Reconstruction of the Glenoid after Glenoid Loosening

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Conflict of Interest

- FH Orthopedics (Arrow designer, Royalties)
- Vims (Consultant)
- Mitek (Consultant)
- Tornier (Consultant)
(Cemented) Glenoid Component Loosening

Fréquent (RLL >80%)


Without Symptoms? (2-5% revisions)

• Brems (1400 prostheses) 2,9 %
• Cofield (1459 prostheses) 1,9 %

Main Cause of Revisions++++

Glenoid Radiolucent Lines


Glenoid Radiolucent Lines

Experience with Neer total shoulder replacement.

The radiographic evaluation of keeled and pegged glenoid component insertion.
J Bone Joint Surg Am 84:1174–1182

The incidence of early radiolucencies about a pegged glenoid component using cement pressurization.
J Shoulder Elbow Surg 17:703–708
68 y/o, man

Options to deal with
A glenoid loosening?
Glenoid reconstruction: Do you also feel alone?
Glenoid Bone Loss Classification after Glenoid Component removal

Glenoid Bone Loss Classification after Glenoid Component Removal

Katz D, Sauzière Ph, Valenti Ph, Kany J (2012)
The case for the metal-backed glenoid design in total anatomical shoulder Arthroplasty.
Eur J Orthop Surg Traumatol 22:9–16
Litterature Review

- Revision with new glenoid PE
- Cemented + Bone
- FU 74 months
- Failure were 67%

Bonneviale et al Nice Shoulder course 2010
Litterature Review

Better with a glenoid component

- Antuna, Sperling, Cofield, Rowland. JSES 2001
- Cofield RH, Edgerton BC. Instr Course Lect 1990

Glenoid corticocancellous bone grafting after glenoid component removal in the treatment of glenoid loosening

Neyton et al JSES 2006
FU 30 months 9 patients 5 satisfied
Arrow Glenoid Component Experience

1,218 Arrow shoulder prosthesis with glenoid component since 2003

– 249 TSA CG (20%)
– 290 TSA MB (24%)
– 679 RSA (56%)
Arrow Glenoid Loosening Experience

• 1,218 Arrow shoulder prosthesis with glenoid component since 2003

• 56 loosenings (4.5%)
  - 24/249 TSA CG (9.6%)
  - 3/290 TSA MB (1%)
  - 29/679 RSA (4.2%)
A Long Post Base Plate

• Fixation into the native bone

• 40mm Length (15+25)

• 6mm Diameter
Special Design

- 3 points of fixation
- Improve press fit
- Bone graft fixation
Biomechanics (JD Werthel)

Results

Arrow Long Post: 84.67 μm
Delta 3: 162.37 μm
Litterature Long post base plate

Cylinder

Big

Flat base plate

Norris T et al 2007
Surgical technique with a MB + long post (40mm)

Allograft / Synthetic Graft
Advantages of a Long Peg MB

Good press fit
even no glenoid wall

Stabilisation of a bone graft
The Technique
Conclusion

- MB long peg
- Cancellous graft for Sauzière type A, B and C
- Cortical graft for Sauzière > C