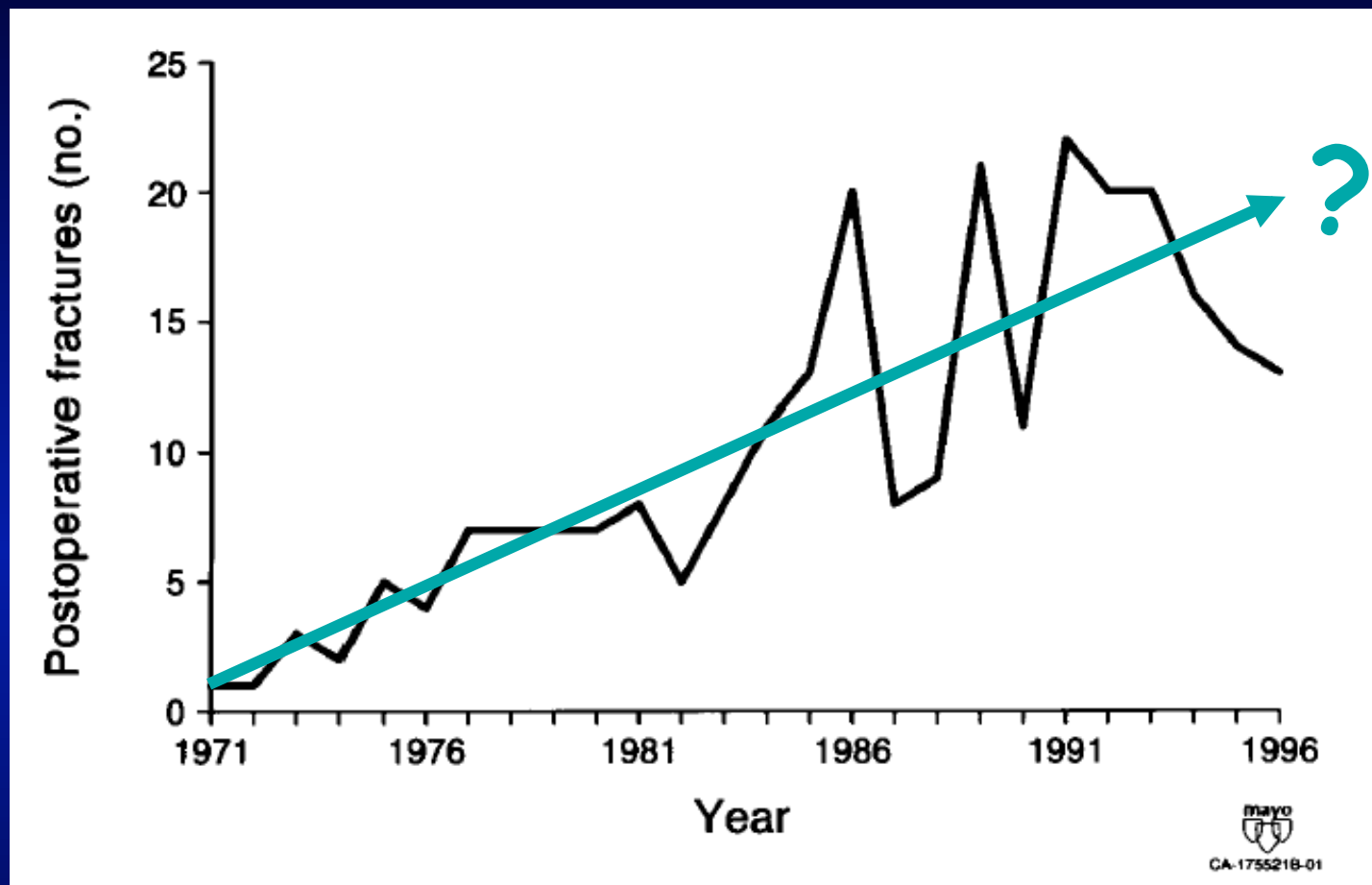
January 31st – February 5th, 2016 Val d'Isère - France

Peri-prosthetic Fractures

Our Daily practice



1. The Problem



Primary TKA: 0.4 - 0.6%

Revision TKA: 1.5 - 2.8%

Lewallen DG, Berry DJ. JBJS-A, 1997.

EPIDEMIOLOGY

Increased number

Increased number of TKA

Aging population

Osteolysis

Increased number of revision

**10 % = young patient + high impact
trauma**

Lewallen DG, Berry DJ. JBJS-A, 1997.

Real problem– Need for a Solution

Mostly elderly/ Osteoporosis

High complication rates are reported in the literature:

- Non-union
- Mal union
- Loss of fixation
- Prosthesis loosening



Real problem– Need for a Solution

"... high complication rates of over 30% after TKA and up to 50% after THA have been reported with conventional osteosynthesis techniques"

Erhardt J.B. et Al., in: "Treatment of periprosthetic femur fractures with the non-contact bridging plate: a new angular stable implant", Archives Orthopedic Trauma Surgery, 2007.

"The amount of available implants for the treatment of periprosthetic fractures around hip and knee prostheses can be interpreted as an indicator that a superior system is not available yet"

Liener u.C. et Al., in: Ergebnisse und Komplikationen der Behandlung periprothetischer Femurfrakturen mit einem winkelstabilen Plattensystem", Der Unfallchirurg, 2009.

The main goal

Need something stable
Walk or died...



French legion

2 questions

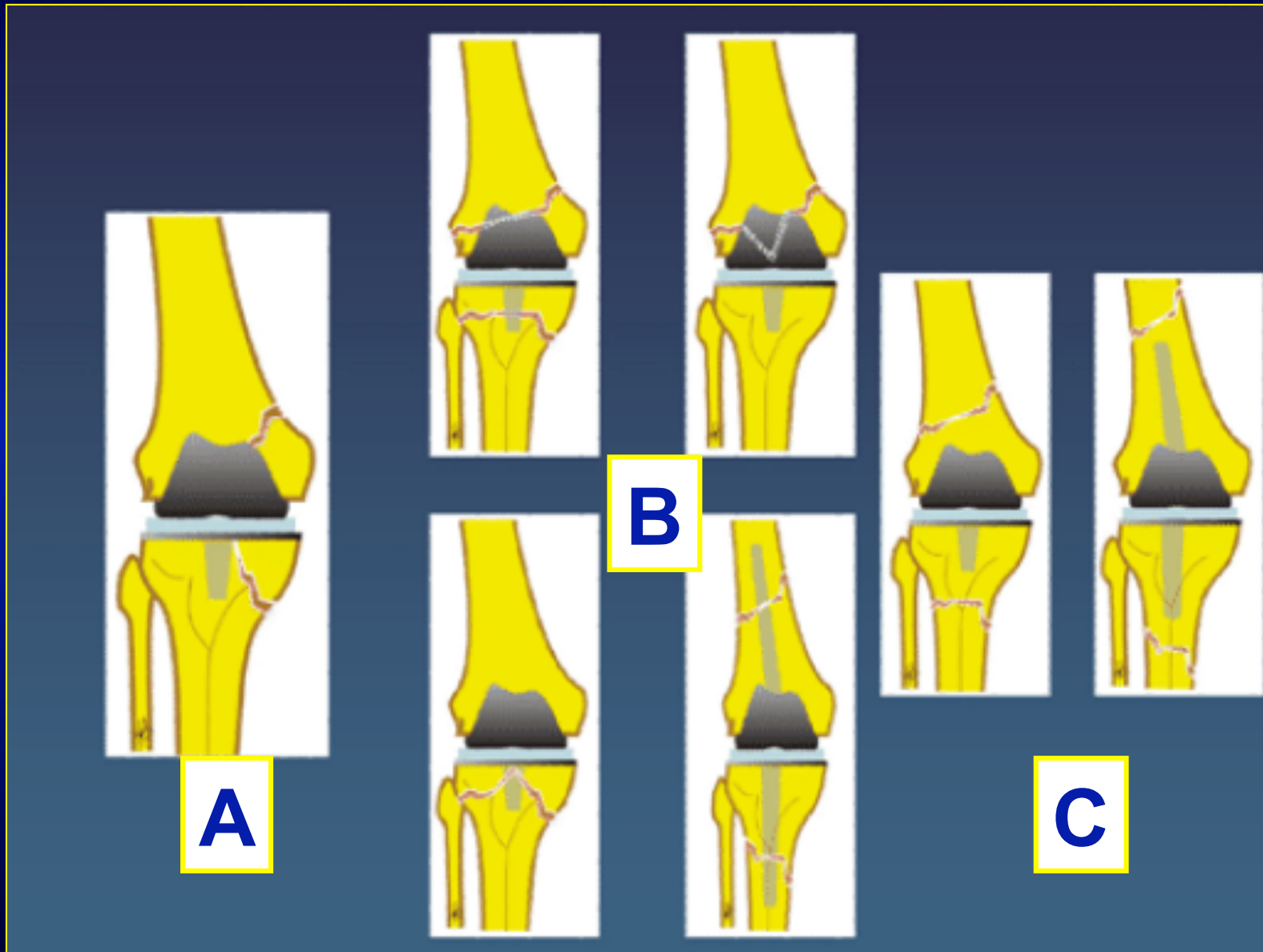


**1. Is there enough bone to
Put some screws in?**



2. Are the implants
loosed or not?

Knee: A B C



2. Indications



Calm down, Reflexion, planning

No Consensus

Non operative treatment

Nailing

ORIF

Prosthesis revision

Sarmah SS et al. Ann R Coll Surg Engl. 2012 Jul;94(5):302-7. Periprosthetic fractures around total knee arthroplasty.

Decide ?

Non operative treatment:

no loosening / No displacement

ORIF

Nailing

Prosthesis revision

*Sarmah SS et al. Ann R Coll Surg Engl. 2012 Jul;94(5):
302-7. Periprosthetic fractures around total knee arthroplasty.*

Decide ?

Non operative treatment

Nailing : NO : unstable fracture in
between the tip of the nail and prosthesis

ORIF

Prosthesis revision

*Sarmah SS et al. Ann R Coll Surg Engl. 2012 Jul;94(5):
302-7. Periprosthetic fractures around total knee arthroplasty.*

Decide ?

Non operative treatment

Nailing

ORIF: yes if no implant loosening and fracture displacement

Prosthesis revision: if implant loosed

*Sarmah SS et al. Ann R Coll Surg Engl. 2012 Jul;94(5):
302-7. **Periprosthetic fractures around total knee arthroplasty.***

Decide ?

Non operative treatment

Nailing

ORIF: yes if no implant loosening and
fracture displacement : Plate

Prosthesis revision

*Sarmah SS et al. Ann R Coll Surg Engl. 2012 Jul;94(5):
302-7. Periprosthetic fractures around total knee arthroplasty.*

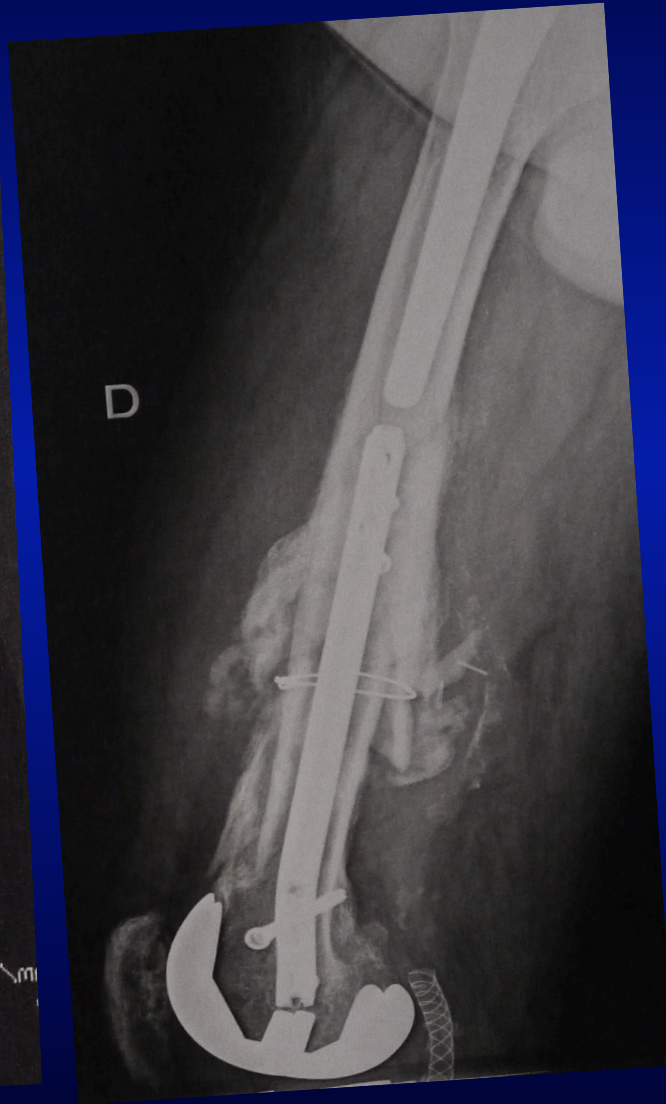
Case examples

Male 65 years-old

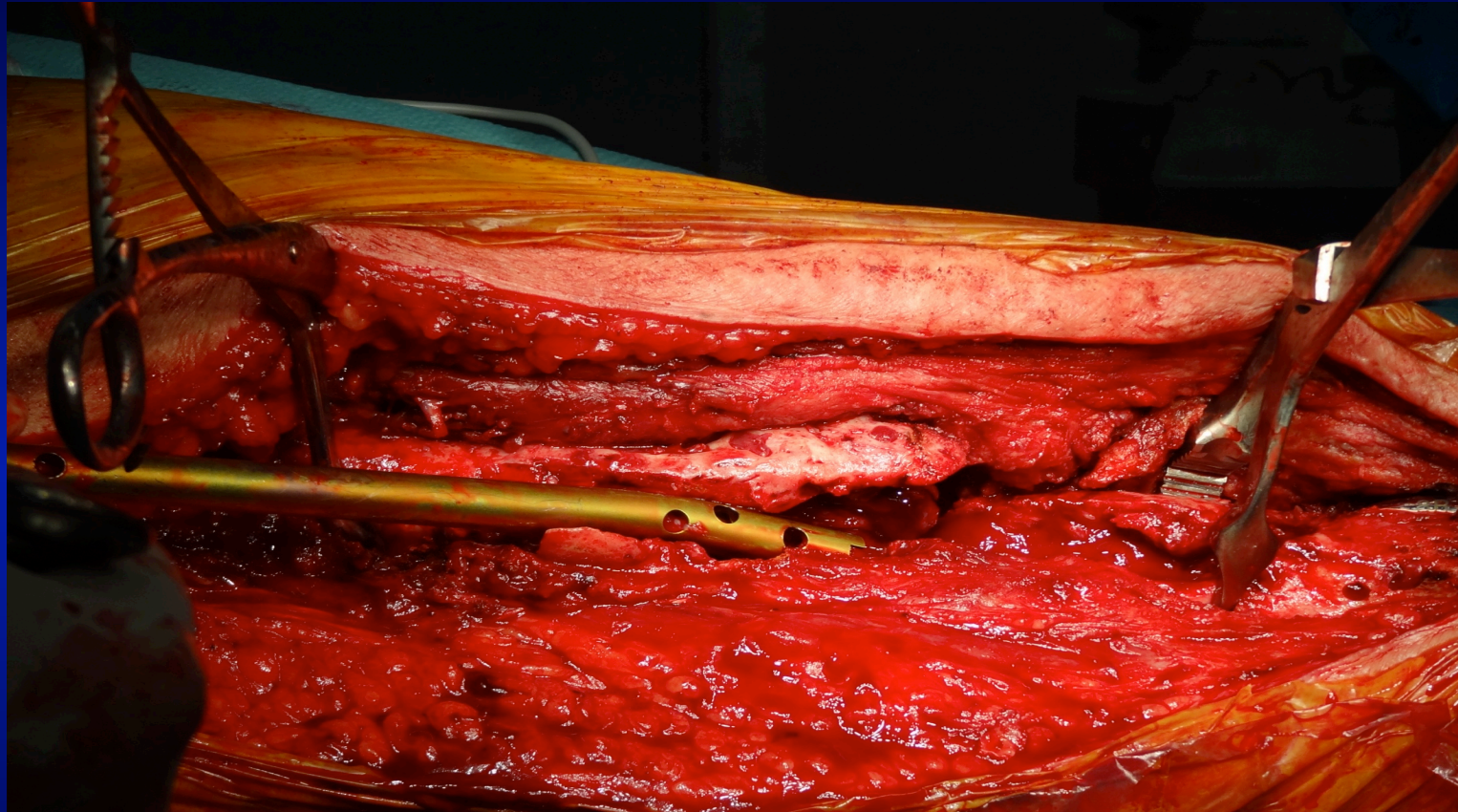


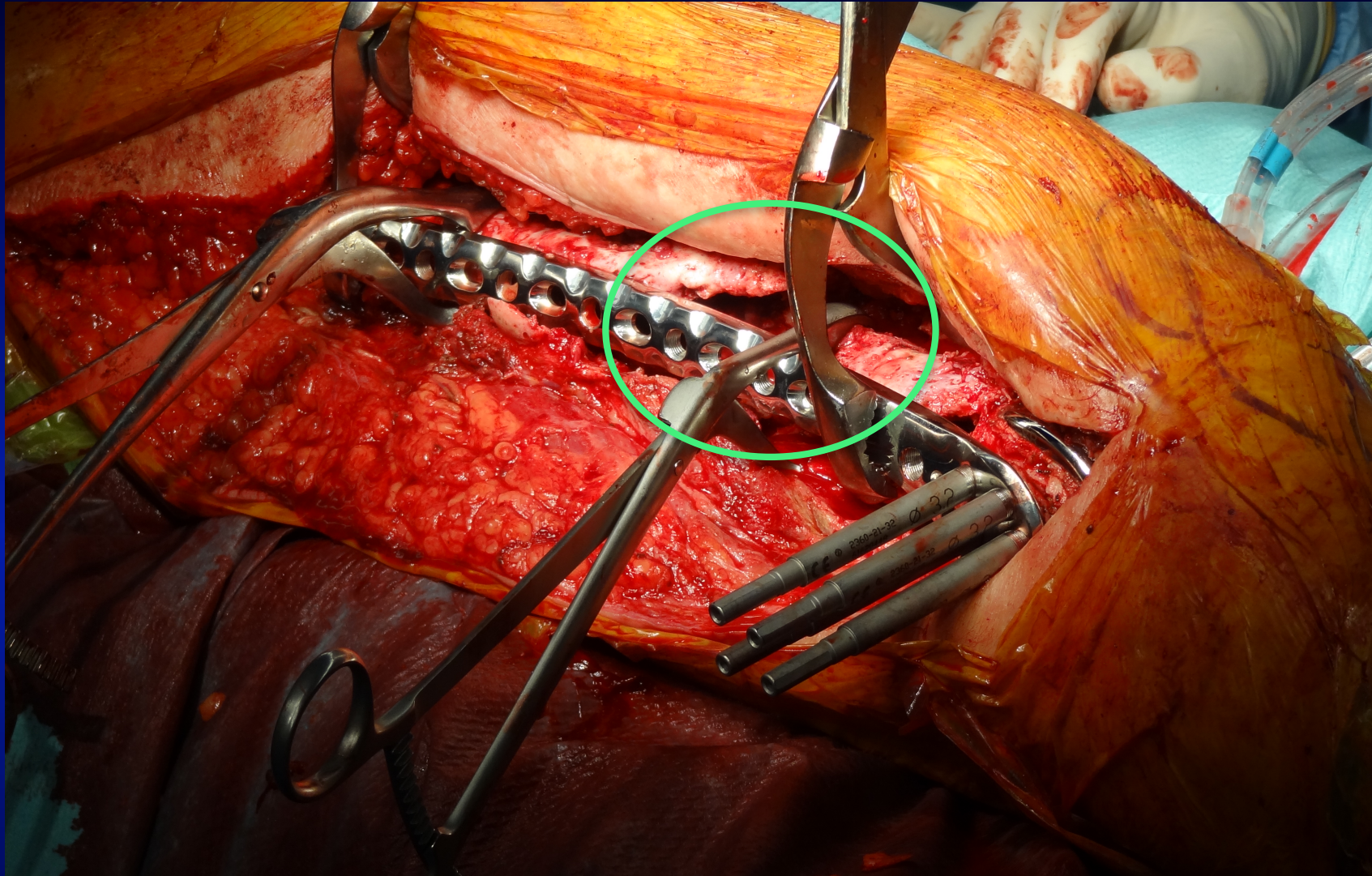
No implant loosening

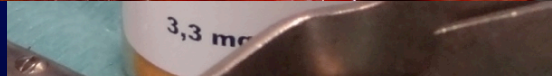
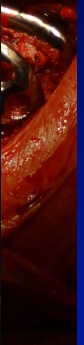
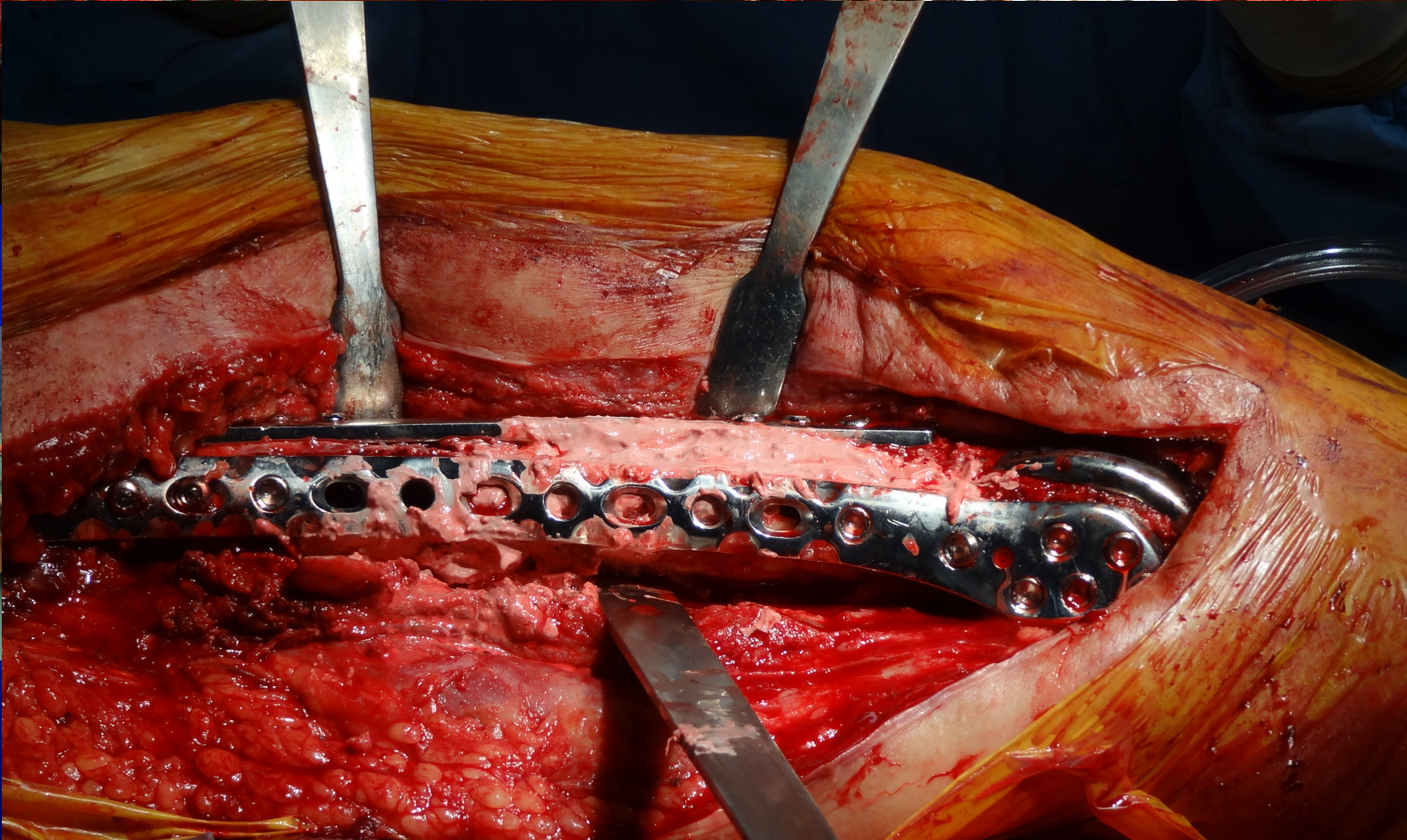
Complex Non-Union



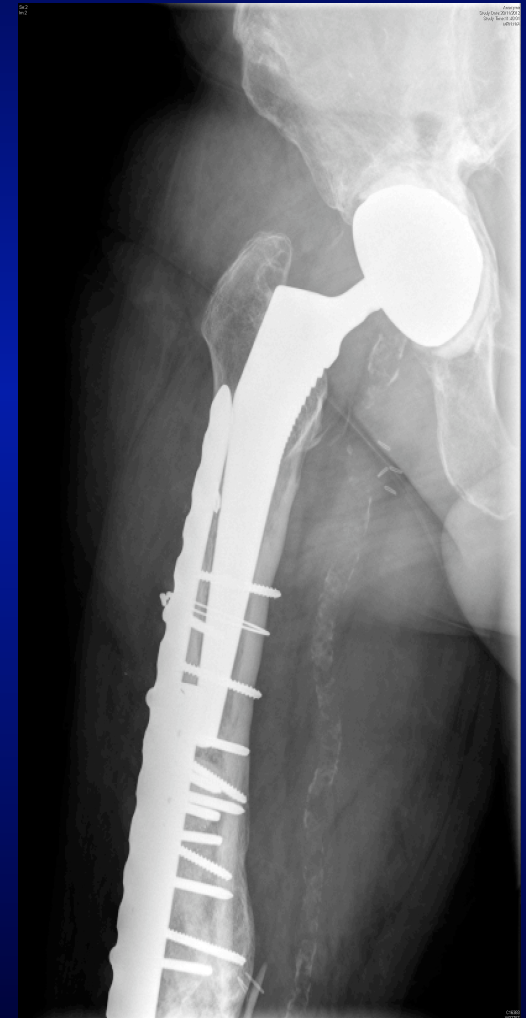
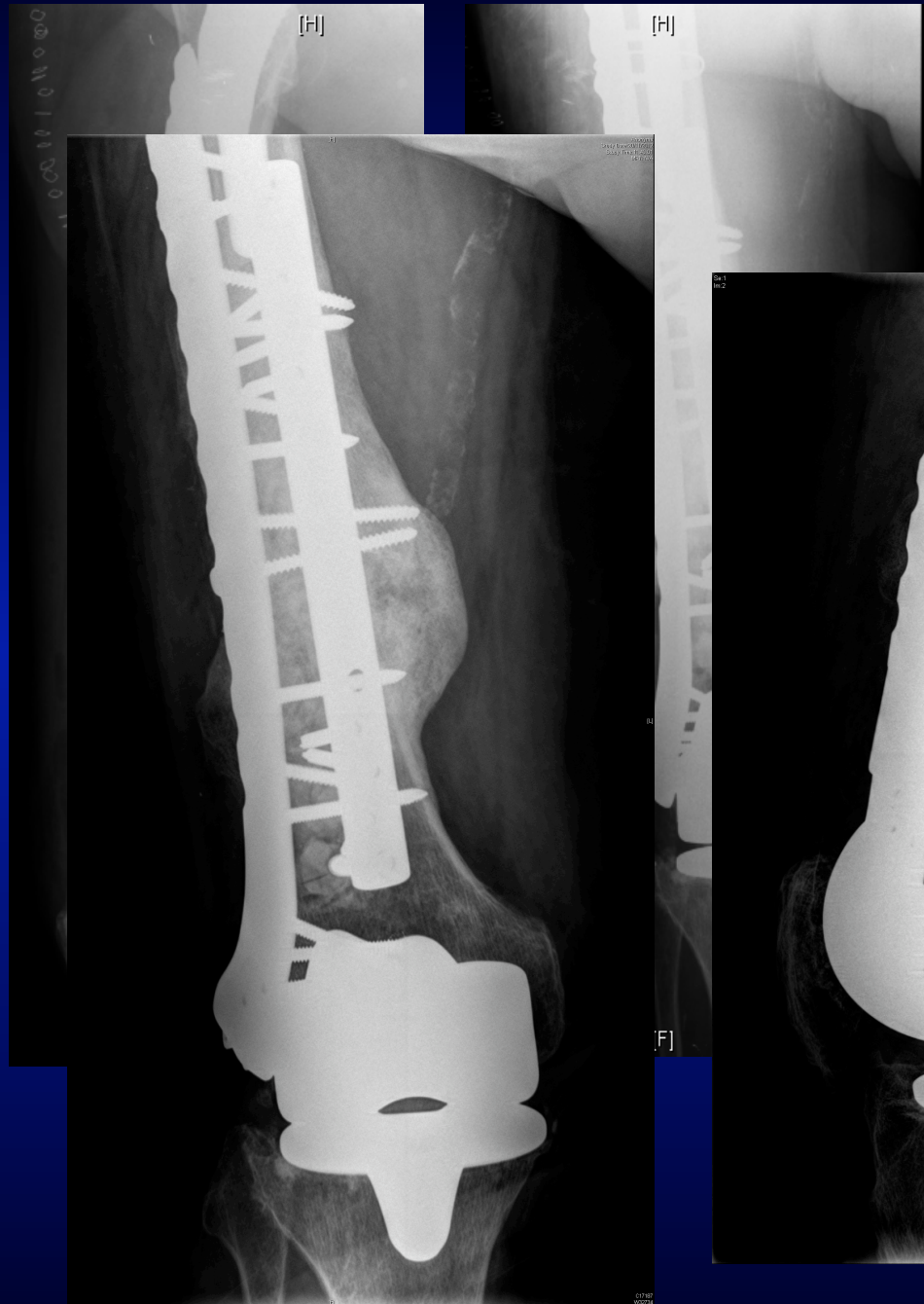
Removal of the nail through the fracture site







14 months



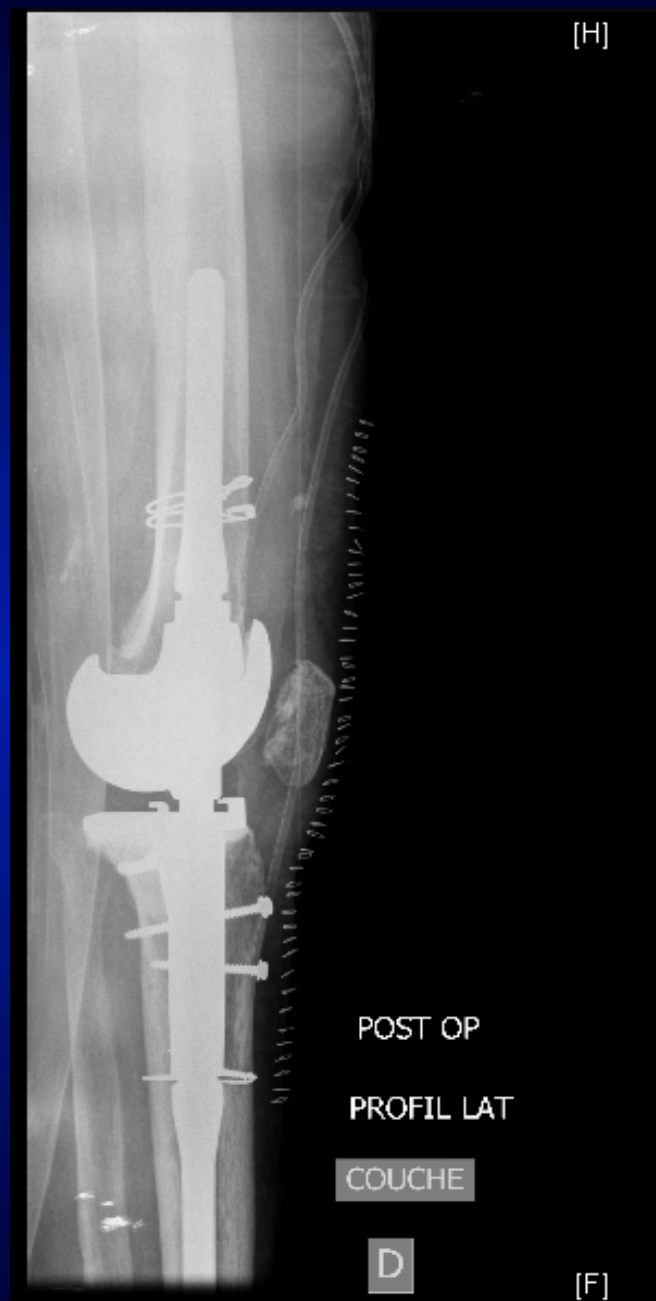
Male 82 years-old





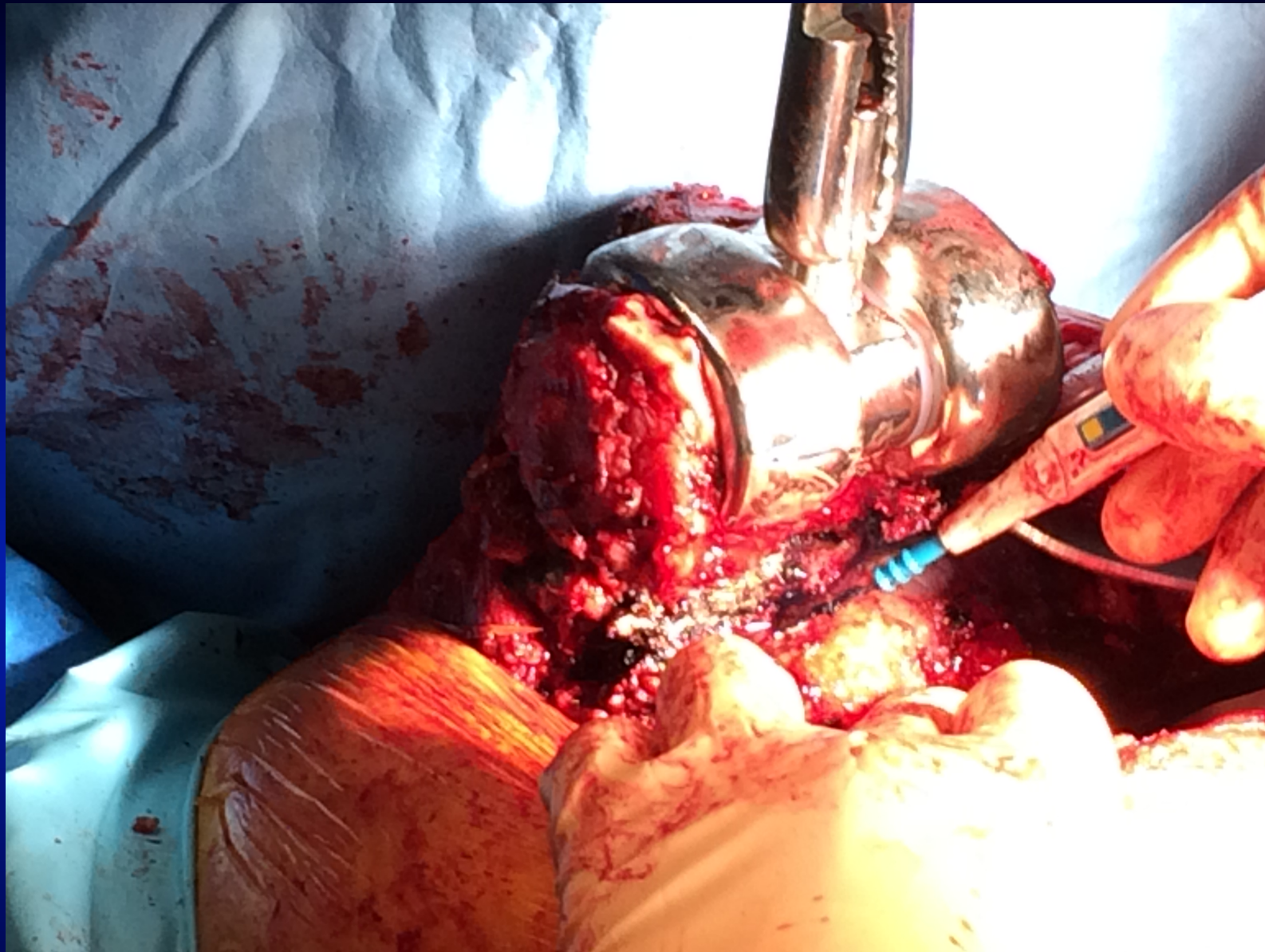


- Woman 80 years-old



Male 55 years-old : 7 surgeries

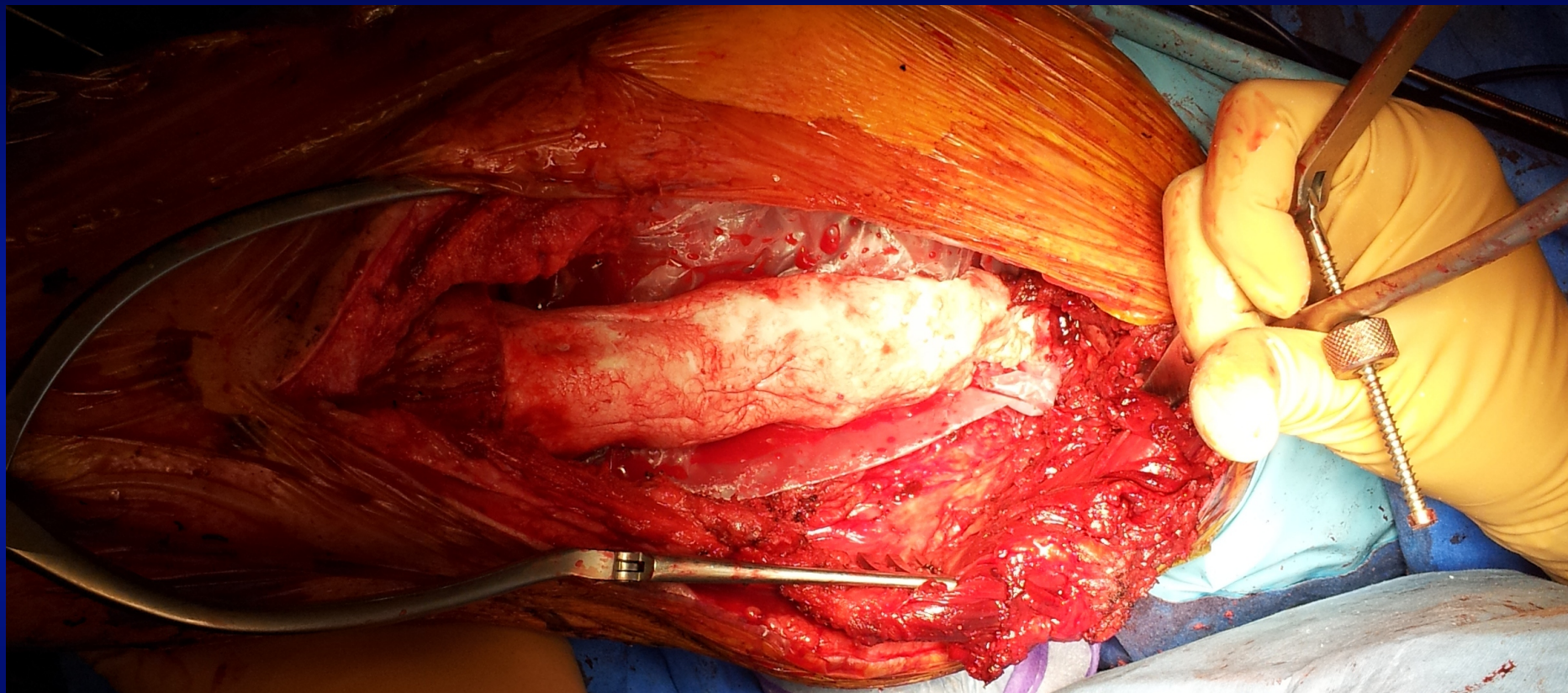


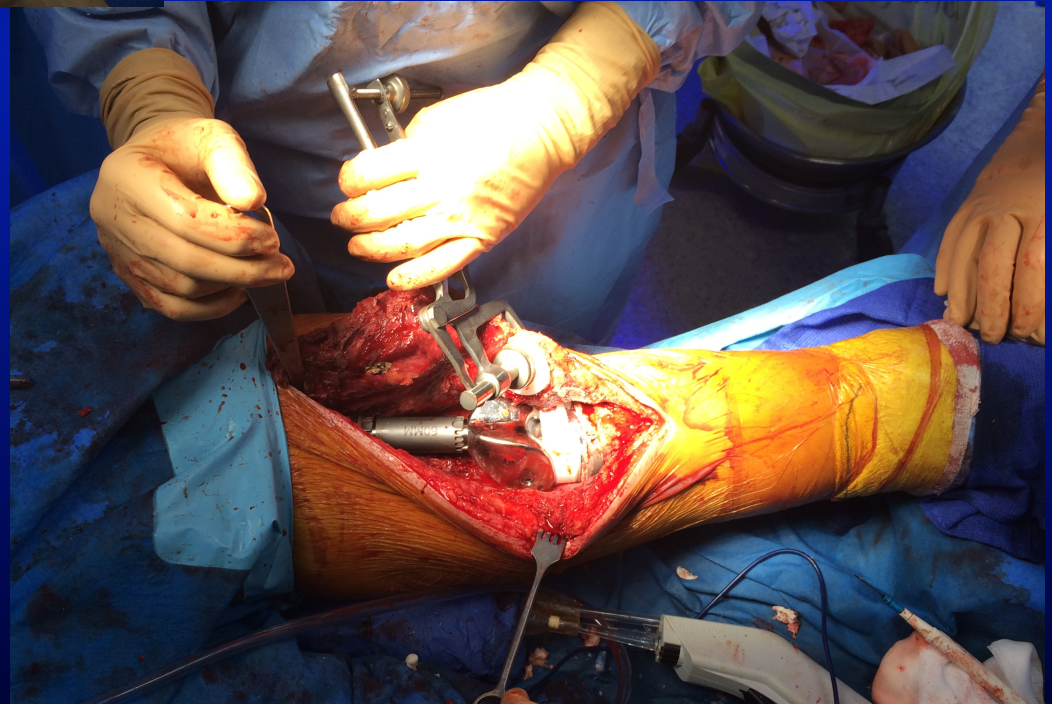
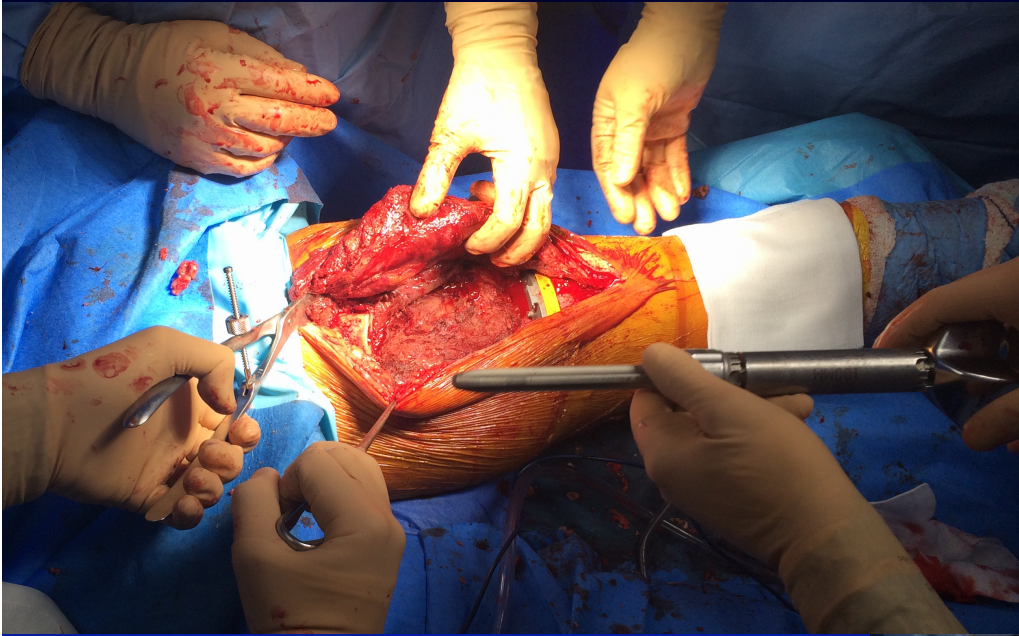








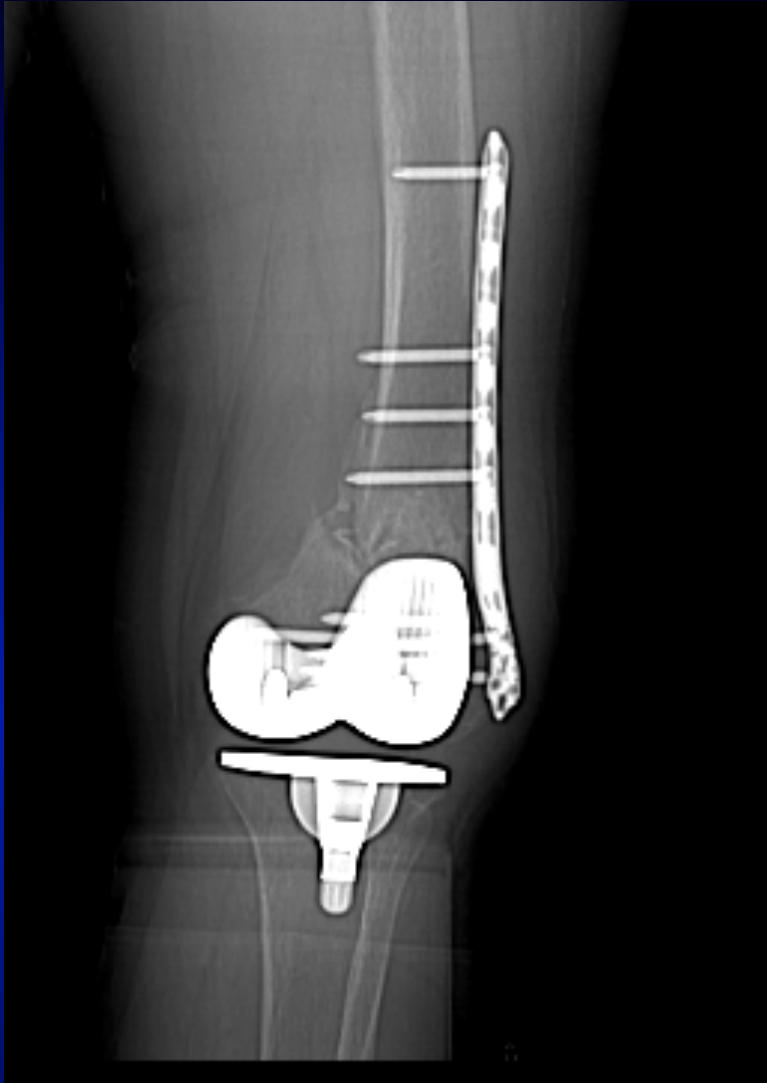








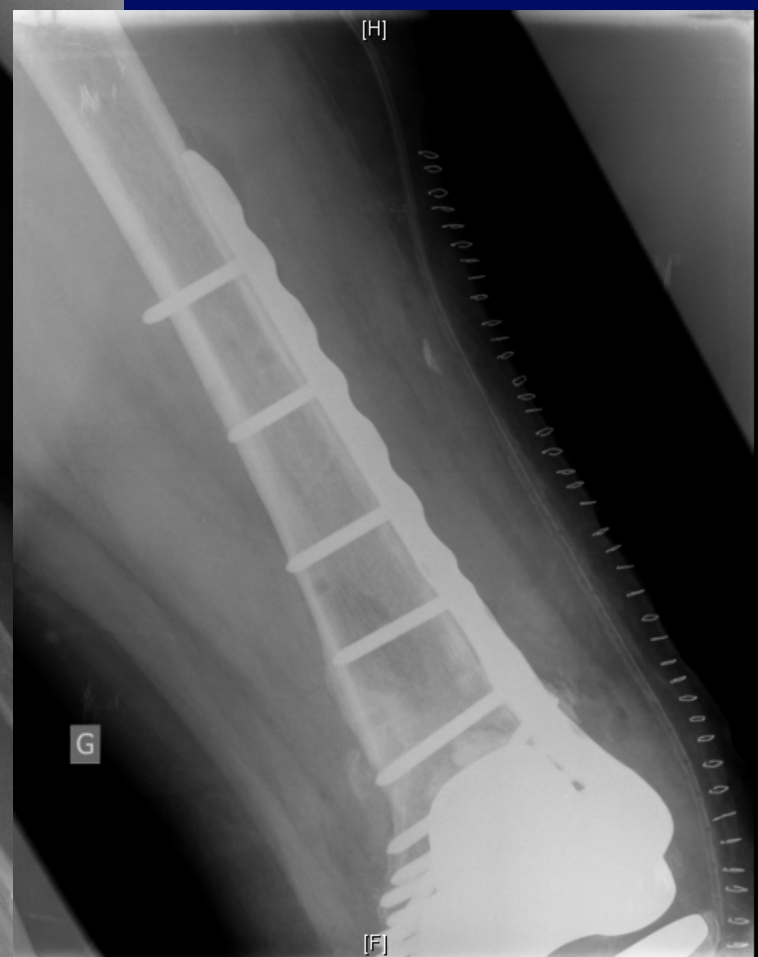
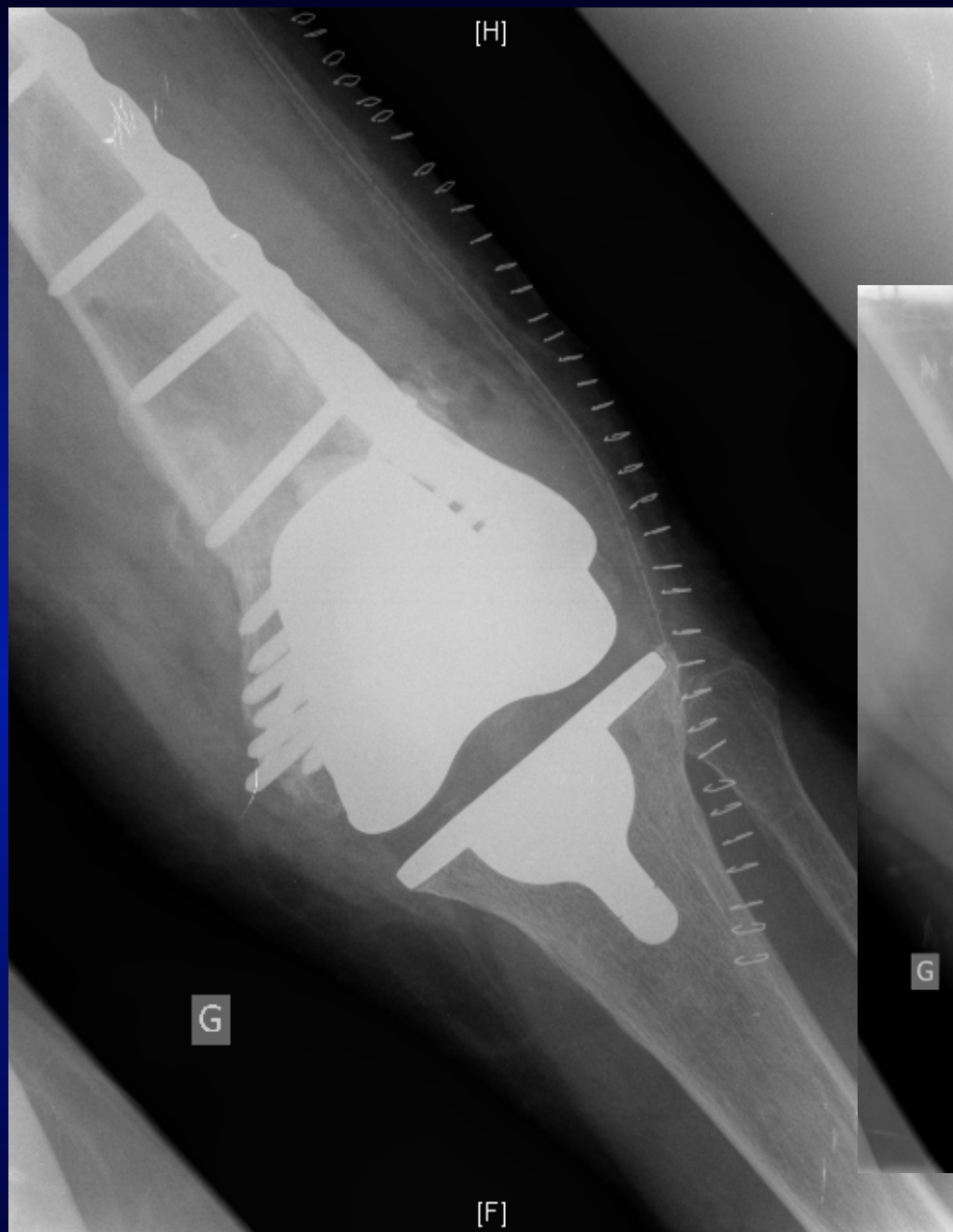
Pre-op
Woman 64 years-old



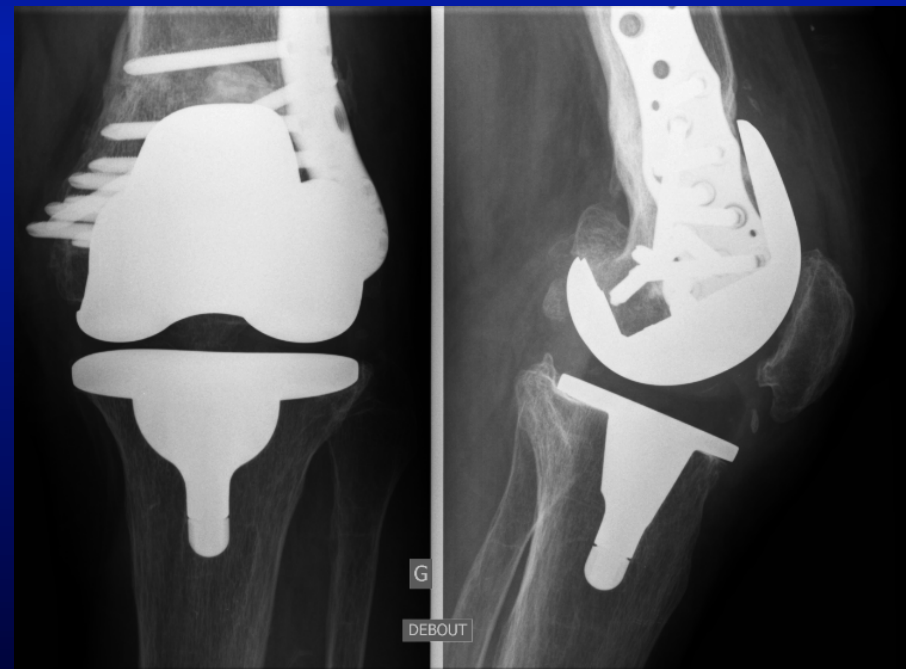
**Complex non
union**



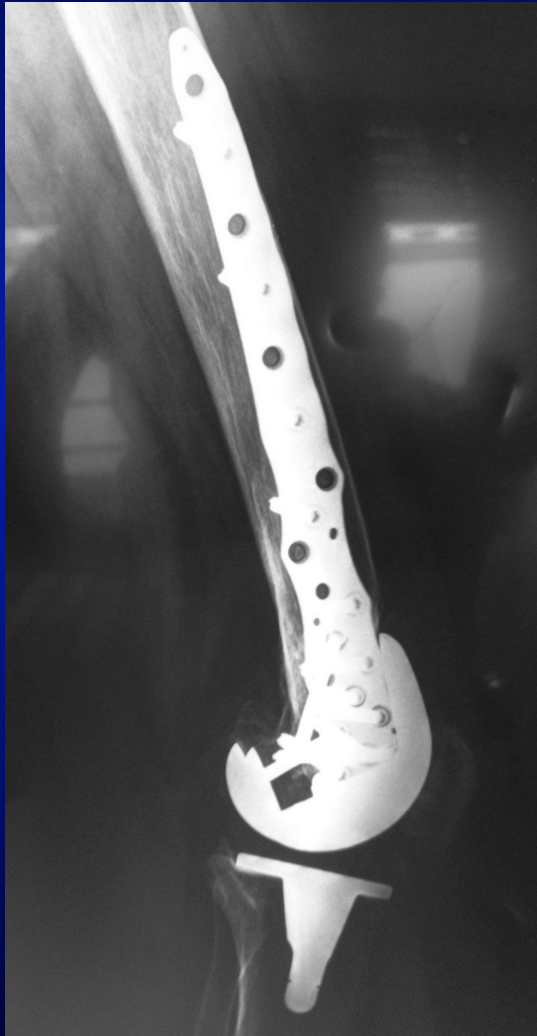
Post-op



8 months



2-years



Woman, 78 years-old, Hip



NCBPP: The solution for our elderly today

More and more Inter-prosthetic fractures



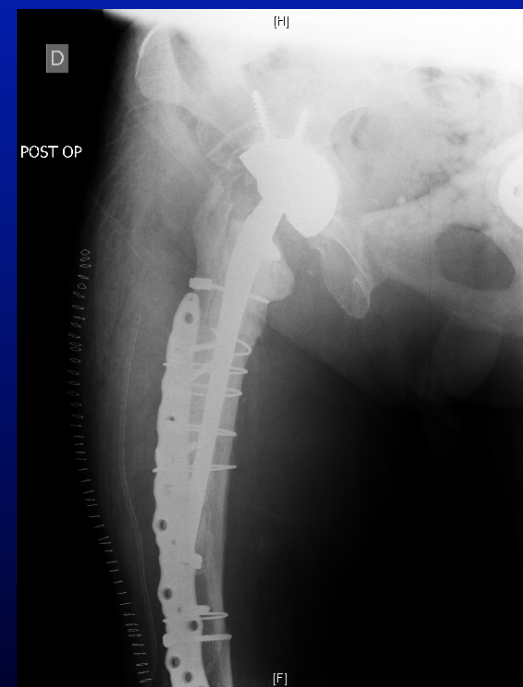
Mrs S. Land
75 years Old

Right TKA April 2012

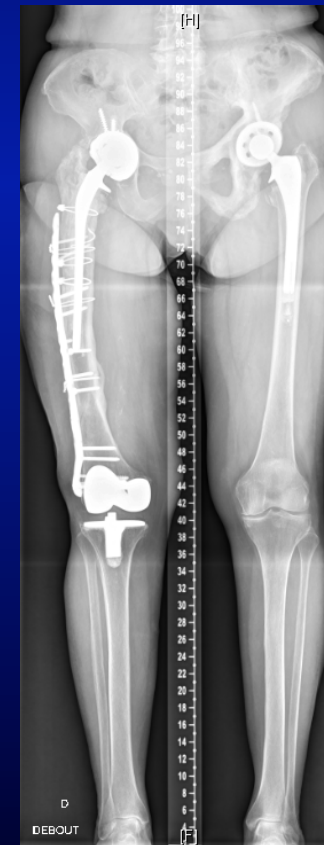
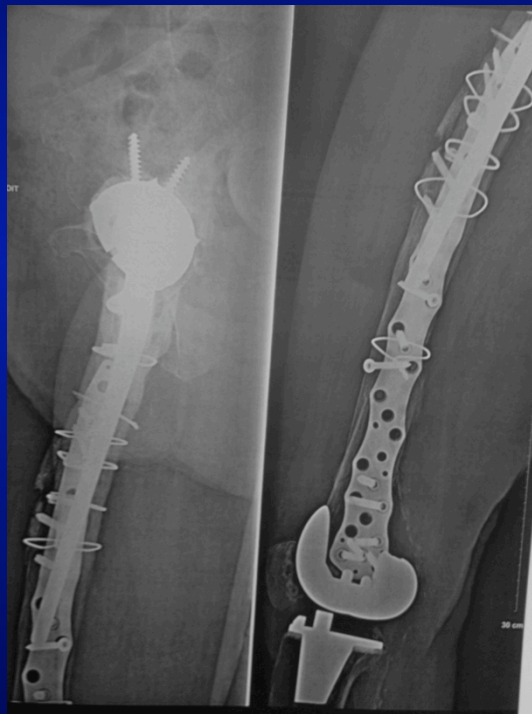


April 2013: one year later





February 2014

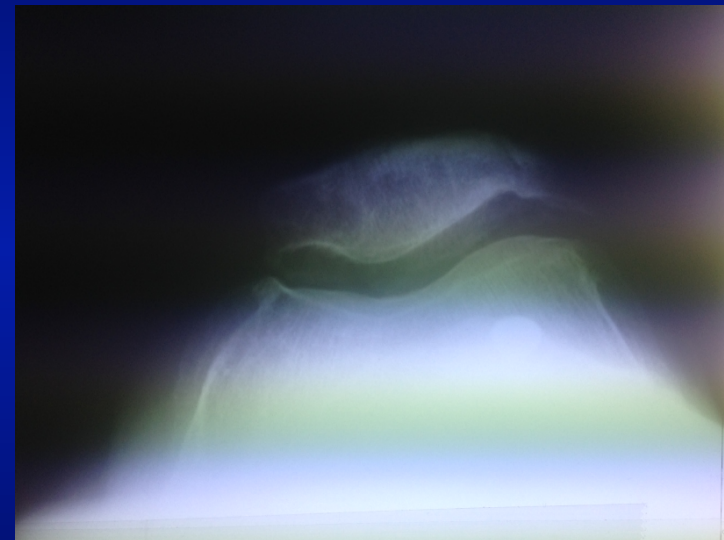


January 1999

Mr P. C. 07/08/1941, BMI 39, left knee

Medical history

- Patella fracture in 1964 (cerclage)
- Tibial osteotomy of valgisation in 1985



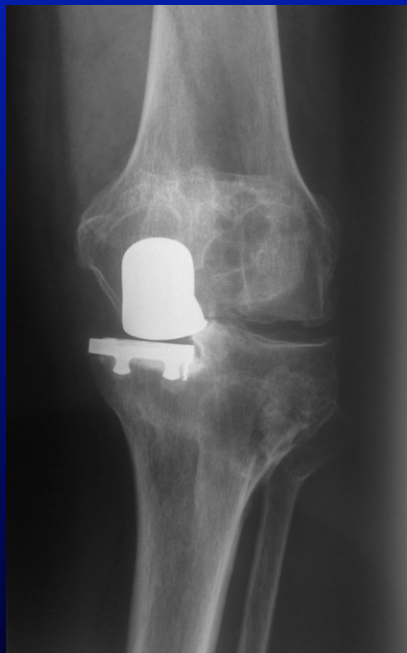
UKA

1993

March 2006

FU 13 years

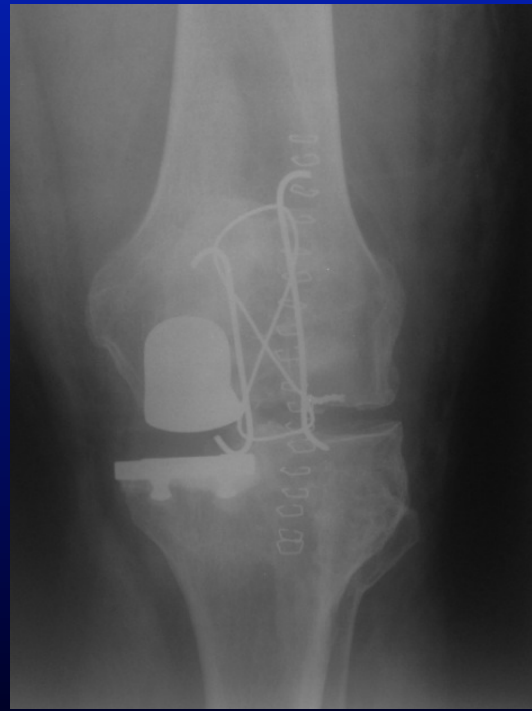
Pain, swelling, decrease range of motion...



Isolated
PE exchanged

November 2007

After a fall...



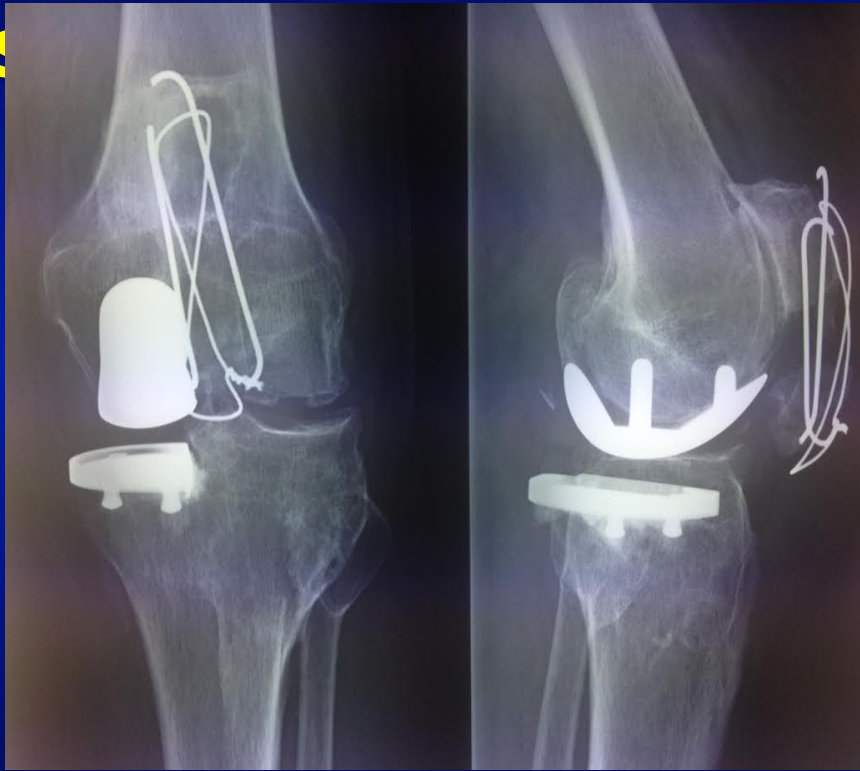
ORIF

In another

center

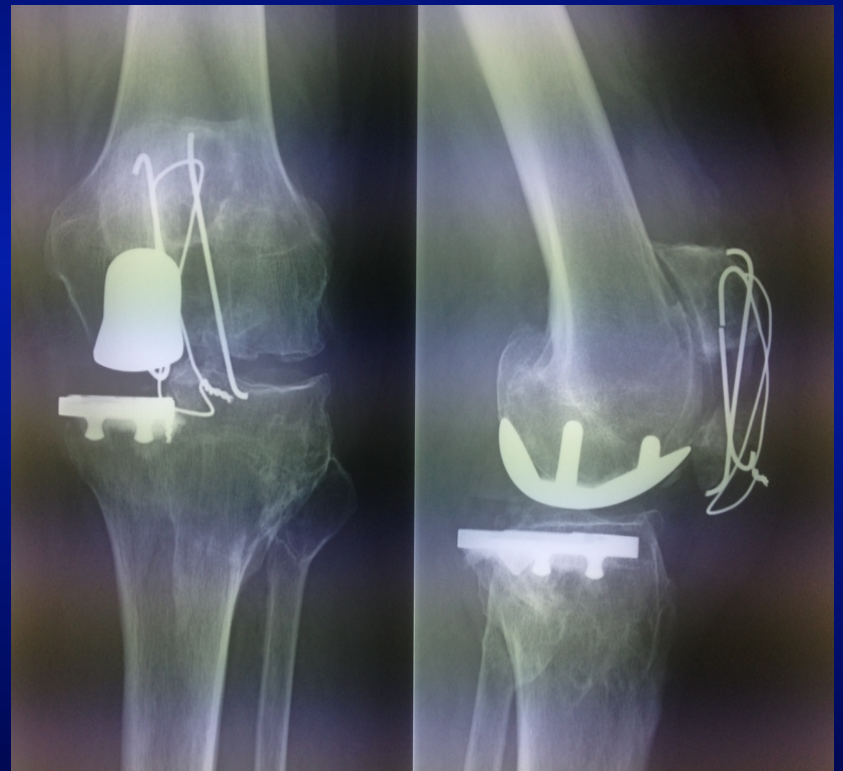
January 2008

First



IF...

2 years after



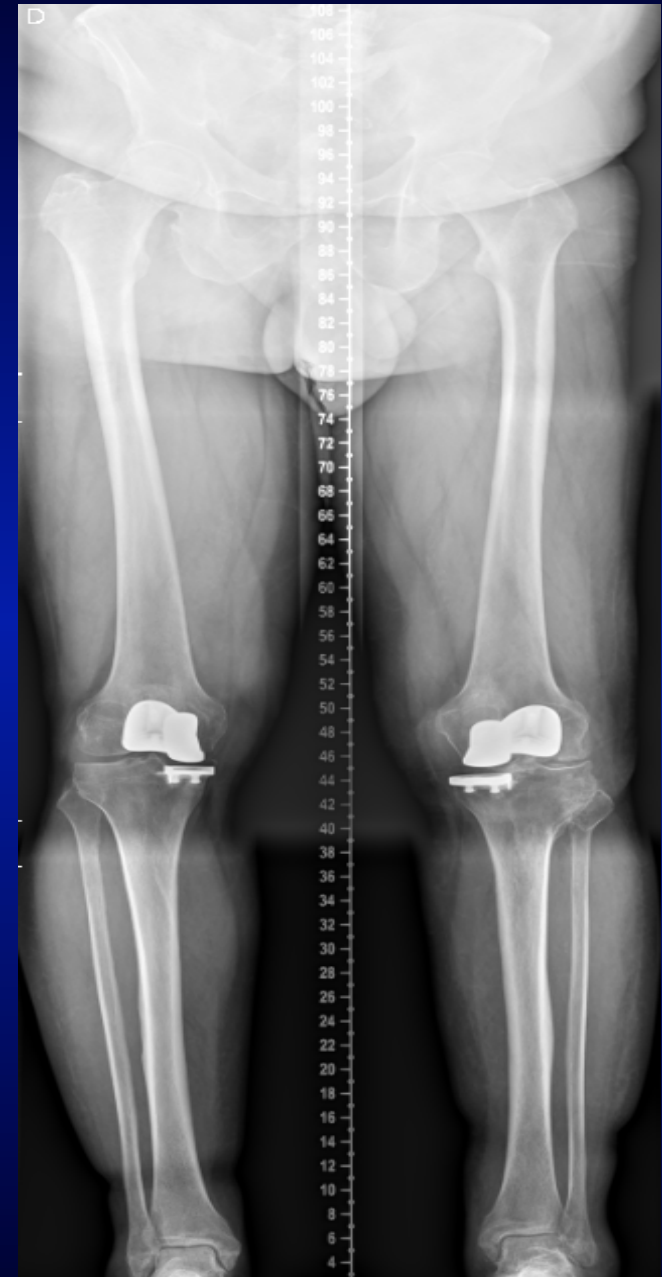
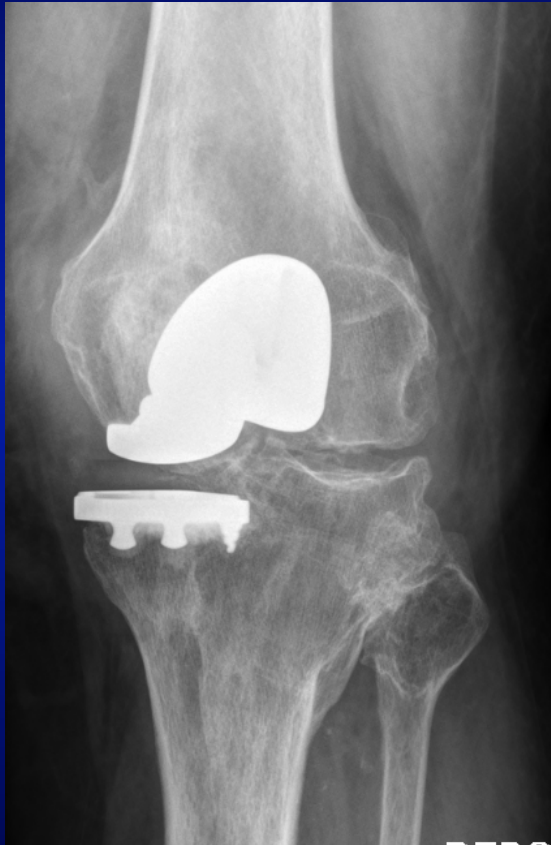
Developped PF arthritis

No pain on the lateral side

June 2010

Bi-comp on the right side

PFJ on the left side

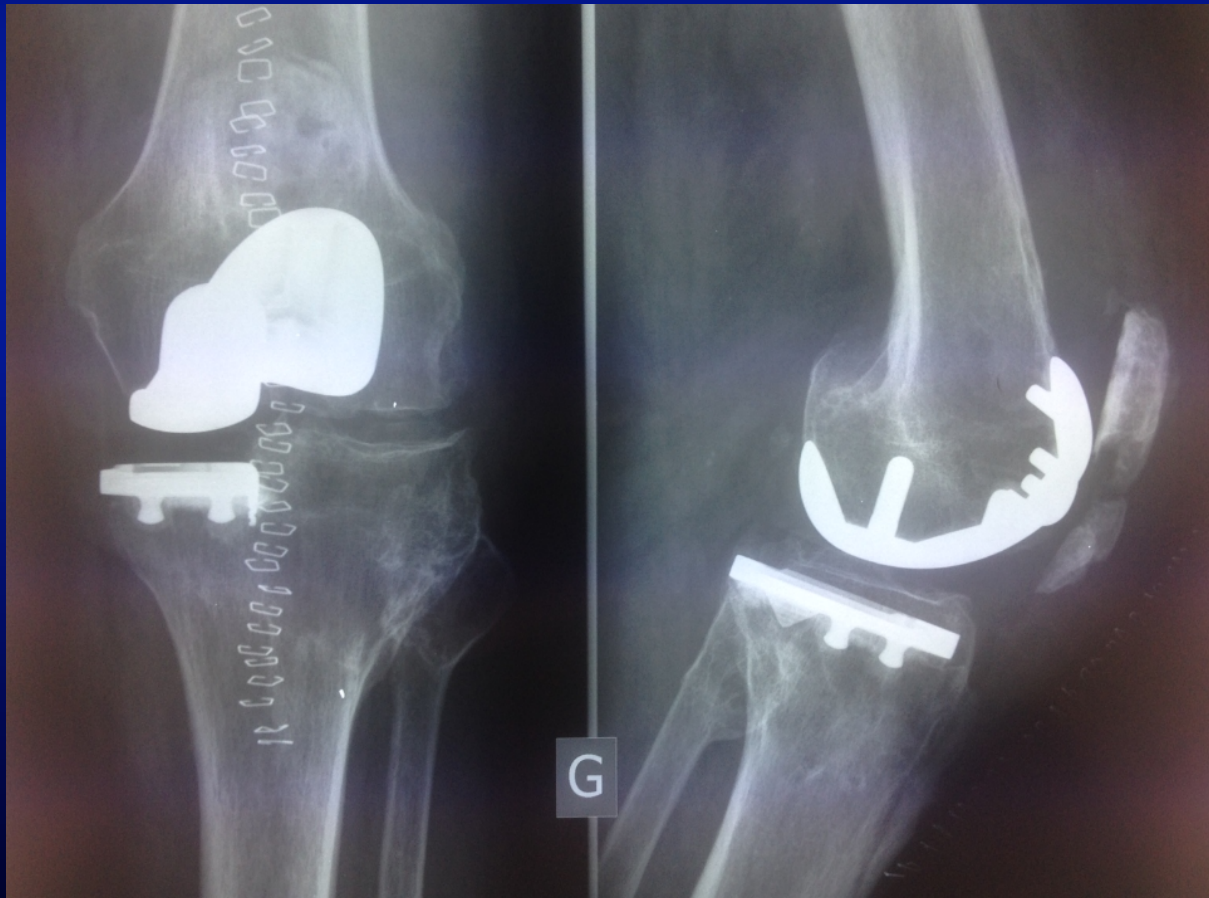


September 2010

Quadriceps tendon rupture

Repair and augmentation

After another fall...



THE WOLFPACK IS BACK

HANGOVER PART II



BANGKOK HAS THEM NOW
MEMORIAL DAY

LEGENDARY
PICTURES
UNITED
ARTISTS

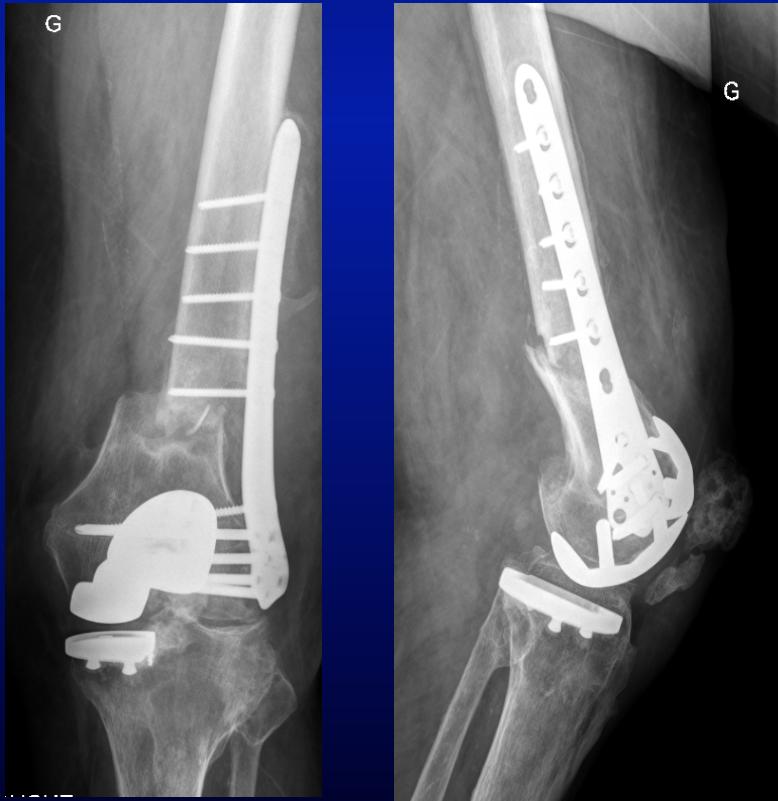
www.hangoverpart2.com

WARNER BROS. PICTURES
PRESENTS
A
WARNER BROS. PICTURES
PRODUCTION

October 2012

After again another fall... Treated in another hospital...

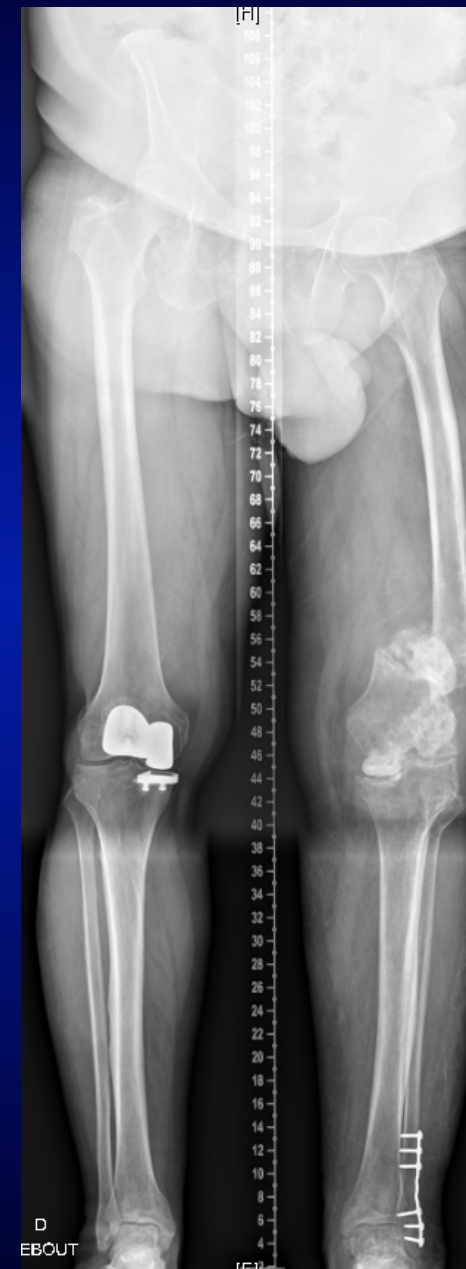
OWRIF : Open Without Reduction and Internal Fixation



Came to see me
10 months after OWRIF

Ponction: Infection

Hard ware removal and Loaded PMMA



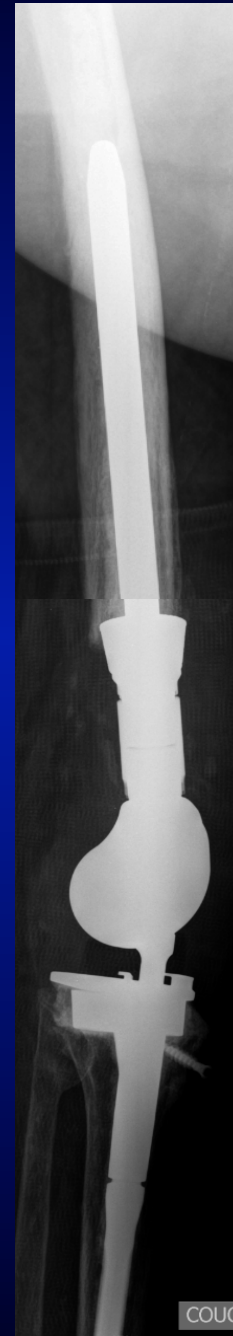
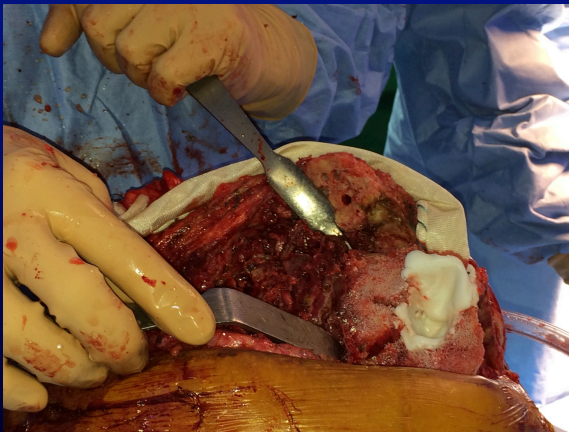
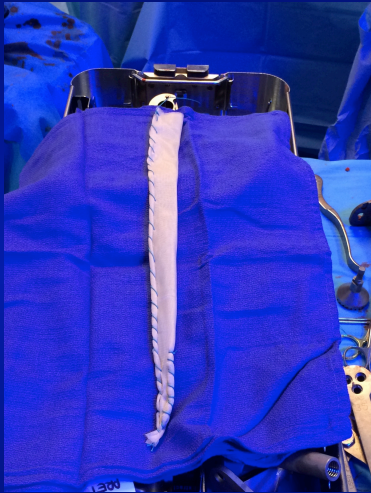
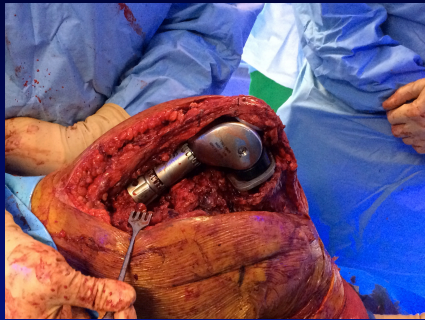
January 2014

MIS: Maximal Invasive

Surgeon



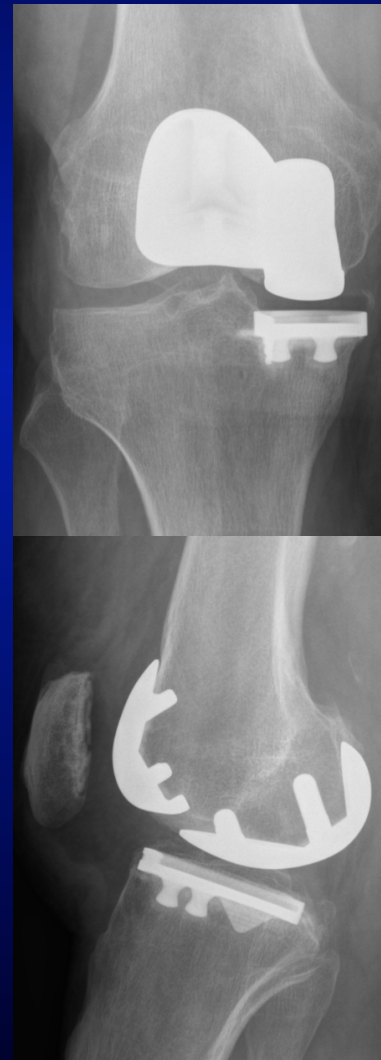
January 2014



January 2014



September 2014



Conclusion

Is there enough bone?

Are the implants well stable?

No emergency

Planning is the key