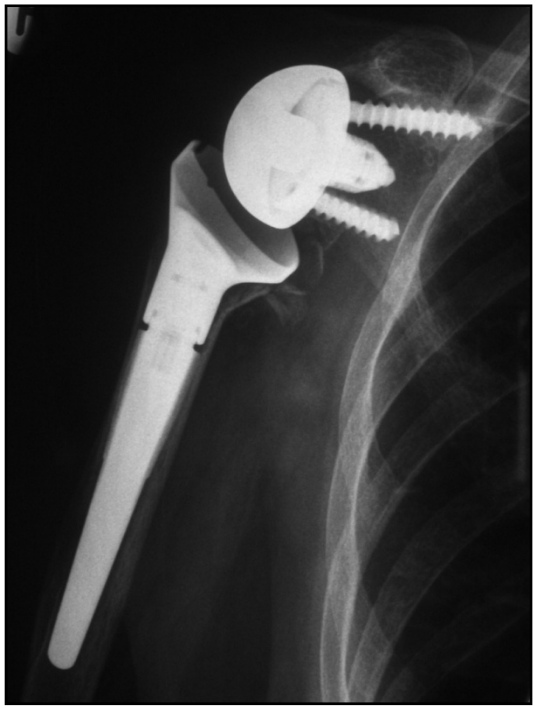
Reverse Total Shoulder Arthroplasty for 3 & 4 part Proximal Humerus Fractures (in patients over the age of 70)



ICSES, Edinburgh, 2010

Epworth

Southern Health

MONASH UNIVERSITY

Reverse Total Shoulder Arthroplasty for 3 & 4 part Proximal Humerus Fractures (in patients over the age of 70)

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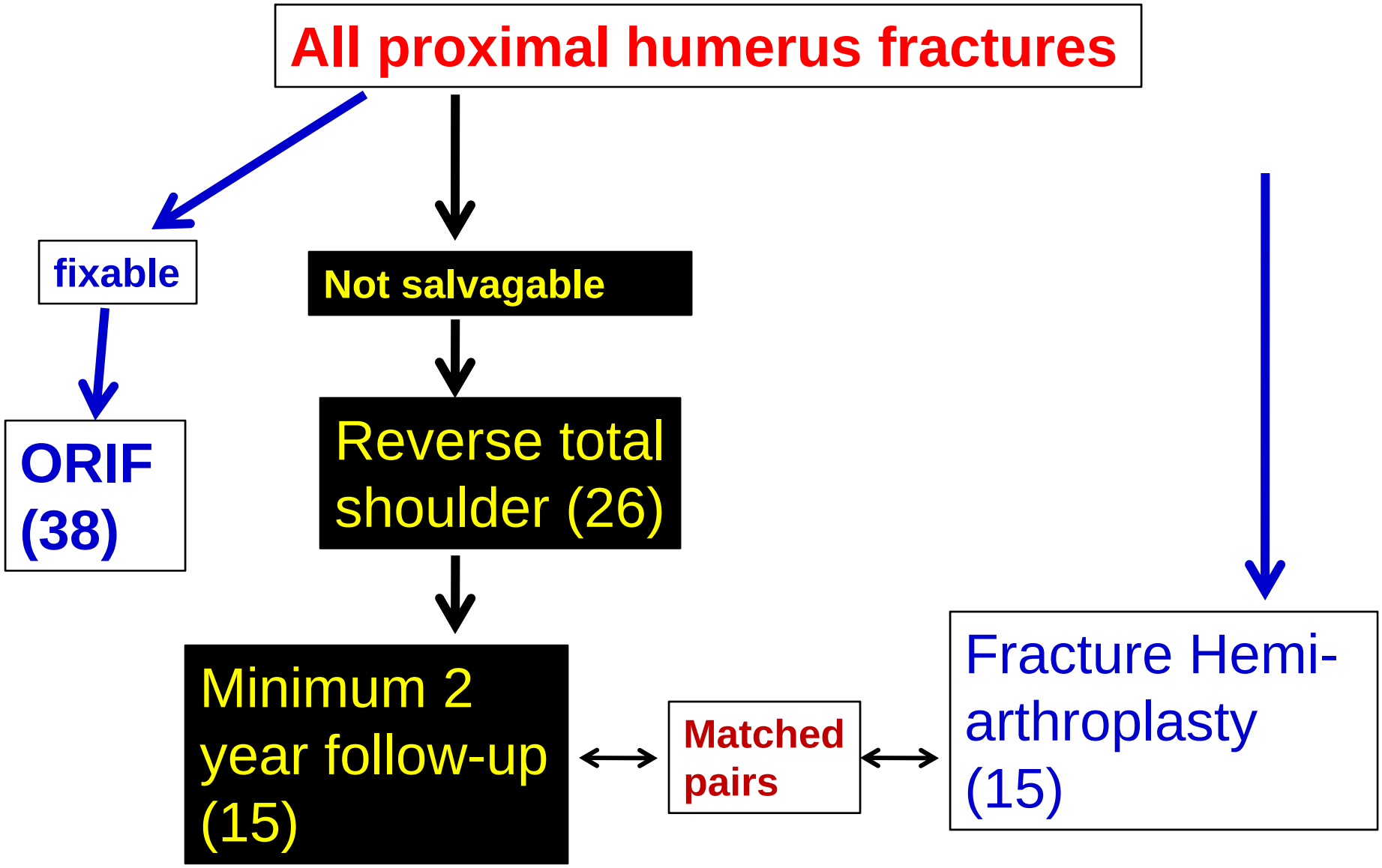
Epworth RTSR Study

- 15 consecutive primary RTSR for fractures
- Patients over 70
- 3-4 part non-re-constructible fractures

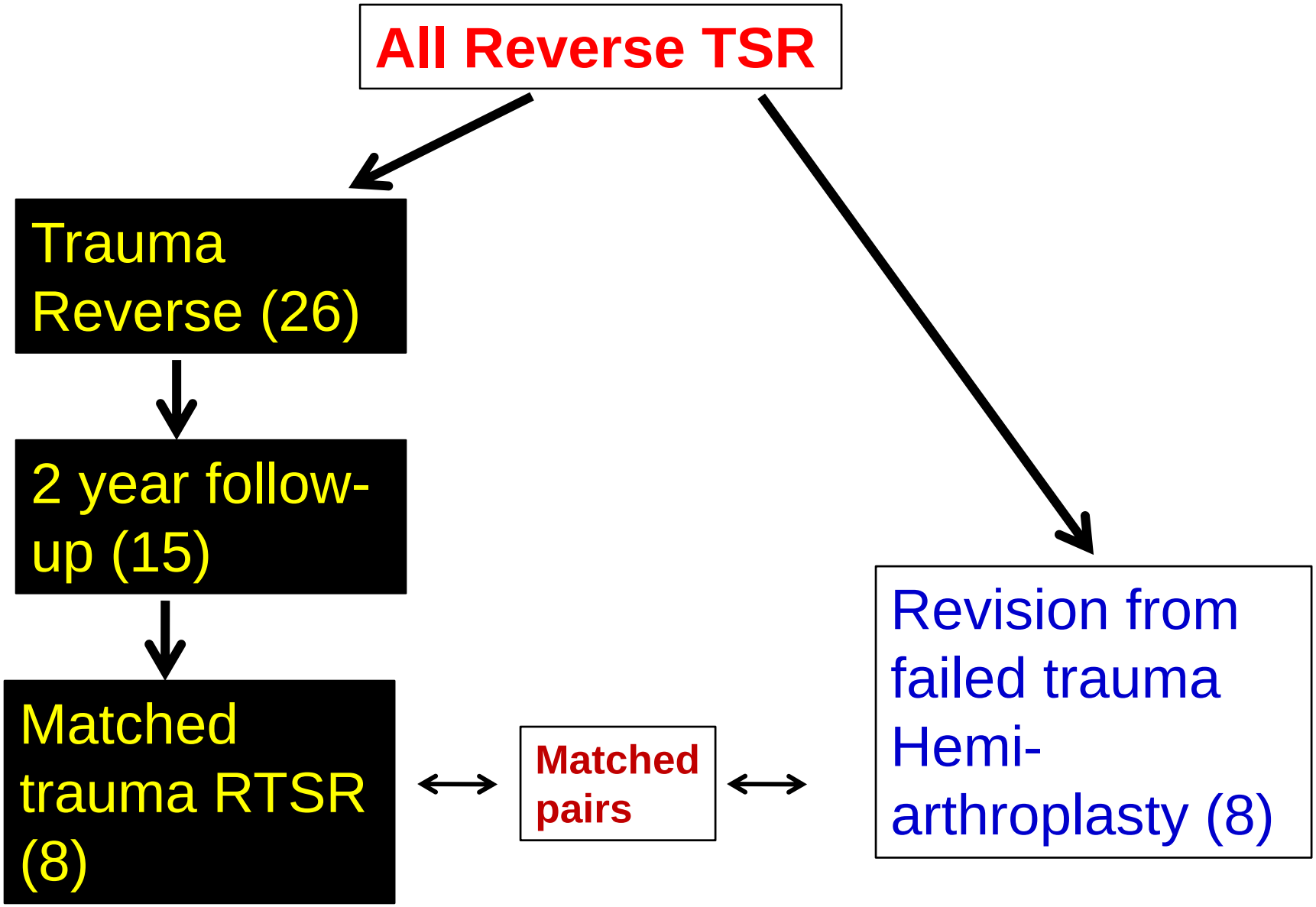
- Single surgeon

- Antero-superior approach (McKenzie)

Epworth shoulder fracture study – 2005

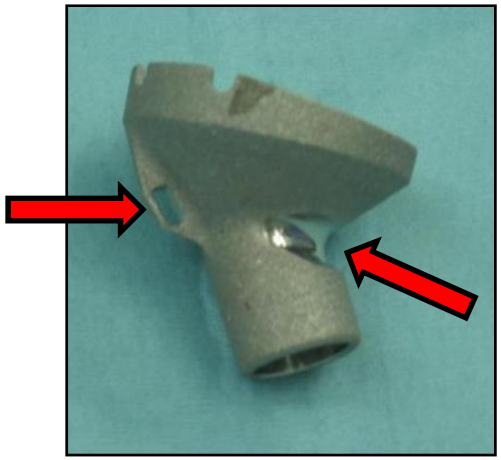


Epworth shoulder fracture study – 2003



The study - Implants

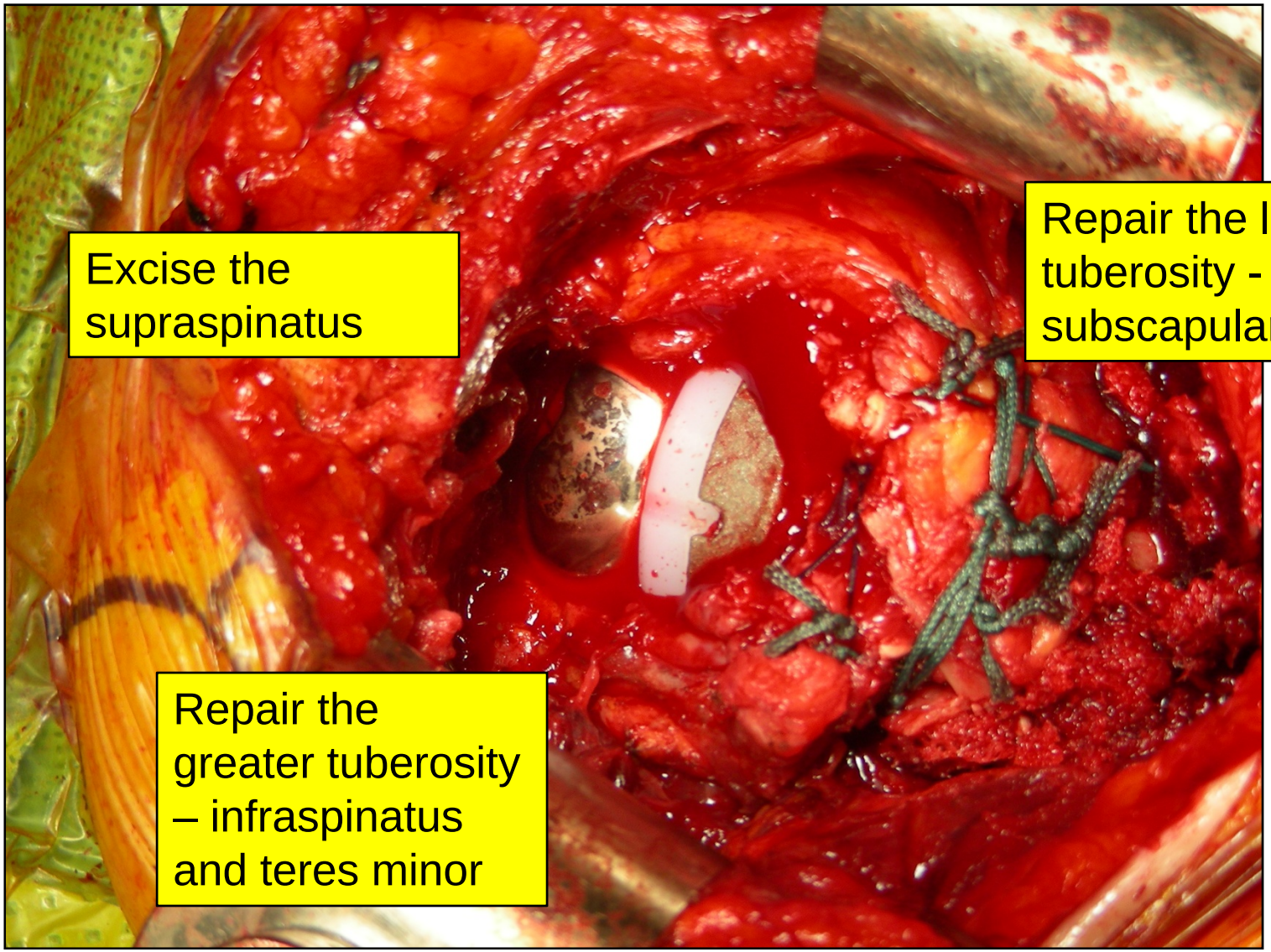
- Reverse prostheses
  - Grammont type
  - SMR – trauma body
- - cemented or press fit



- Hemi-arthroplasty series (SMR)

45° beach chair position with traction using the ‘Spider arm’ device

Tuberosity repair – Boileau technique



Rehabilitation

- Slower than ‘non-trauma’ primary reverse
- Sling and immobilizer for 2 – 4 weeks
- Allow for ‘scarring’

- No formal physiotherpy

- Self mobilisation per printed protocol

Outcome measures

- Visual analogue pain scale

- Range of motion
- Constant scores

- Dislocation rates
- Revision rates

Radiological outcomes

- Tuberosity union

- Nerot - Sirveaux notching scale
- Glenoid loosening
- Humerus stem loosening

- Impending revision

Results @ 2 yr

- Average age – 82 (72 – 89)
- Visual analogue pain scale (0-1) (painfree)

- Constant score – 62

- Range of motion
- Forward elevation = 132 deg (170 - 90)
- Abduction = 128 deg (150 - 85)
- Hand to mouth – 15/15

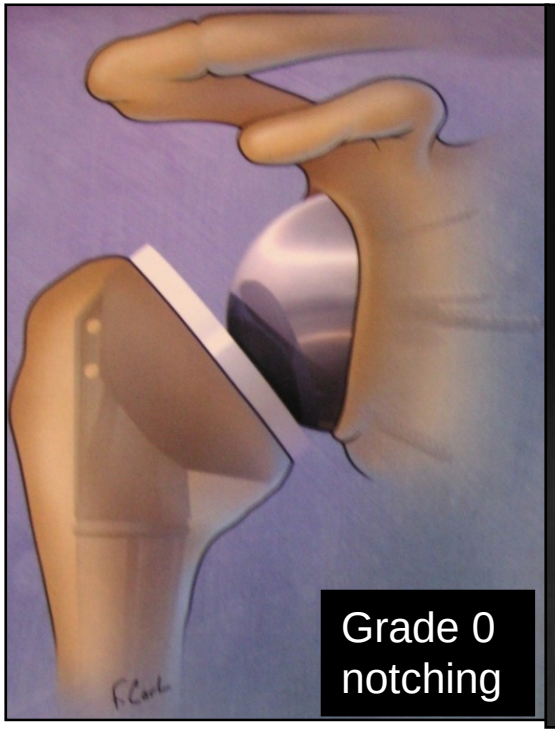
Results @ 2 yr

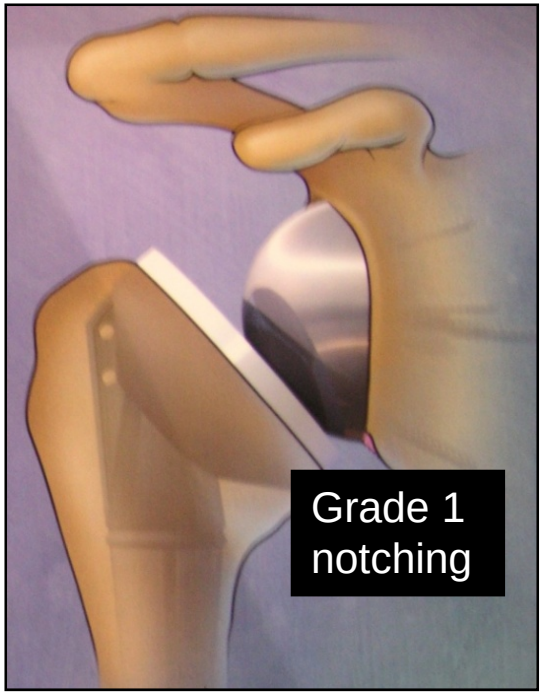
- Dislocations = 0
- Revision rate = 0

- Cases awaiting revision = 0

- All patients were satisfied with their results
- 5/15 wanted better function - FE
  (< 100 deg FE)

Glenoid notching - Nerot / Sirveaux



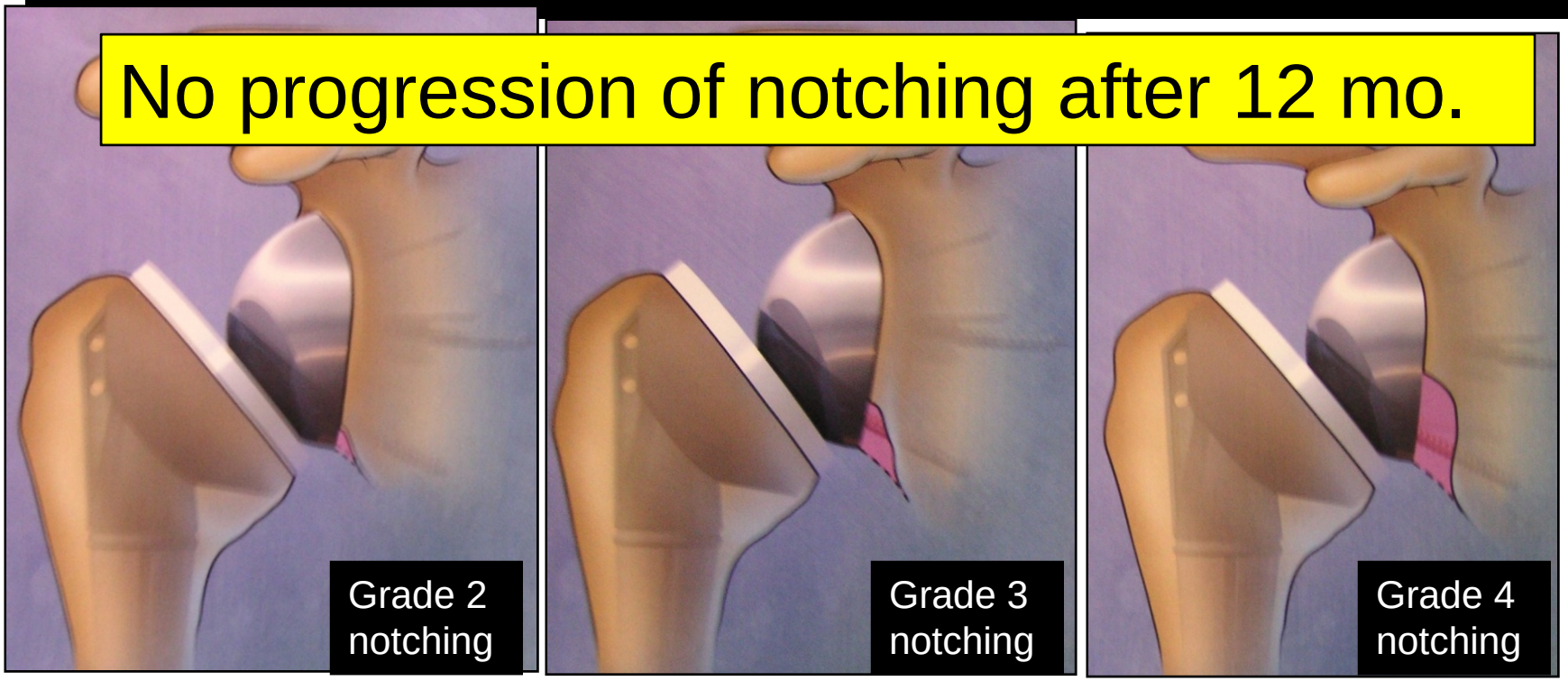


Grade 0 – no notch (7)

Grade 1 – small notch (4)

11 /15 had no notching or minor notching

Glenoid notching - Nerot / Sirveaux



Grade 2 – notch with condensation (stable) (3)

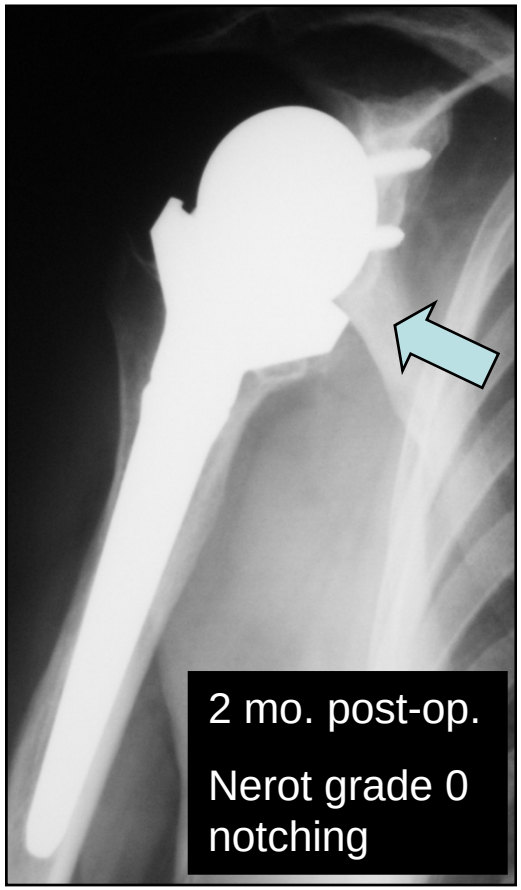
Grade 3 – erosion to inferior screw (1)

Grade 4 – erosion to peg +/- early glenoid loosening (0)

Glenoid Notching

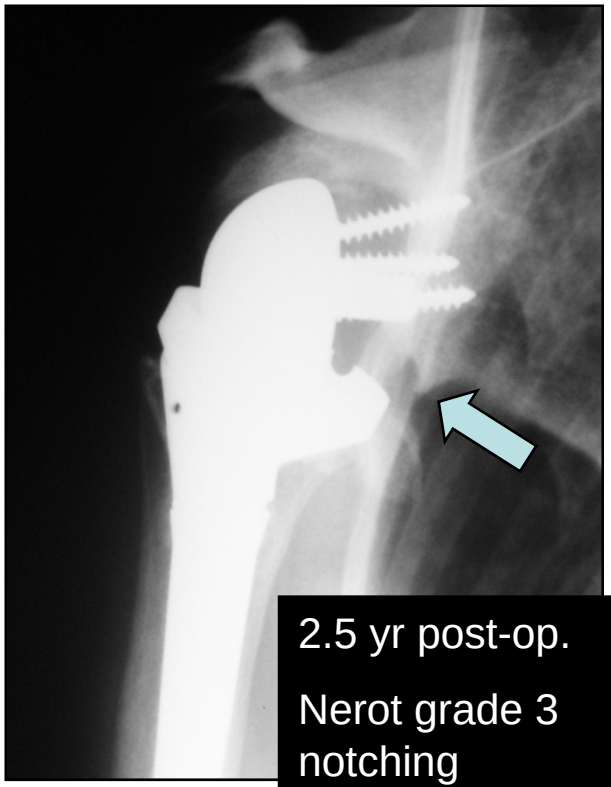
Case 2: AS, 78 year old female with four part fracture dislocation of right shoulder:

Painless notching, stabilized after 12 mo., with no deterioration in range of motion



2 mo. post-op.

Nerot grade 0 notching

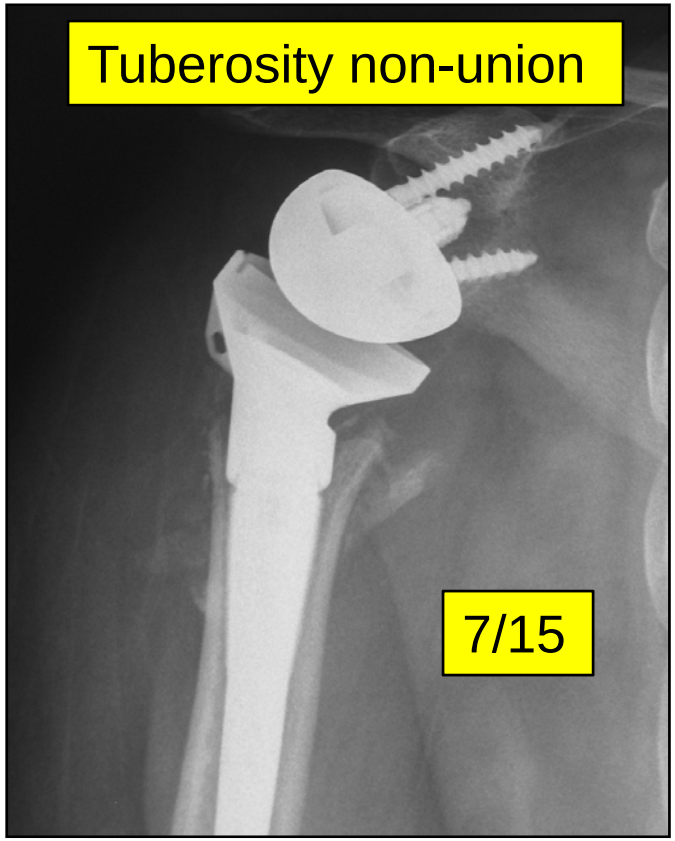


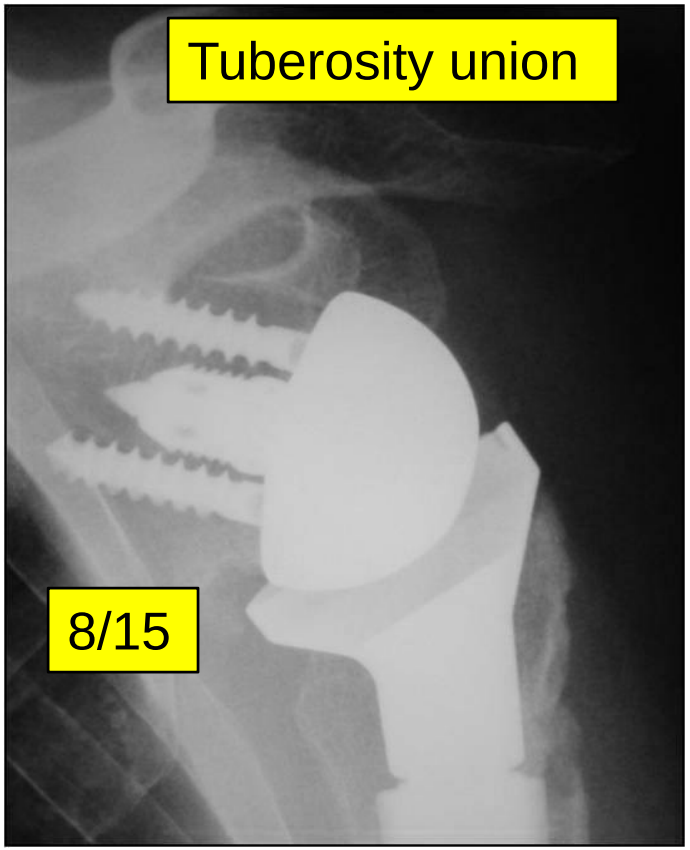
2.5 yr post-op.

Nerot grade 3 notching

2.5 yr post-op.
170 deg elevation

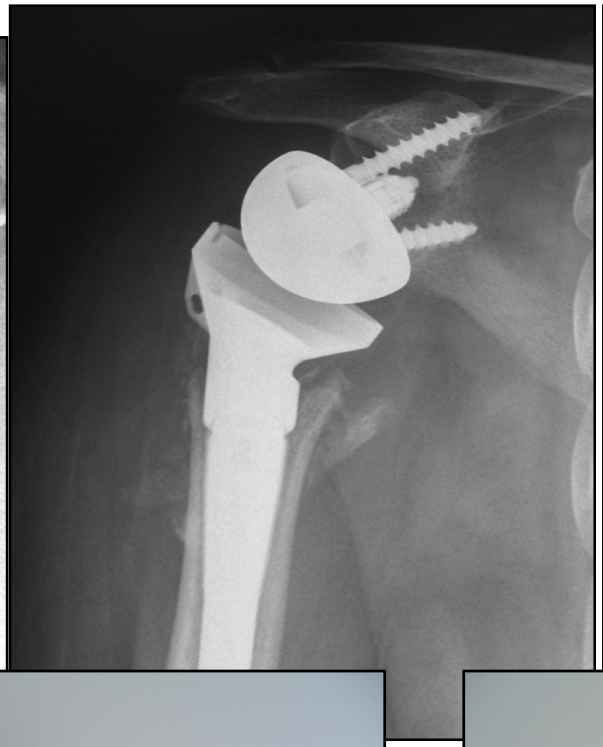
Tuberosity union v/s non-union

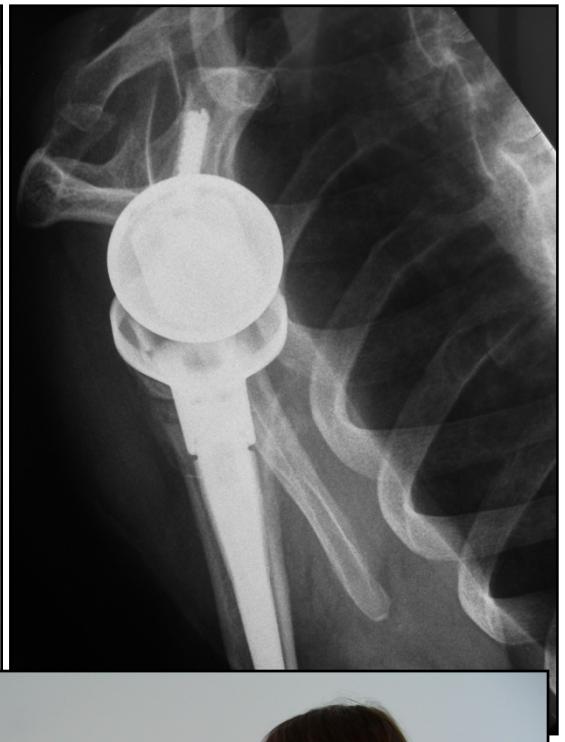




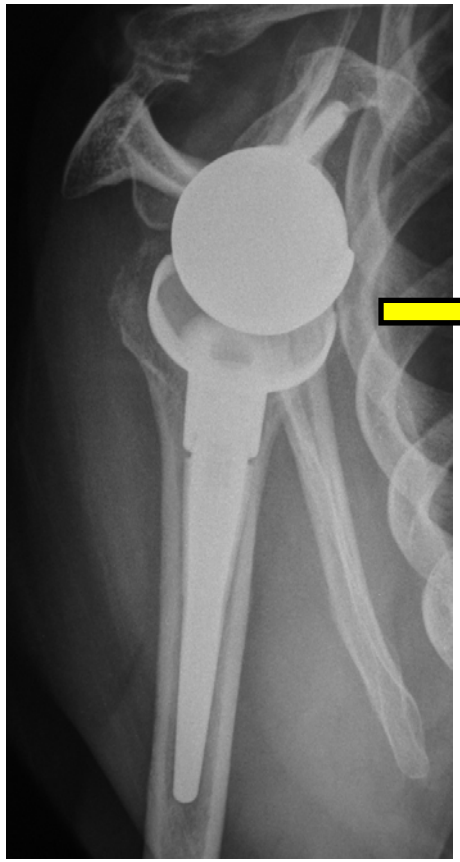
ER by the side – 30 v/s 36 (p=0.6)
ER in abduction – 24 v/s 28 (p=0.8)
Constant scores – 56 v/s 68 (p=0.1)

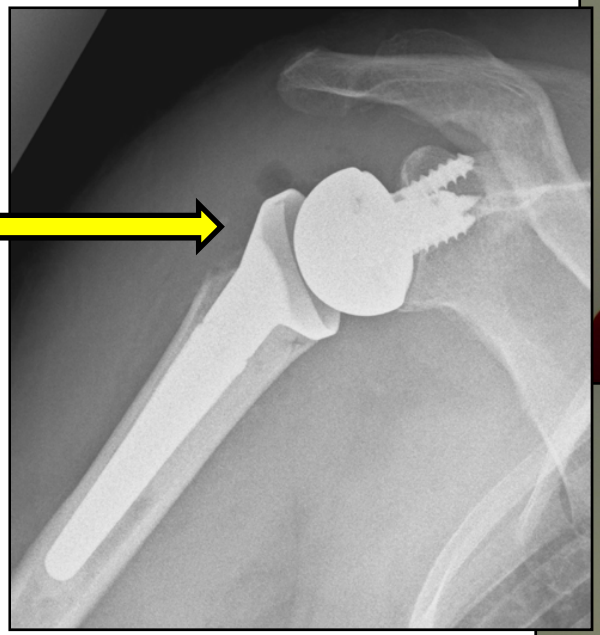
Contra-lateral upper and lower limb ‘Polio’



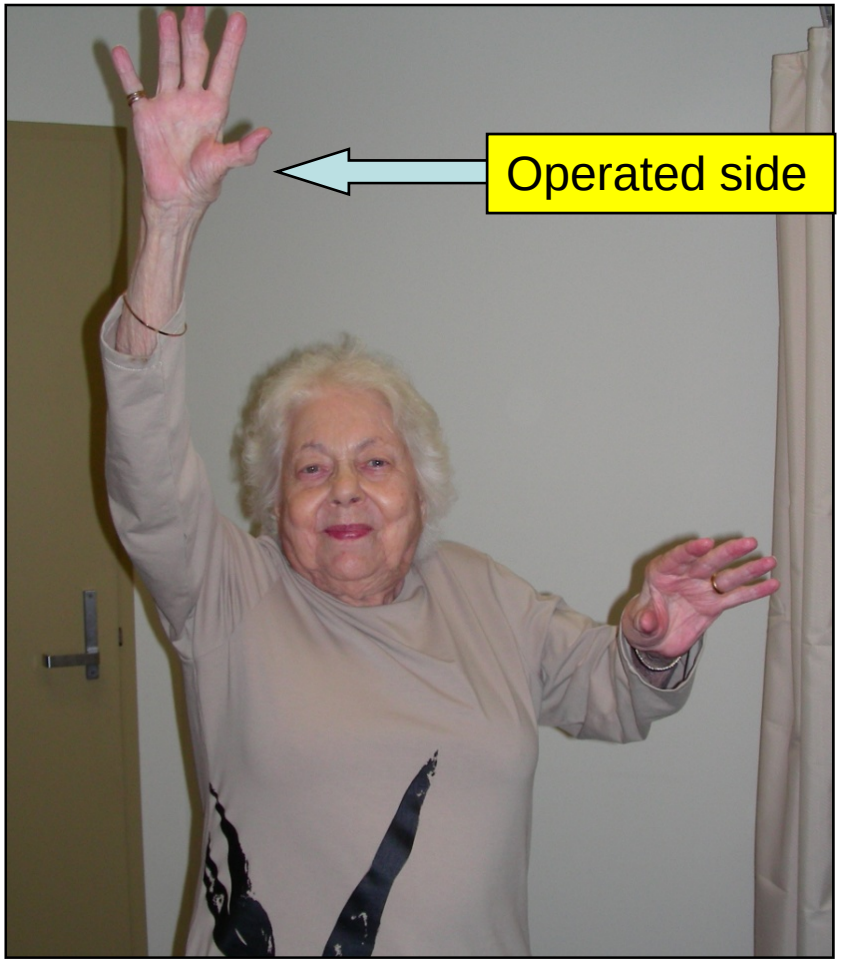


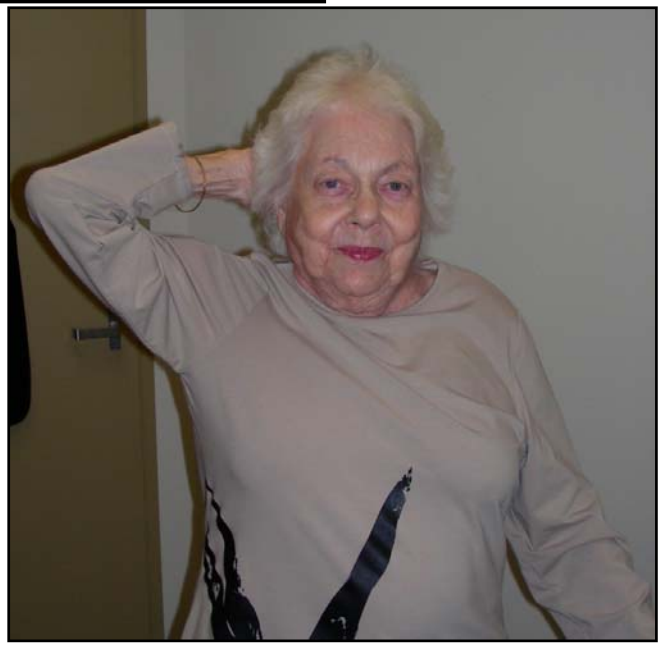
85 year old lady; lives in a hostel; CTA opposite shoulder



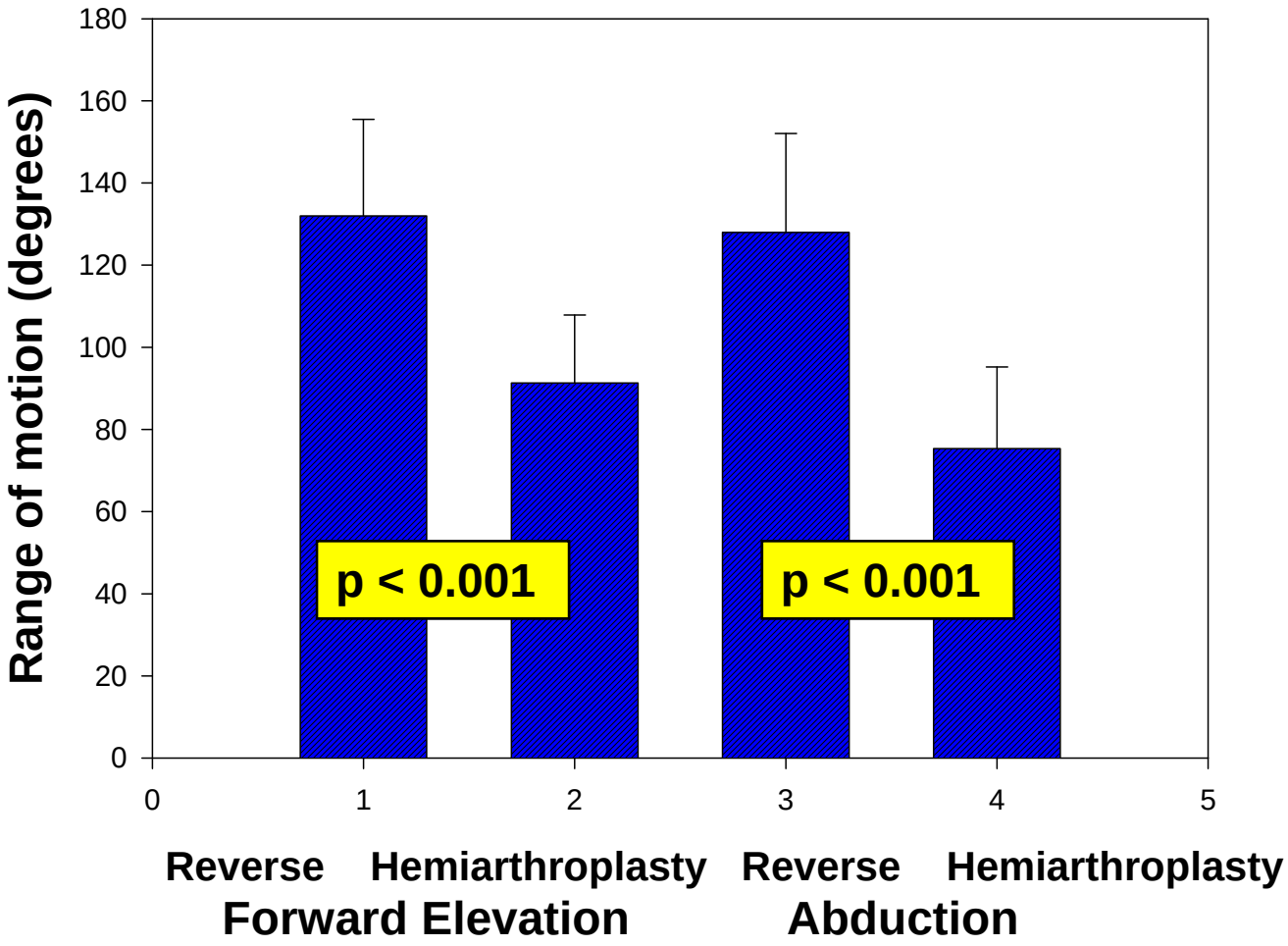


Results at 24 month review

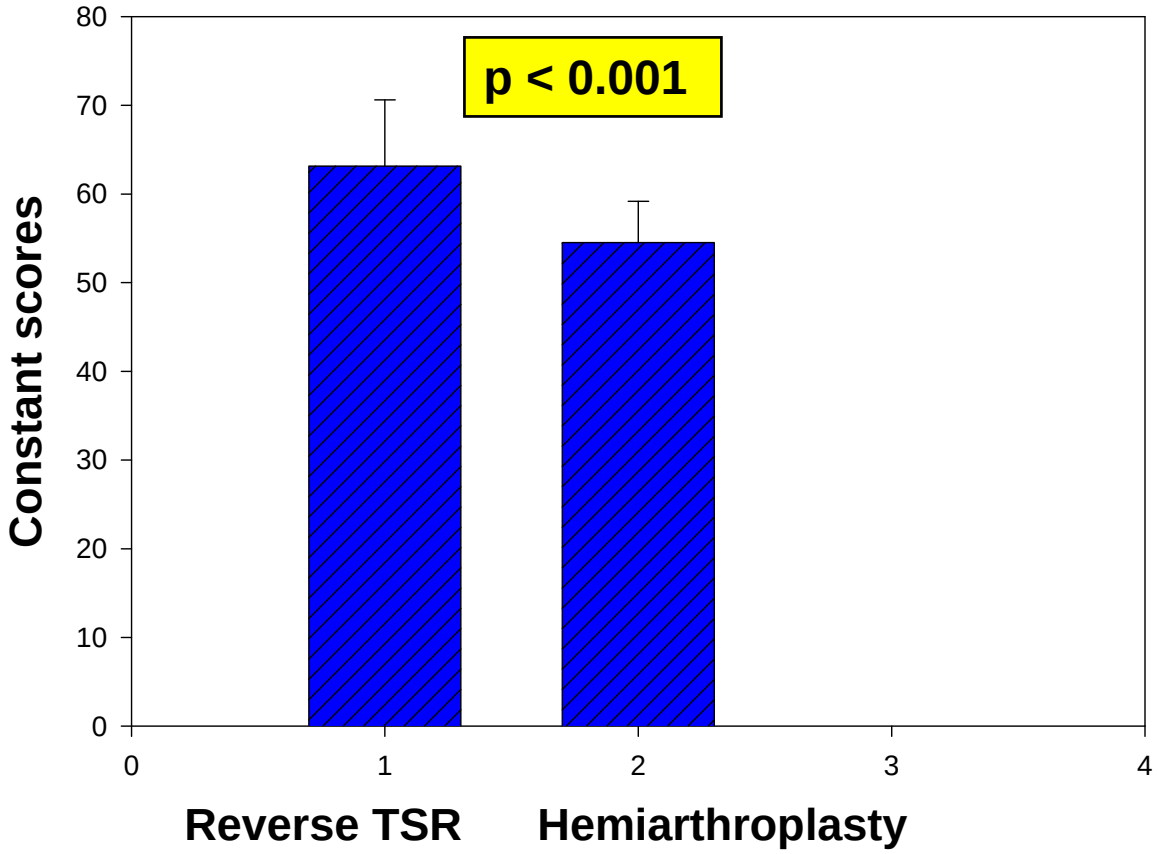




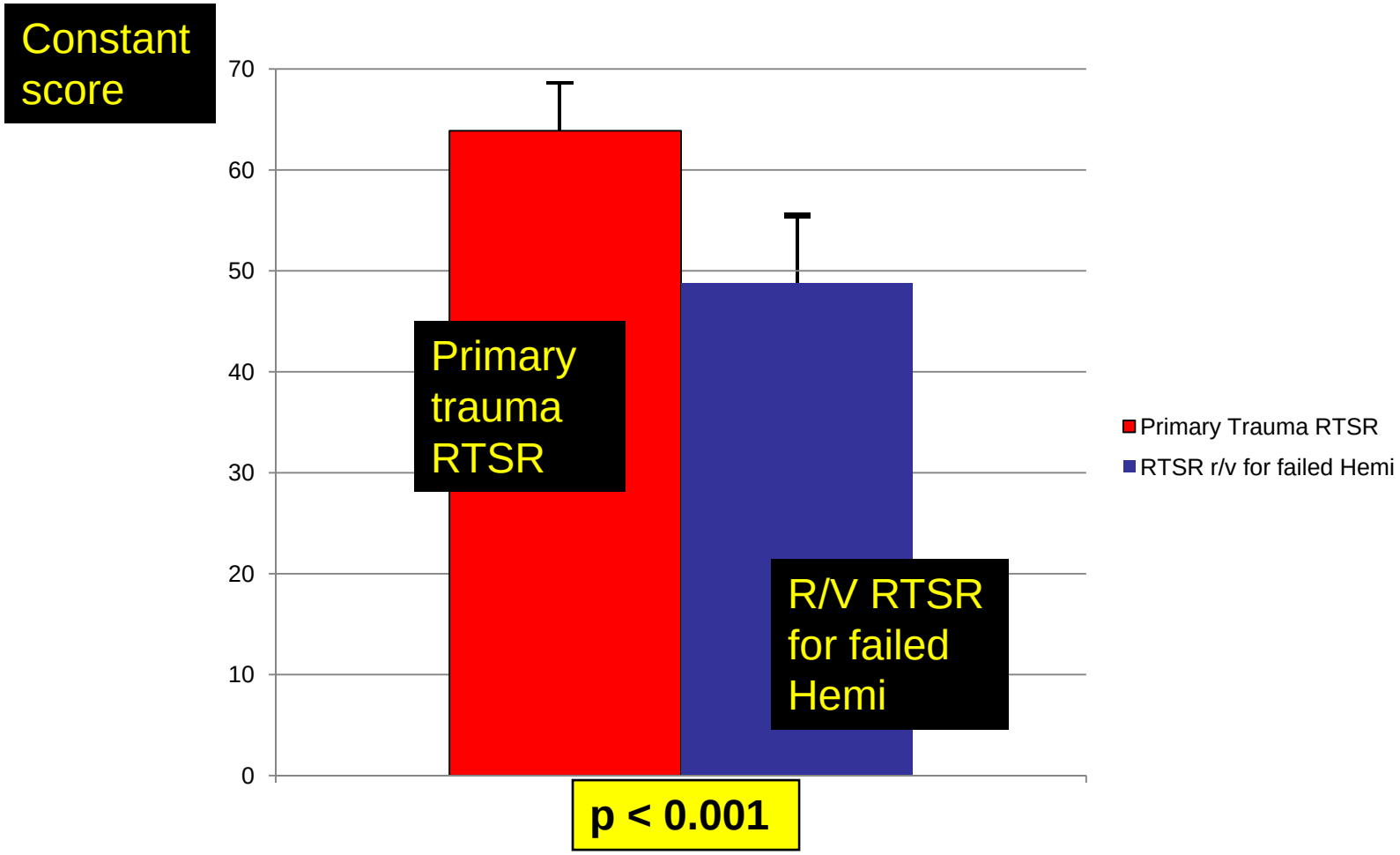
Range of Forward Elevation and Abduction
Reverse TSR vs Hemiarthroplasty



Constant scores: Reverse TSR vs Hemiarthroplasty for trauma



Primary v/s Revision RTSR



Conclusions

- RTSR for trauma in the elderly
- Reliable operation
- Easy to rehabilitate
- Reproducible results
- Results do not deteriorate with time

Future

- Need longer follow-up
- Ethics approval for
  Prospective Randomised Study
  RTSR v/s Hemiarthroplasty
- Arthroplasty v/s ORIF
  (unethical to randomise)