

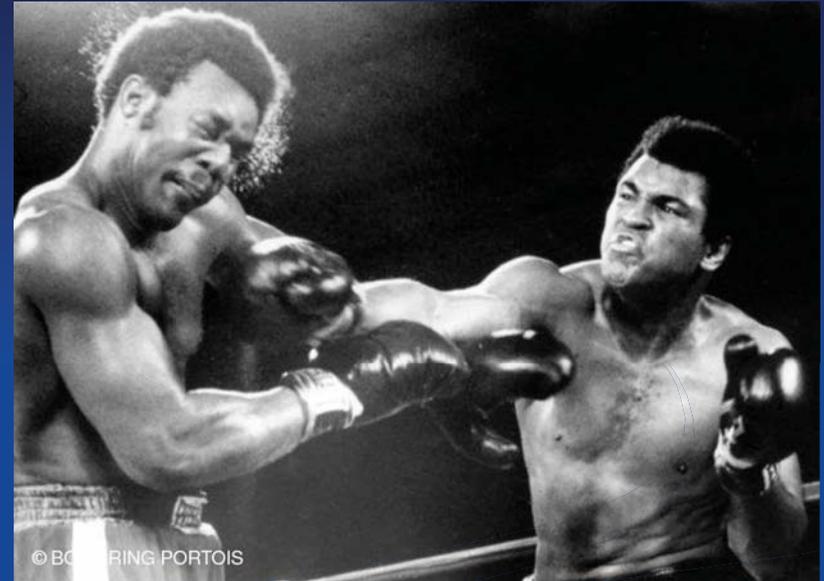
Shoulder humeral Prosthesis:

Stem?

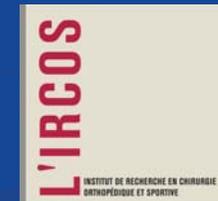
Stemless?

Short stem?

Resurfacing?



The French Debate: Jean Kany/Jean Grimberg



Prosthesis of the shoulder : is the stem required ??

Katowice 2015

Conflict of Interest

- Jean Kany: FH Orthopedics (Arrow designer)



« No way: a stem is better!! »



- Jean Grimberg: Biomet (TESS designer)

« No way: a stemless is better!! »

Background

- 1955: Neer's hemiarthroplasty (trauma)

Neer CS I.

Articular replacement for the humeral head.

J Bone Joint Surg Am 1955;37:215-28.

- 1974: Neer's TSA

Neer CS II.

Replacement arthroplasty for glenohumeral osteoarthritis.

J Bone Joint Surg Am 1974;56:1-13.



2015



Stem loosening?



■ Outcome

■ Humeral loosening (cemented)

■ 28/1803 (1.5%)

■ Humeral loosening (cemented) revised:

■ 6/1842 (0.3%)

Question 1



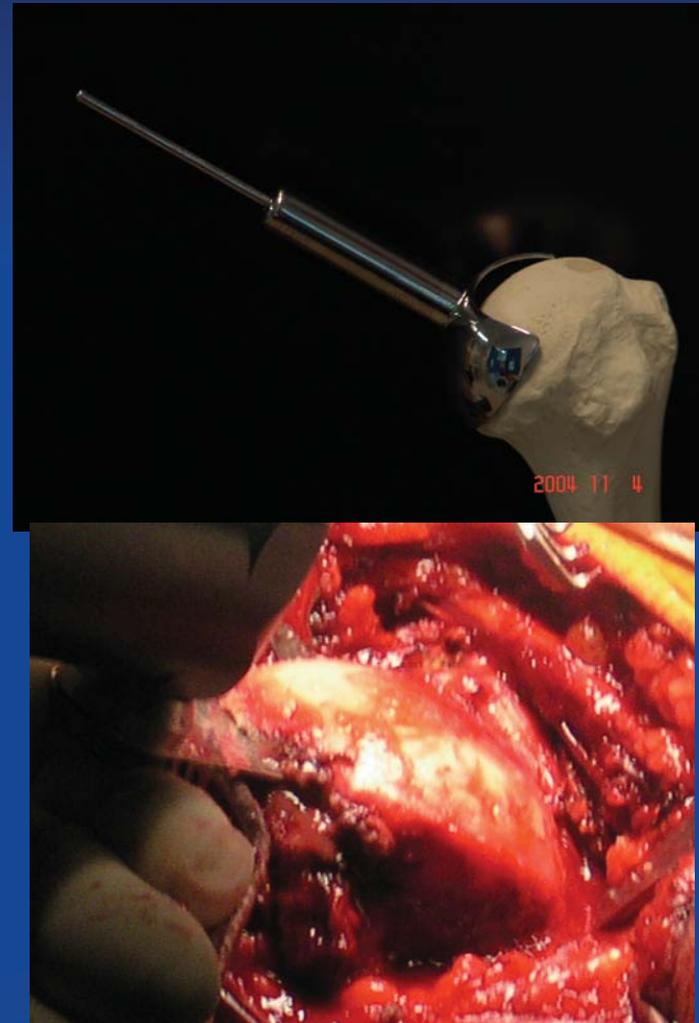
Do you have any issue
With
The (classical) humeral stem?

TESS advantages?

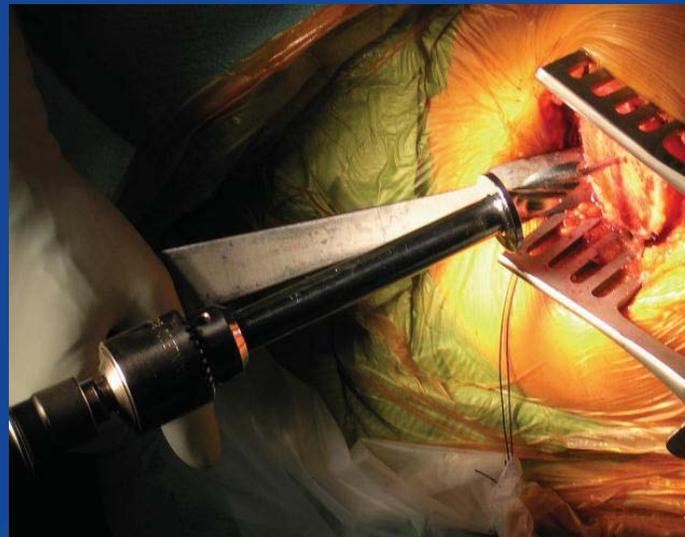
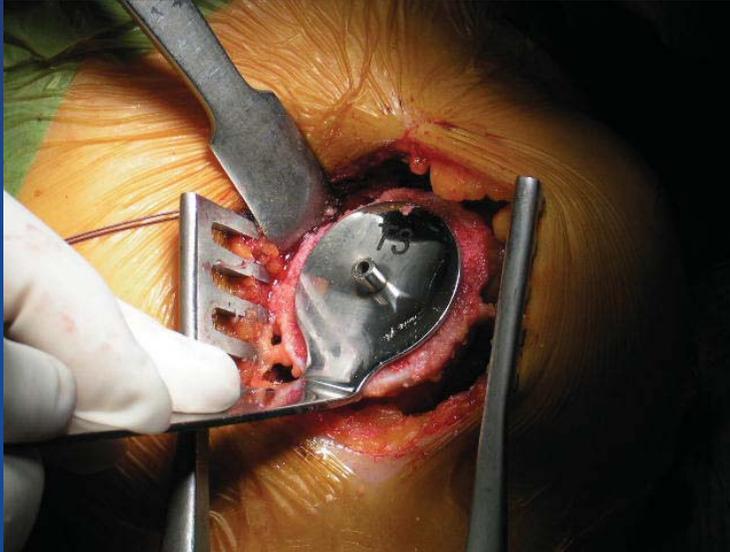
- Is it easy?
- Is it actually less invasive?
- Mistakes impossible?
 - varus/valgus/version/height

Is it easy and less invasive ?....Yes !

- Cut based on the native humeral collar after removal of osteophytes = no possibility of malalignment in varus-valgus or in retro/anteversion.
- Always easy but for malunion cases and fractures naturally...

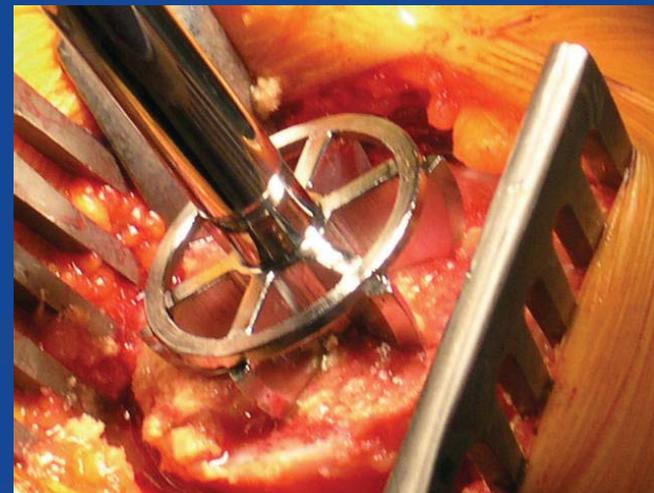
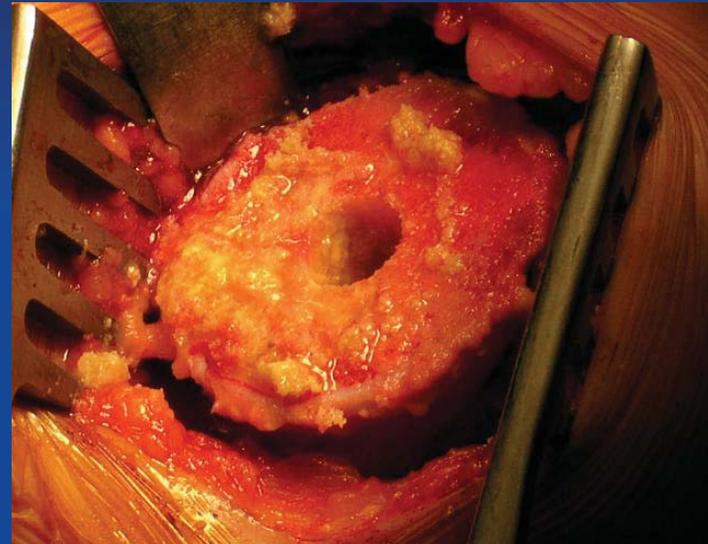


Is it easy and less
invasive ?....Yes !



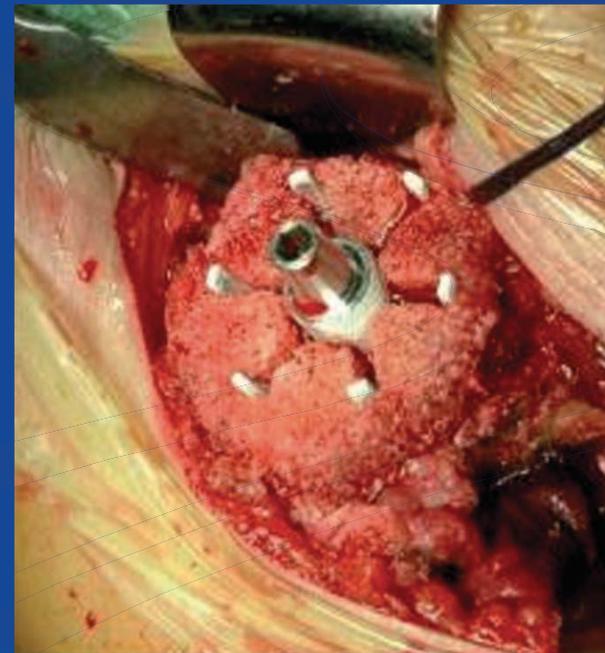
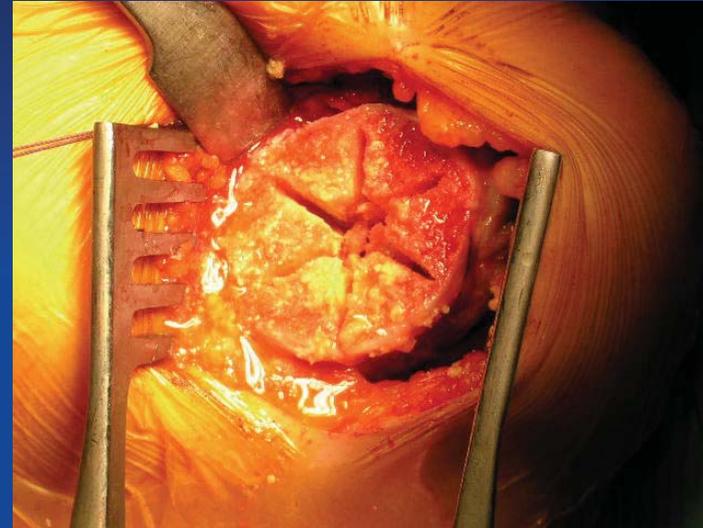
Is it easy and less invasive ?....Yes !

- No reaming of the diaphysis = no risk of fracture of the diaphysis
- Two instruments
 - Central peg driller
 - Corolla preparator (3 sizes)
- Head trial possible with corolla preparator left in the metaphysis



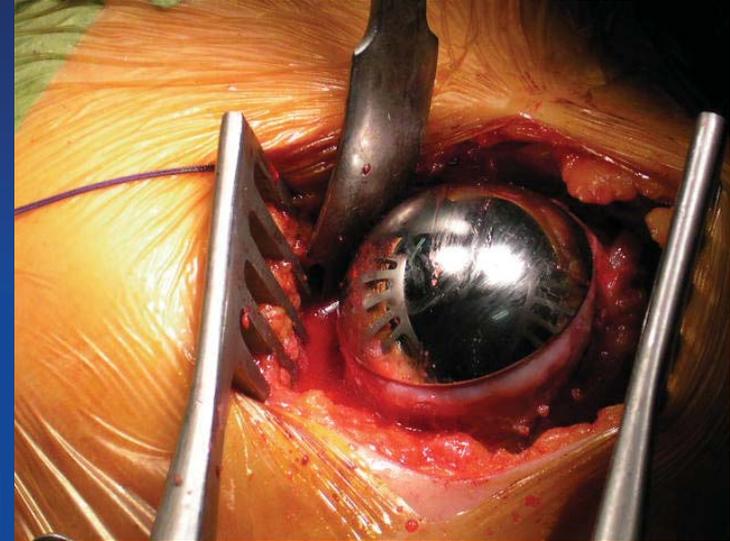
Is it easy and less invasive ?....Yes !

- No intramedullary reaming
- Preservation of metaphyseal bone stock
- No excentrated head to match posterior/medial offset of diaphyseal axis
- Glenoid exposure ?
 - As easy as usual...it is NOT a resurfacing implant
 - But not better...



Is it easy and less invasive ?....Yes !

- Between head cut and definitive prosthesis implantation = usually less than 10 mn.



So to answer the question ...

- Do I have an issue with classic humeral stem ?
- No, I don't have issues with classic humeral stems...
- Because
- I haven't been using any for the last 11 years in anatomic TSA !!

HA revisions?

Outcome (1976-2008, Mayo Clinic)

- >> 15 yrs
- 2588 Shoulder arthroplasties
- 1431 Hemi: 114 were revised (7.9%)
- 62 Patients << 50 yo with Hemi:
 - 17 were revised (27%)
 - 2 loosening (3%)



Use a Platform System!!

Stemless complications

Nice Shoulder Course 2012

- Eclipse (P. Habermeyer, NSC 20012)
 - 20 Eclipses versus 20 Univers (FU>3yrs)
 - Comparable results to stem prosthesis



- Simplicity (Ph. Collin)
 - 19 cases (FU 2 yrs)
 - Good bone quality usefull++++



Short stem complications

Nice Shoulder Course 2012

- Green: 61 cases, 1 yr FU
 - Bone loss at calcar (80%)
- Edwards: 83 cases, 1yr FU
 - 7 revisions
- Dines: 100 cases, 3.6yrs FU
 - 3 revisions
 - 11 distal lucent lines



Osteolysis?

Stress shielding?

Question 2

Do you think
Stemless or short stem
Could make revisions easier?



TESS group

- > 3000 TESS in 10 years in the group
- No anatomic stem removal for loosening
- One short term publication : no loosening after 3 years

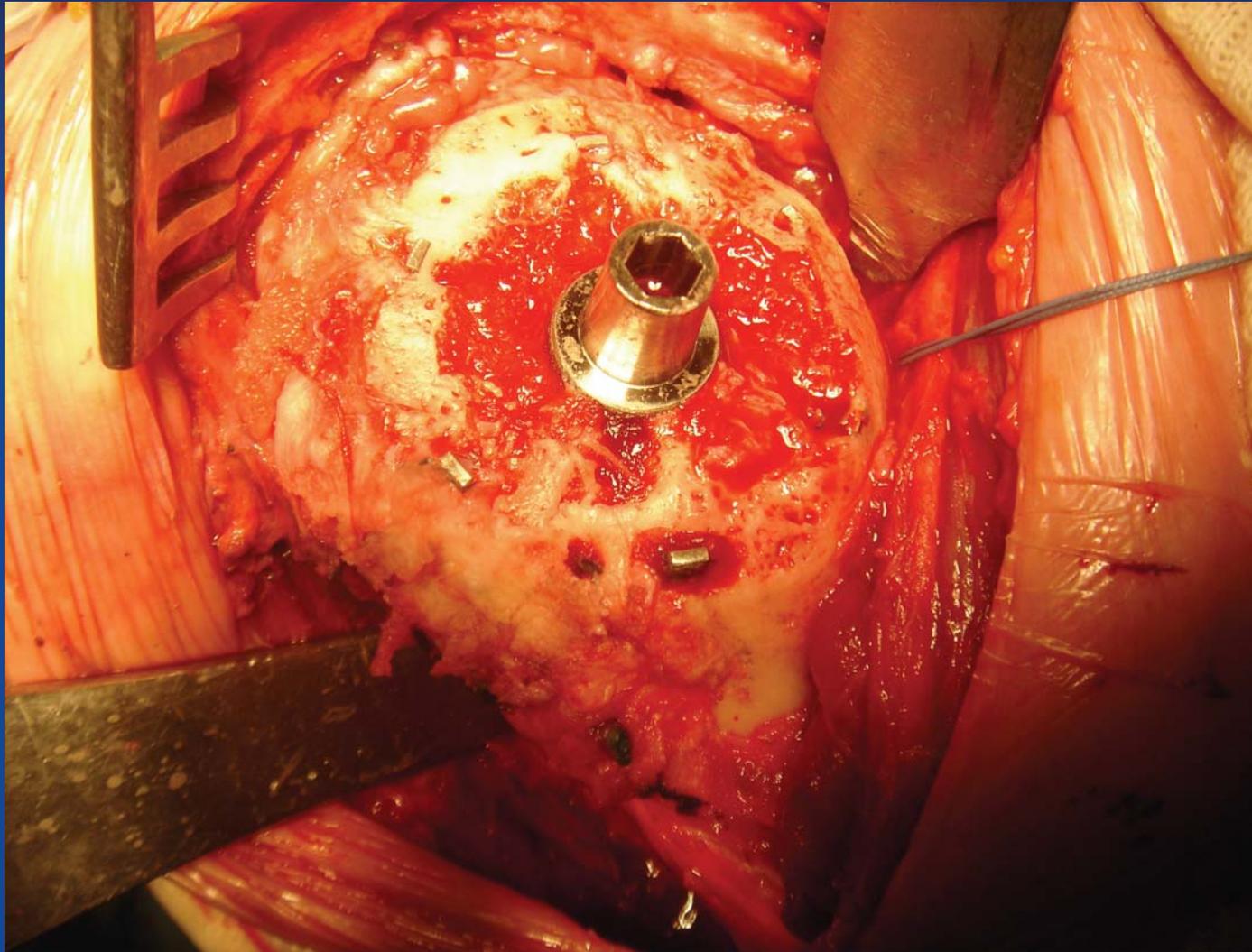
Results of a new stemless shoulder prosthesis: Radiologic proof of maintained fixation and stability after a minimum of three years' follow-up

Dominique Huguet, MD^{a,*}, Geert DeClercq, MD^b, Bruno Rio, MD^c,
Jacques Teissier, MD^d, Bruno Zipoli, MD^e,
The TESS Group

J Shoulder Elbow Surg (2010) 19, 847-852

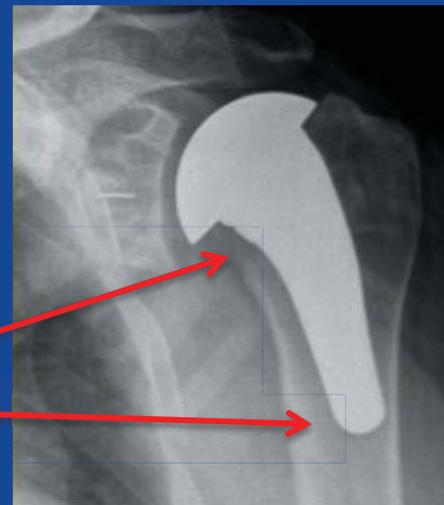
- One communication (Nice Shoulder Course 2012) : Laurent Beguin : 161 cases since 2005 : no loosening

Bone integration of anatomic corolla...



TESS system is different from...

- Simplicity (or Eclipse or Mathys....
 - the metaphyseal fixation is not a corolla but a cross or a peg !
 - Need good central metaphyseal bone stock
- Ascend short stem
 - A stem...is a stem ! Even short !
 - Short stem : varus possible !



Resurfacing complications

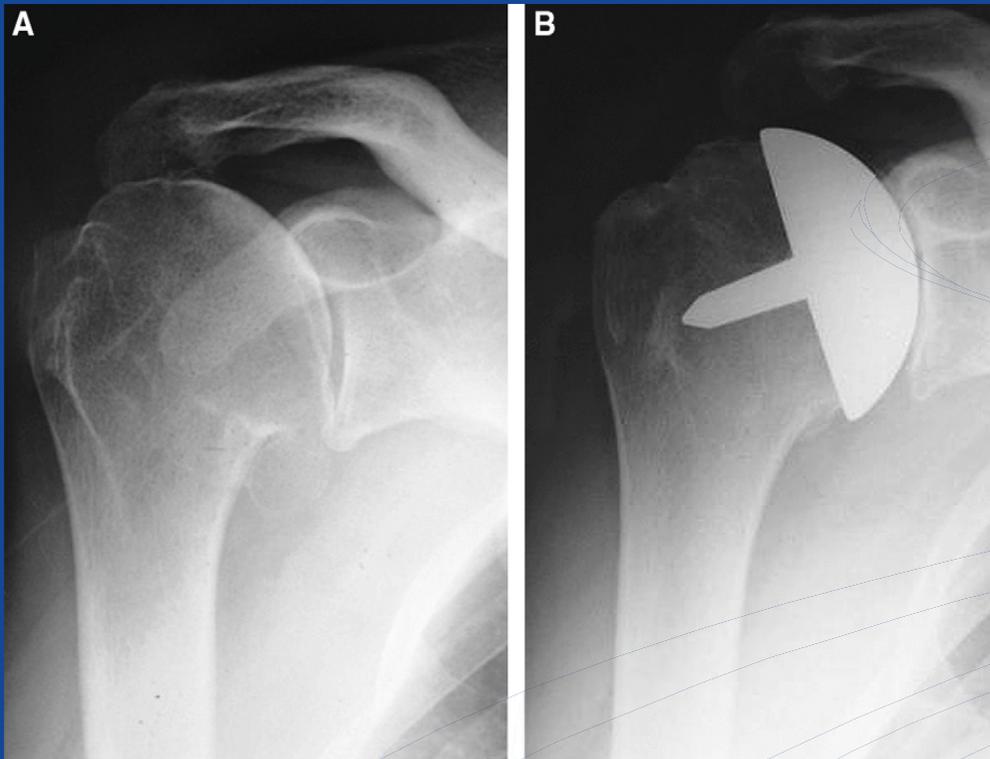
- Multicentric study: L. Neyton (426 cases, 21 mths FU)
 - Nice Shoulder Course 2012
 - Revision 5.9% (glenoid wear+++)
- Global CAP: P. Mansat (64 cases, 42 mths FU)
 - SECEC 2014
 - Mal-positioning (varus, overstuffing)
 - Glenoid wear with FU+++
 - 18% complications (pain)
 - 7% révisions



Lebon J, Delclaux S, Bonneville N, Rongières M, Bonneville P, Mansat P, et al. Stemmed hemiarthroplasty versus resurfacing in primary shoulder osteoarthritis: A single-center retrospective series of 78 patients. *Orthop Traumatol Surg Res.* 2014 Oct 1;100(6):S327–S332.

Question 3

What about resurfacing?

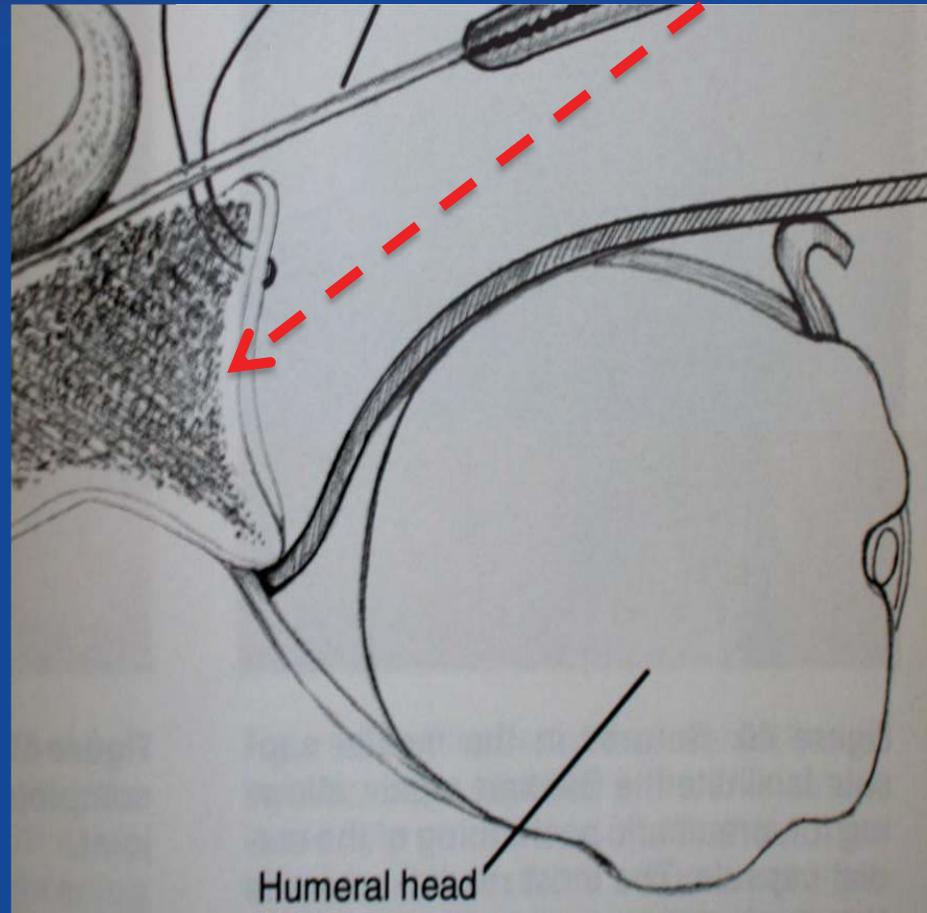


TESS drawbacks?

- Overstuffing?
- Bad bone quality?
- « TESS stem » indication?
- Glenoid exposure?
- ...?

Resurfacing difficulties = glenoid exposure

Reamer in
the wrong
direction !



Technical drawbacks of resurfacing implants

- With resurfacing implant :
 - Risk of overstuffing
 - Difficulties for glenoid exposure
 - Implant on round head : risk of malignment
- But TESS implant is **NOT** a resurfacing implant
 - You have to remove the humeral head :
 - No difficulty for glenoid exposure.
 - No overstuffing
 - You work on a flat surface : less risk of malignment

Bad bone quality

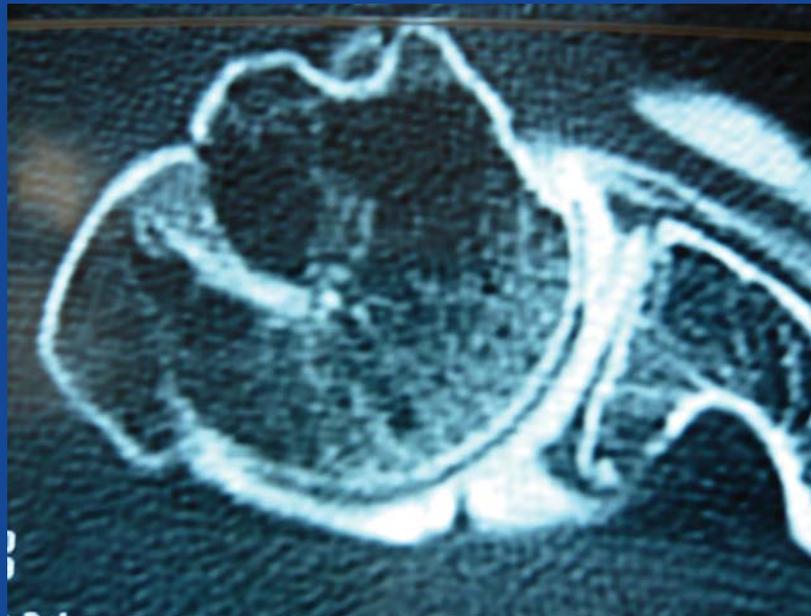
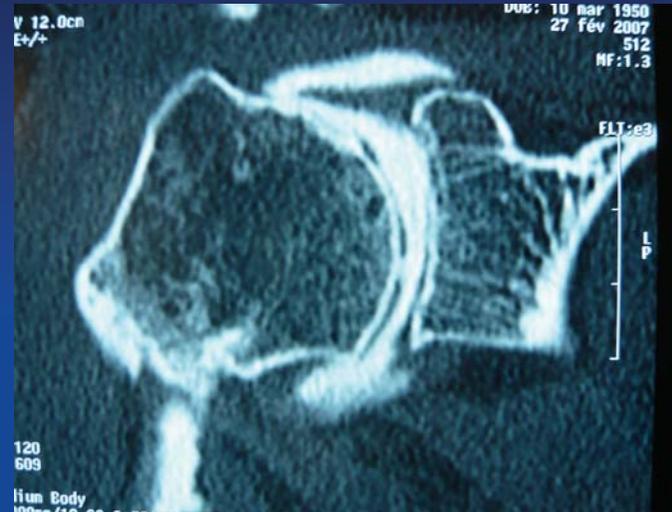
- Only a problem with fractures
- TESS anatomic implant needs an intact metaphysis

Indication for TESS with stem

- Revision if metaphyseal partial destruction
- Not enough metaphyseal bone for corolla stabilisation
- Rhumatoïd arthritis ? No....
- Fractures : naturally !!



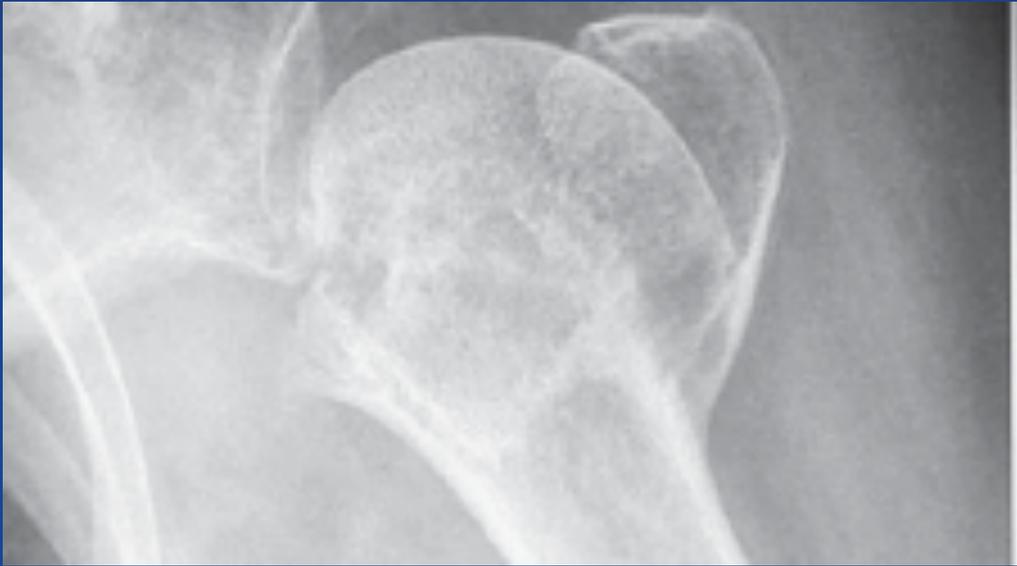
Malunion...one personal case



Malunion...one personal case



Malunions



Reverse TSA

- STEMLESS ?
- One publication

Results of a stemless reverse shoulder prosthesis at more than 58 months mean without loosening

Richard Ballas, MD^{a,*}, Laurent Béguin, MD^b

J Shoulder Elbow Surg (2013) 22, e1-e6

- One recent communication
 - Tessier Th, Tessier J. et al
 - SOFCOT 2015
 - 10 years of stemless RSA : no loosening



CONCLUSION

- STEMLESS prosthesis and anatomic TSA :
= ALL THE TIME !!
- STEM indications ?
 - Fractures
 - Metastatic bone
 - Revision
 - Reverse ?? If you are afraid...





What is your option?

- 60 yo
- H fracture 20 yrs ago
- VAS 8/10, Stiffness+++
- Tendons and muscles corrects
- Told to wait 60yo for SA
- She wants it be done!!!



This is my option !!

- 60 yo
- H fracture 20 yrs ago
- VAS 8/10, Stiffness+++
- Tendons and muscles corrects
- Told to wait 60yo for SA
- She wants it be done!!!

Thank you

