Reconstruction of the Glenoid after Glenoid Loosening

Jean Kany, Toulouse, France

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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%)

- Lazarus MD, (2002) J Bone Joint Surg Am 84-A:1174–1182

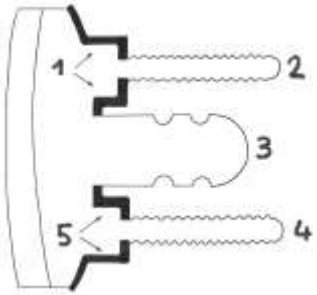
Without Symptoms? (2-5% revisions)

- Neer CS (1990) In: Neer R (ed). Saunders, Philadelphia, pp 220–260
- Rodosky MW, (2002) J Shoulder Elbow Surg 5:231–248
- Brems (1400 prostheses) 2,9 %
- Cofield (1459 prostheses) 1,9 %

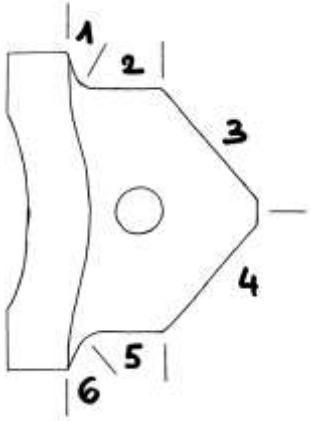
Main Cause of Revisions++++

- Matsen FA 3rd, (2007) J Shoulder Elbow Surg 16(5 Suppl):S241–S247
- Bohsali KI, (2006) J Bone Joint Surg Am 88:2279–2292

Glenoid Radiolucent Lines



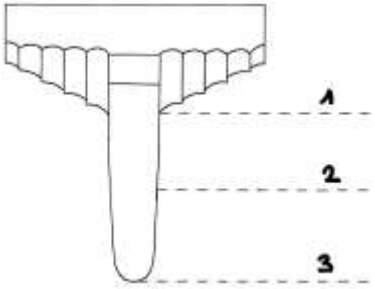
Sperling JW, Cofield RH, O'Driscoll SW, Torchia ME, Rowland CM (2000)
Radiographic assessment of ingrowth total shoulder arthroplasty.
J Shoulder Elbow Surg 9:507–513



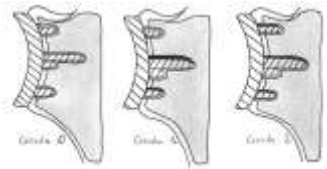
Mileti J, Boardman ND III, Sperling JW, Cofield RH, Torchia ME, O'Driscoll SW, Charles M, Rowland CM (2004)
Radiographic analysis of polyethylene glenoid components using modern cementing techniques.
J Shoulder Elbow Surg 13:492–498

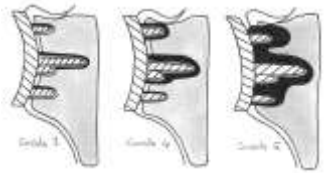
Molé D, Roche O, Riand N, Lévigne C, Walch G (1999)
Cemented glenoid component: results in osteoarthritis and rheumatoid arthritis.
In: Walch G, Boileau P (eds) Shoulder arthroplasty. Springer, Berlin, pp 163–171

Glenoid Radiolucent Lines

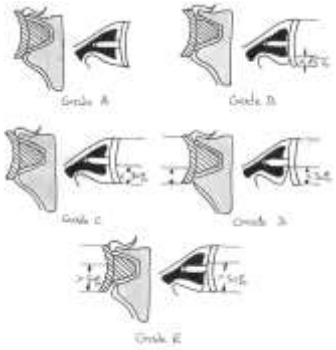


Wilde A, Borden LS, Brems JJ (1984)
Experience with Neer total shoulder replacement.
In: Bateman JE, Welsch RP (eds) Surgery of the shoulder. B.C. Decker Inc, Philadelphia, pp 224–228



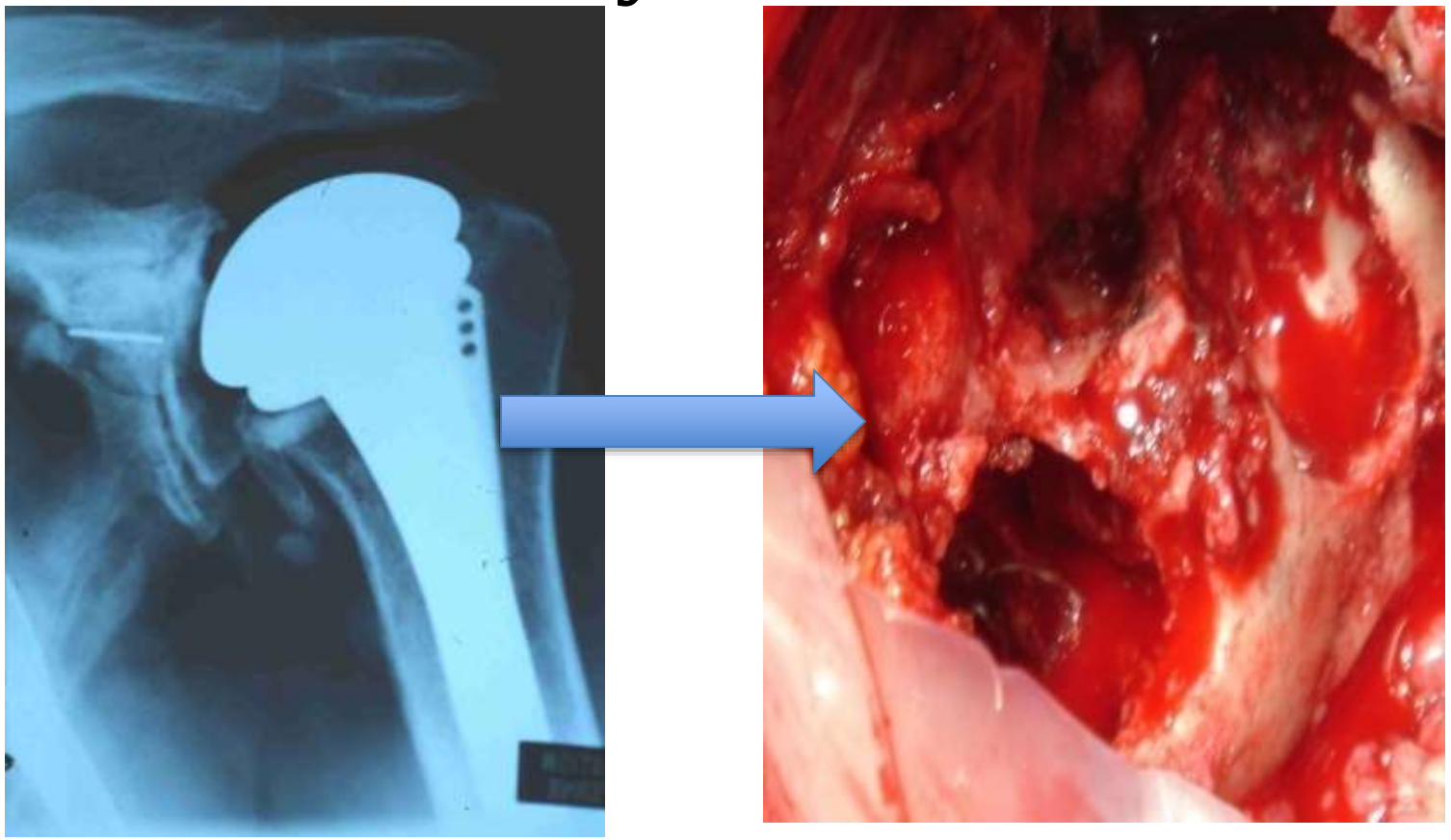


Lazarus MD, Jensen KL, Southworth C, Matsen FA III (2002)
The radiographic evaluation of keeled and pegged glenoid component insertion.
J Bone Joint Surg Am 84:1174–1182



Barwood S, Setter KJ, Blaine TA, Bigliani LU (2008)
The incidence of early radiolucencies about a pegged glenoid component using cement pressurization.
J Shoulder Elbow Surg 17:703–708

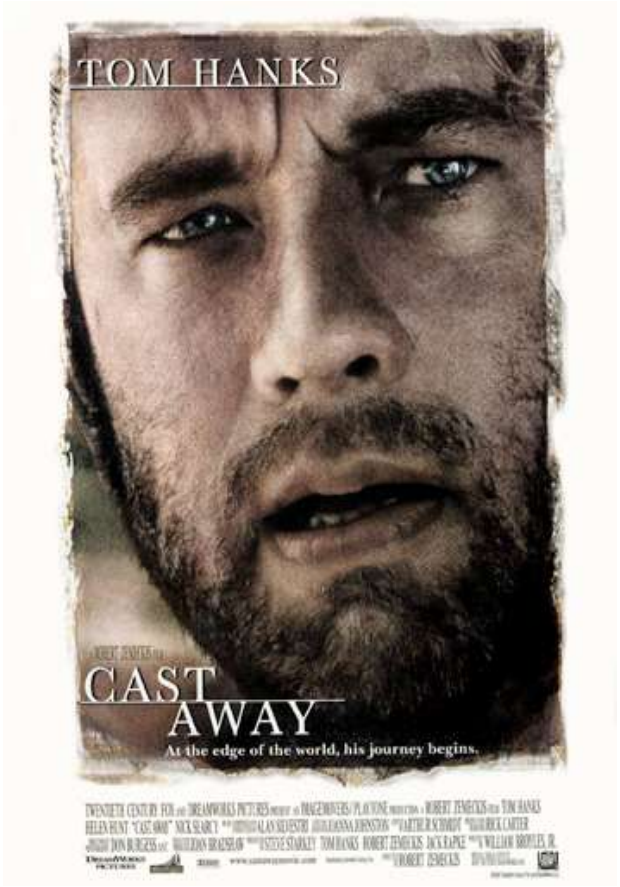
68 y/o, man



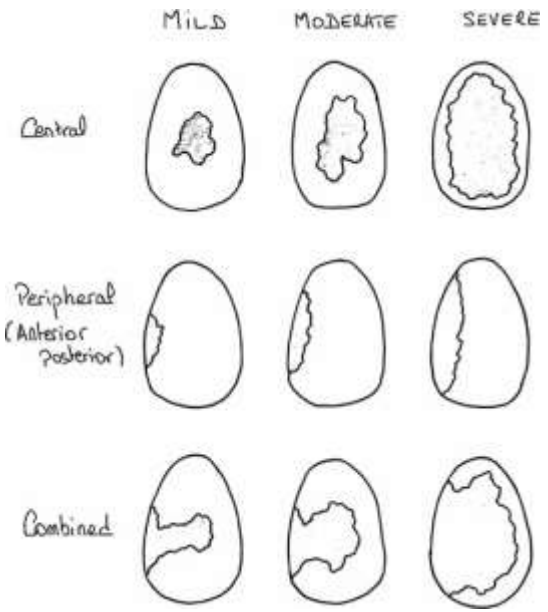
Options to deal with

A glenoid loosening?

Glenoid reconstruction: Do you also feel alone?

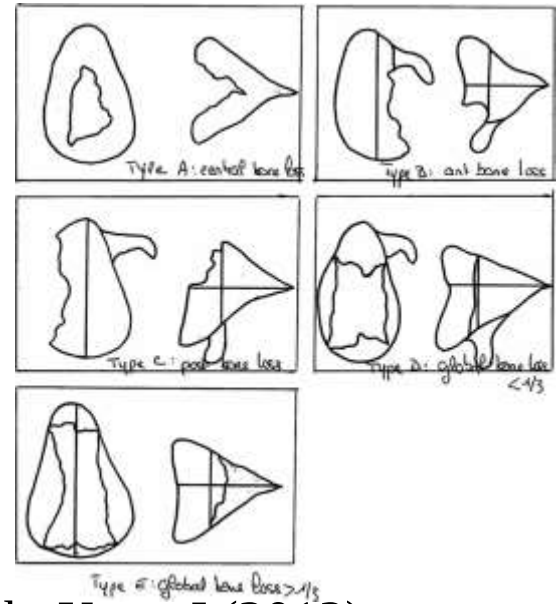


Glenoid Bone Loss Classification after Glenoid Component removal



Antuna SA, Sperling JW, Cofield RH, Rowland CM (2001)
Glenoid revision surgery after total shoulder arthroplasty.
J Shoulder Elbow Surg 10:217–224

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*
- *Rodosky MW, Weinstein DM, Pollock RG, et al. JSES 1995*

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%)

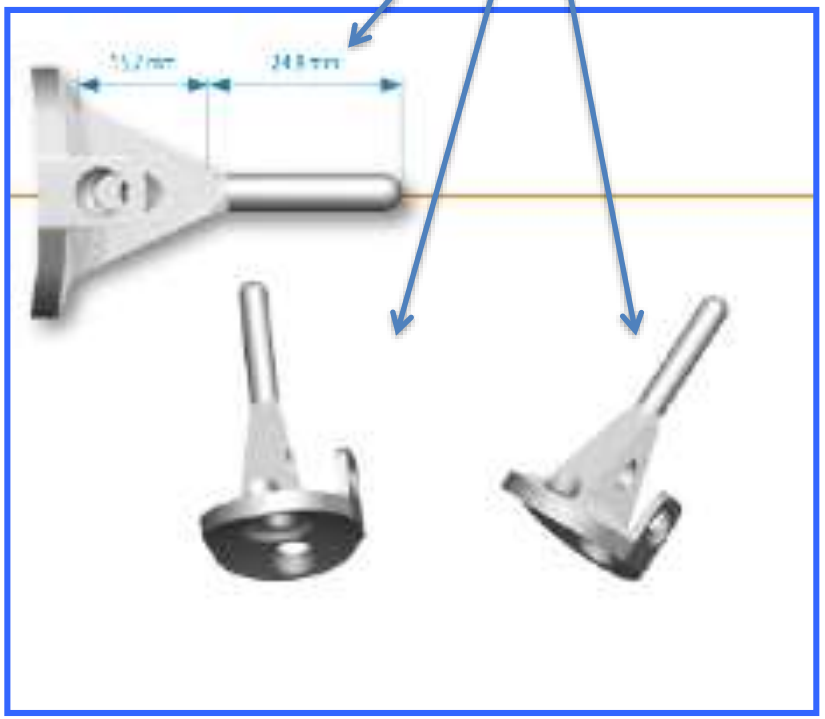
Arrow Glenoid Loosening Experience

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

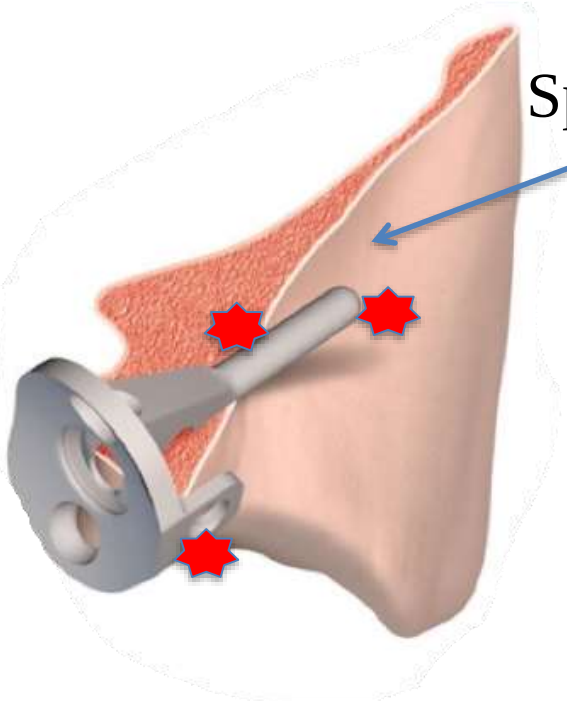
- 56 loosenings (4.5%)
  - 24/249 TSA CG (9.6%)
  - 3/290 TSA MB (1%)
  - 29/679 RSA (4.2%)

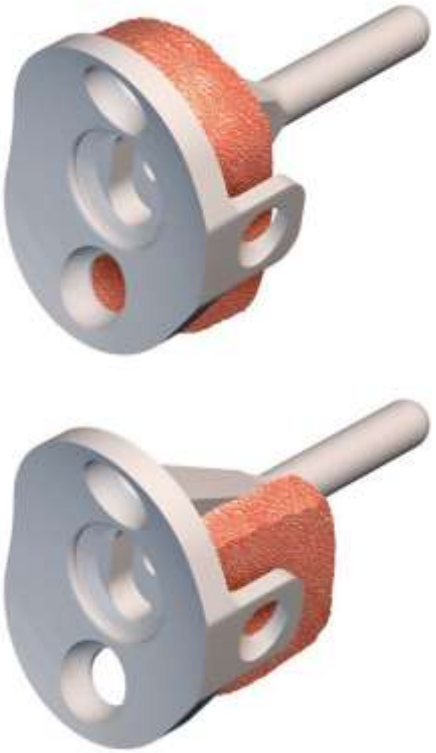
A Long Post Base Plate

- Fixation into the native bone



- 40mm Lenght (15+25)
- 6mm Diameter

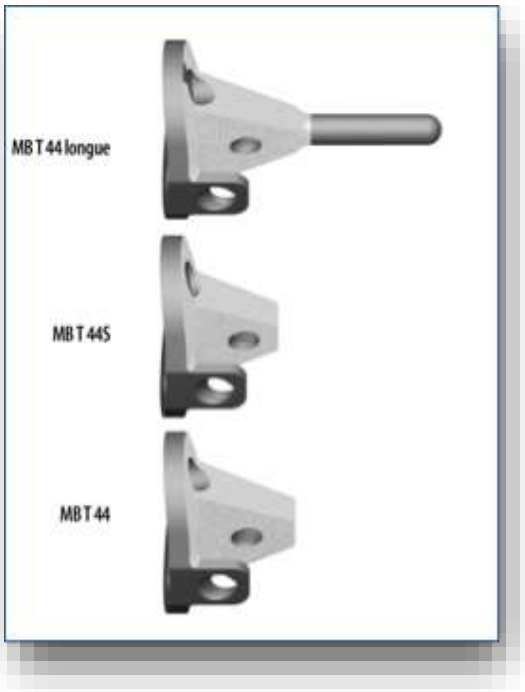




Special Design

- 3 points of fixation
- Improve press fit
- Bone graft fixation

Biomechanics (JD Werthel)
Results



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Arrow Long Post: 84.67 µm

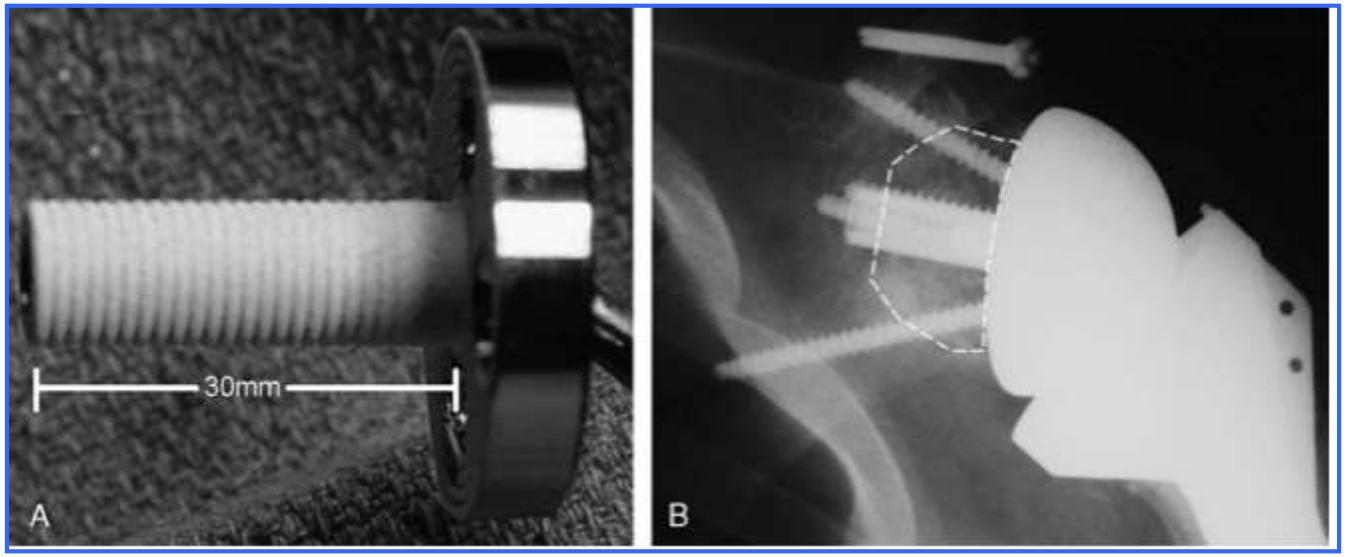
Delta 3: 162.37µm

Litterature Long post base plate

Cylinder

Big

Flat base plate

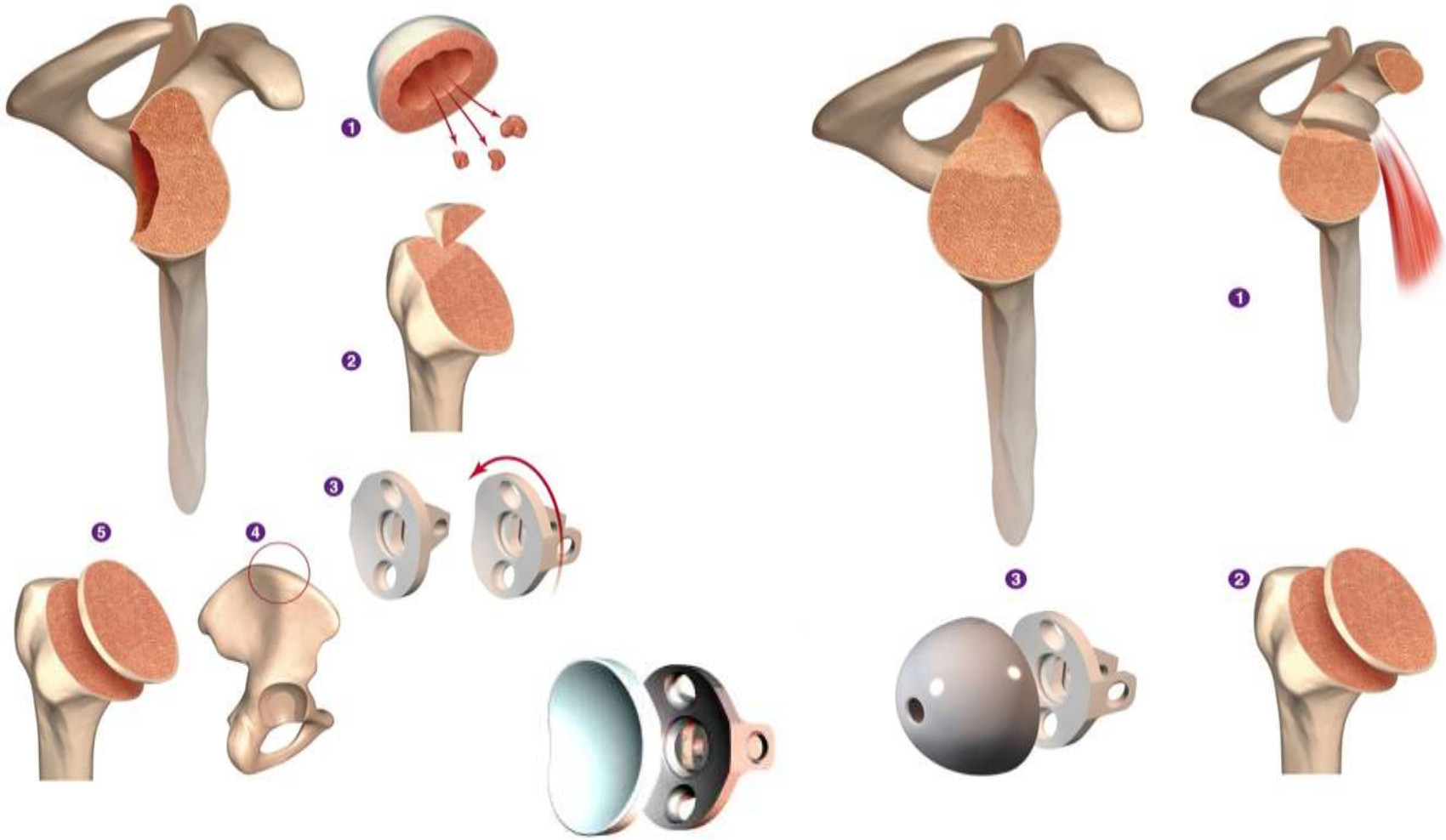


Norris T et al 2007

Management of Glenoid Bone Defects in Revision Shoulder Arthroplasty: A New Application of the Reverse Total Shoulder Prosthesis

Techniques in Shoulder and Elbow Surgery 8(1):37–46, 2007

Surgical technique with a MB +long post (40mm)



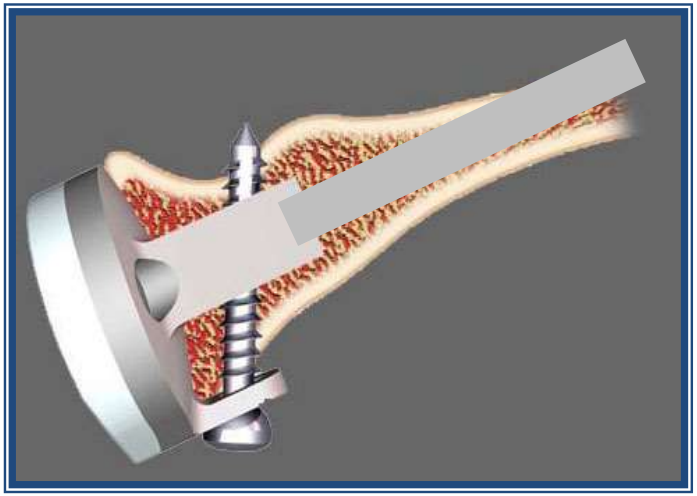
Allograft / Synthetic Graft

Advantages of a Long Peg MB

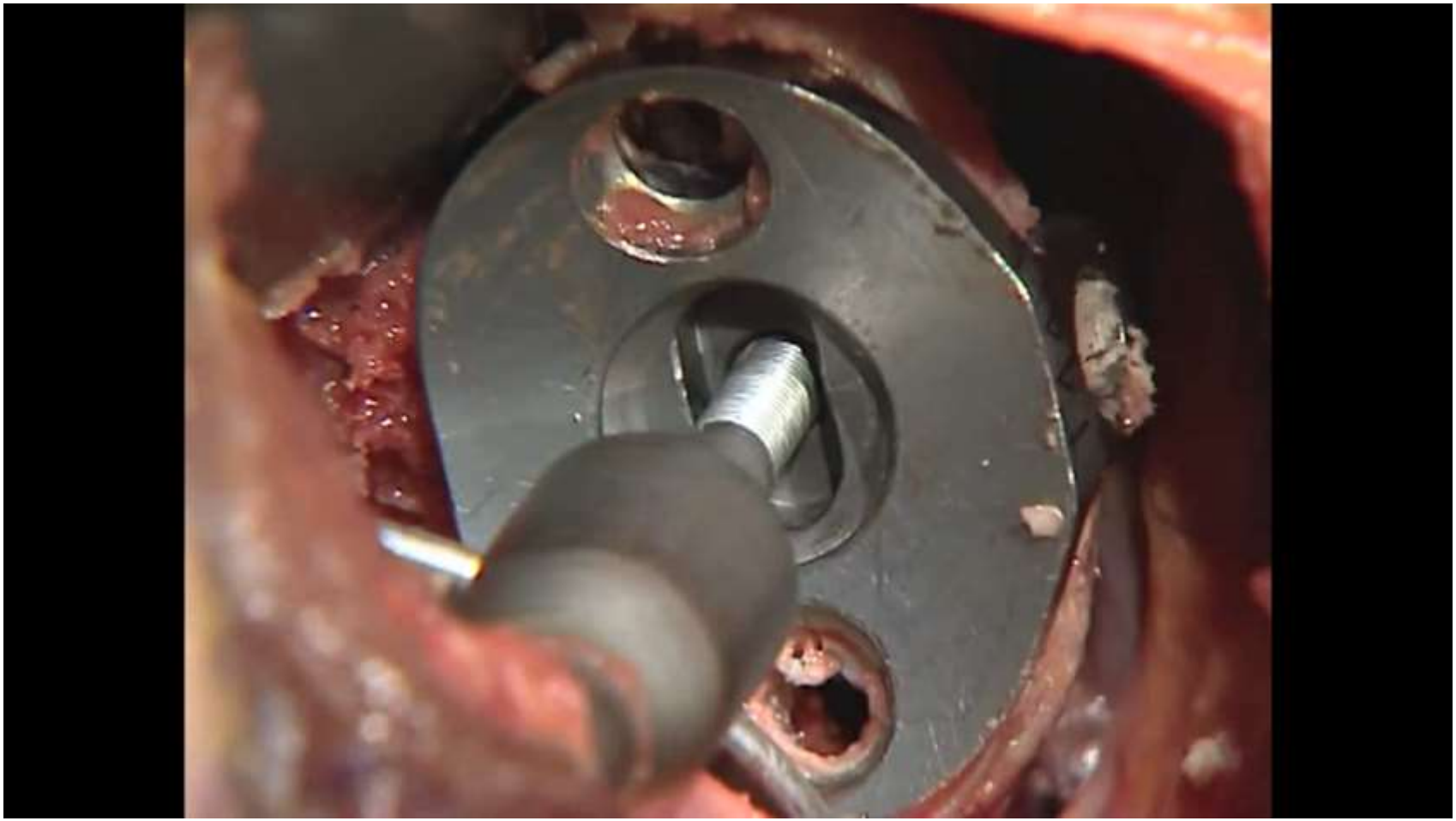
Good press fit

even no glenoid wall

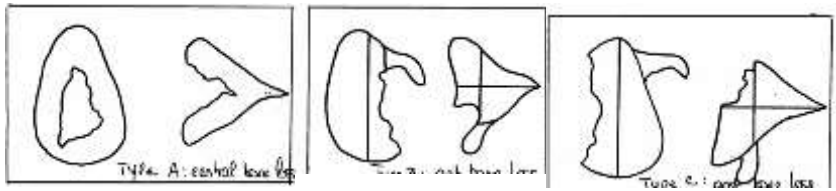
Stabilisation of a bone graft



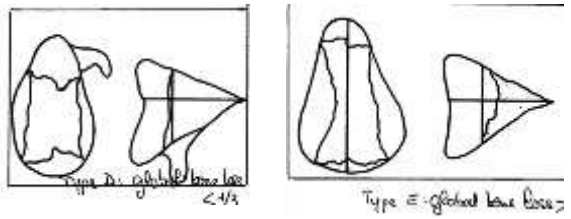
The Technique

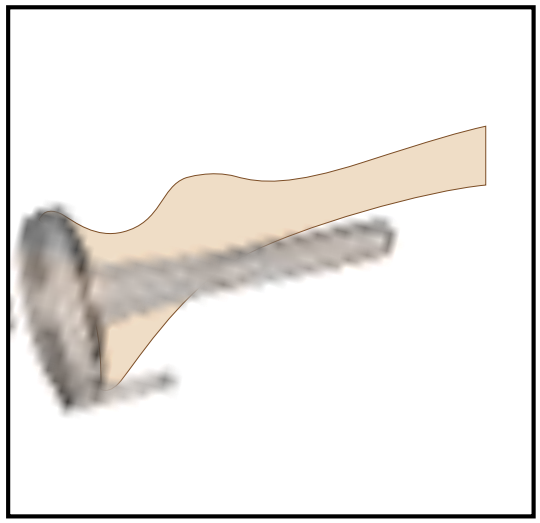


Conclusion



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





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