

Mid-term results of the treatment of complex acetabular fractures with combined acute fixation and total hip replacement in the older patient.

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Introduction

Some displaced fractures of the acetabulum are difficult to manage and early failure as a result of arthritis or mal/non-union can be predicted by both patient characteristics and the fracture pattern when treated with open reduction internal fixation (ORIF).

Complex acetabular fractures often occur in the elderly population even with low energy mechanisms.

The aim of this study was to describe the surgical management of these patients with clinical and functional outcomes at medium term follow up.

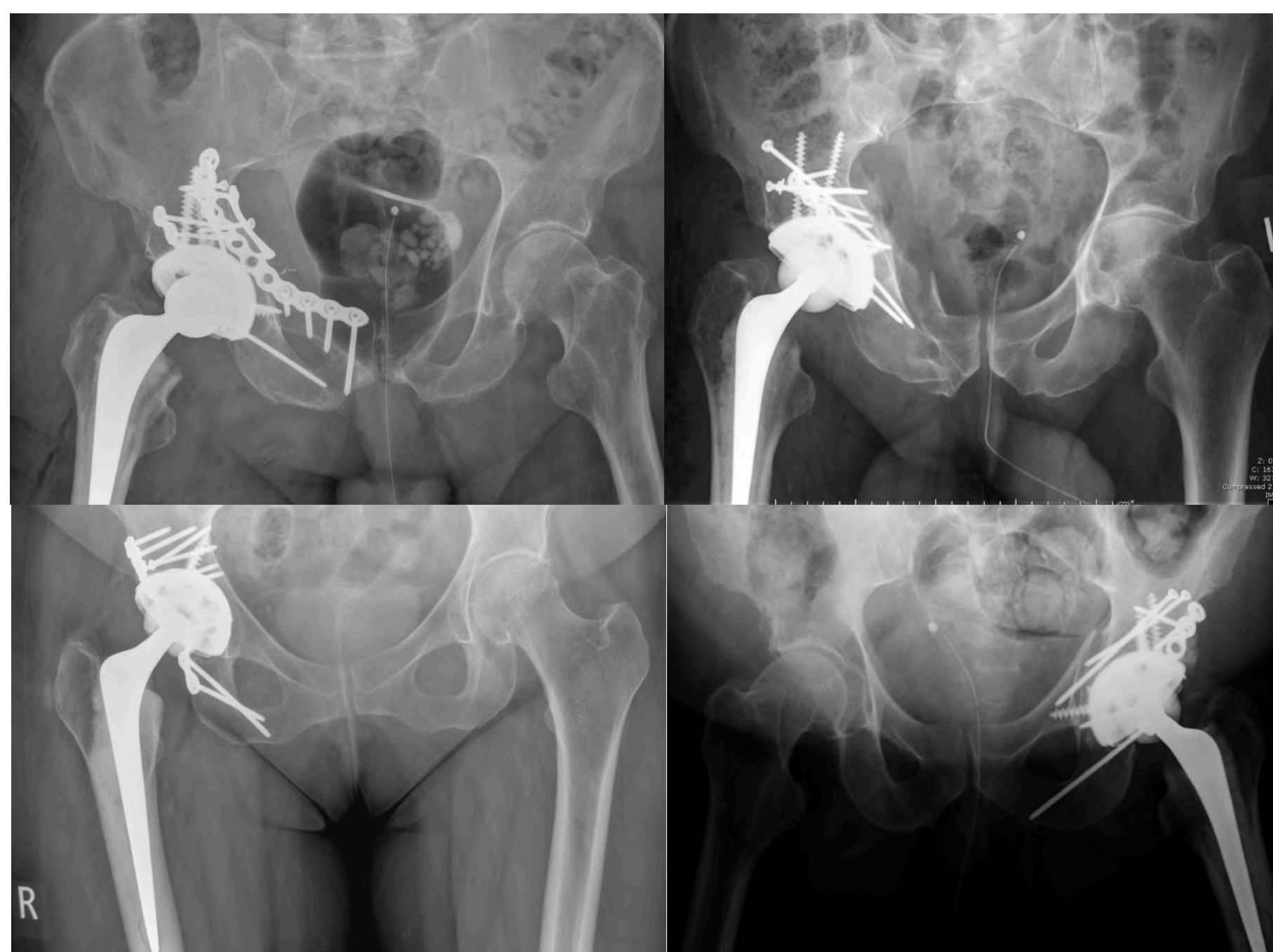


Figure 1 – Acute THR + ORIF examples

- a) AIP + Kocher Langenbeck approaches - Suprapectineal plating + posterior column plating + THR
- b) Kocher-Langenbeck approach – posterior column plating + THR
- c)&d) Kocher-Langenbeck approach – posterior column plating + screw fixation of anterior column + THR

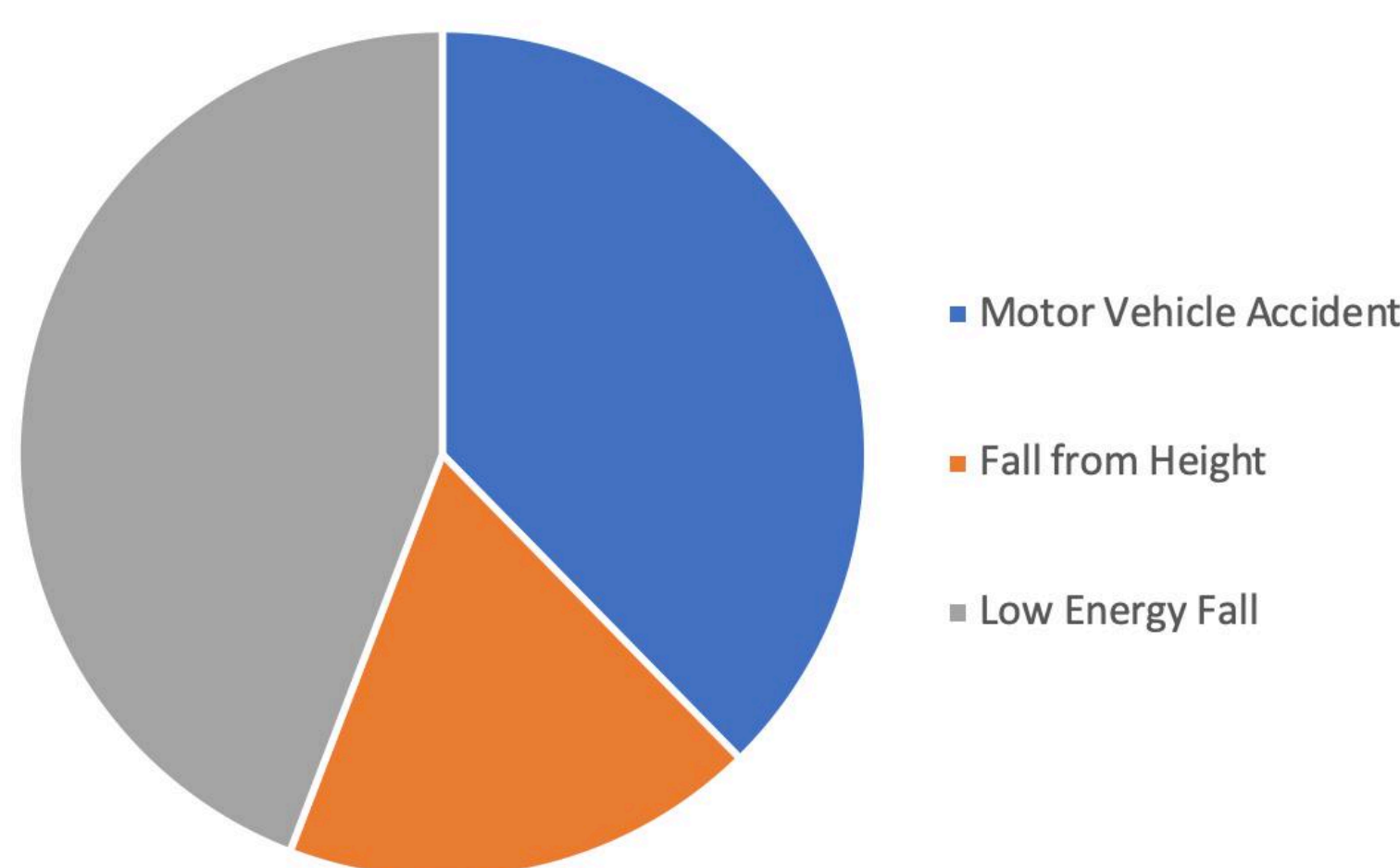


Figure 2 – Mechanism of injury

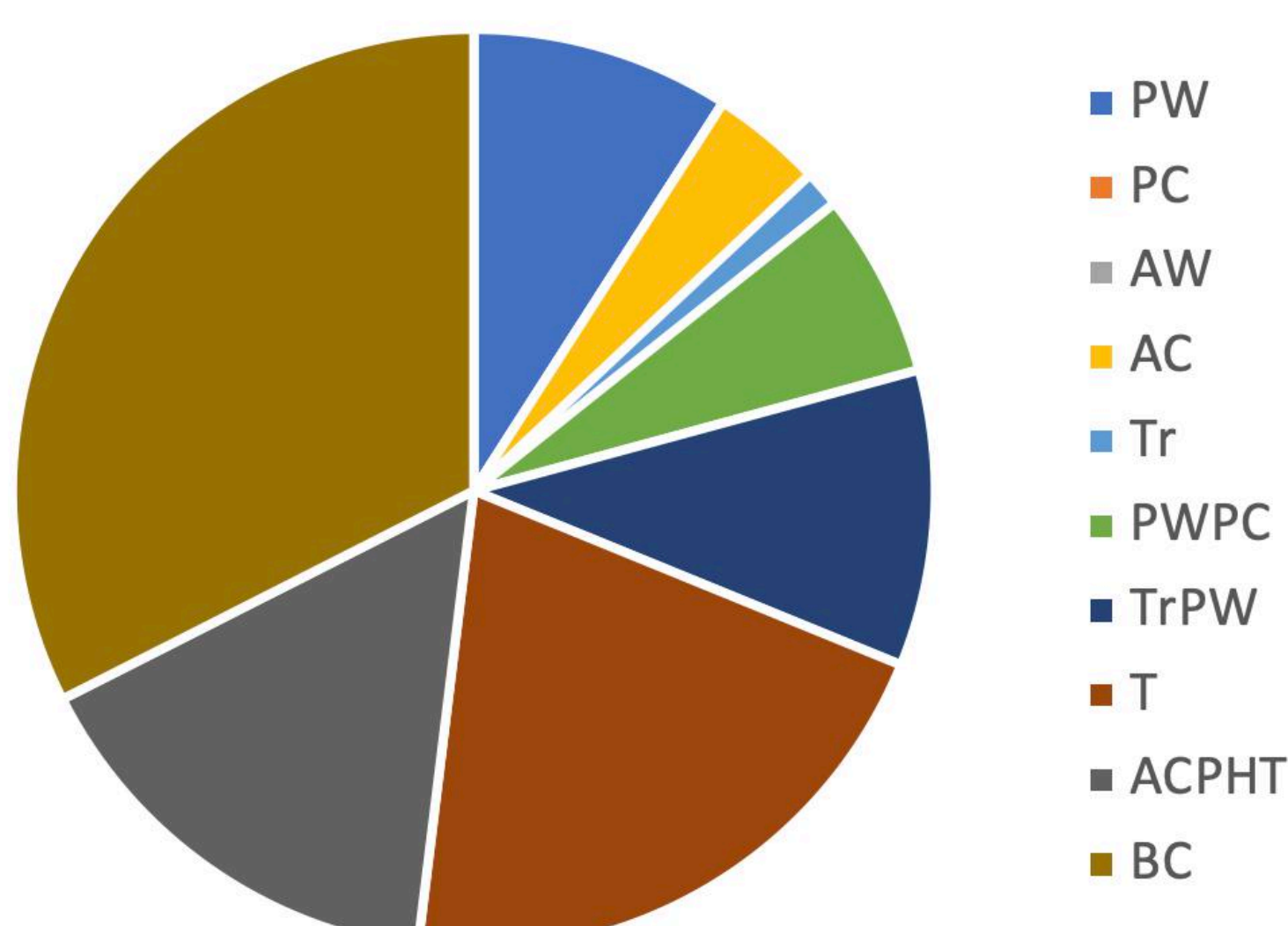


Figure 3 – Fracture pattern

Methods

Consecutive patients undergoing acute ORIF + THR (Hybrid) under the care of the specialist pelvic trauma service at North Bristol NHS Trust were identified.

Patient demographics, fracture classification, complications, radiographic, clinical and patient reported (eQ5D-5L, Oxford Hip Score) were collected.

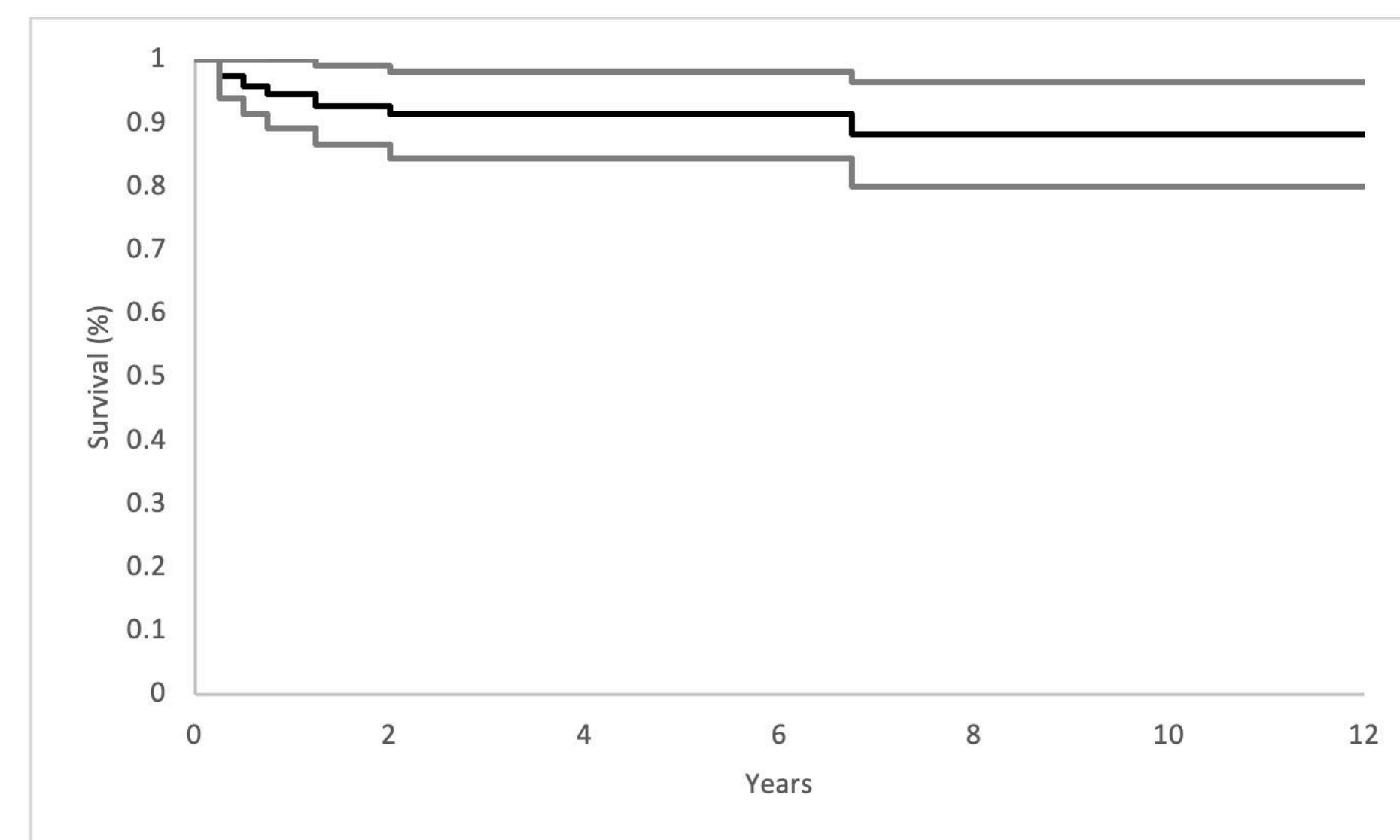


Figure 4 – Kaplan-Meier Curve including 2 standard deviations.

Results

Mean age – 67 (42-90)

Mean Follow up – 5 years (2-12) (1.7-9)

2.1:1 – Male:Female

Median Oxford Hip Score – 44 (IQR 38-48)

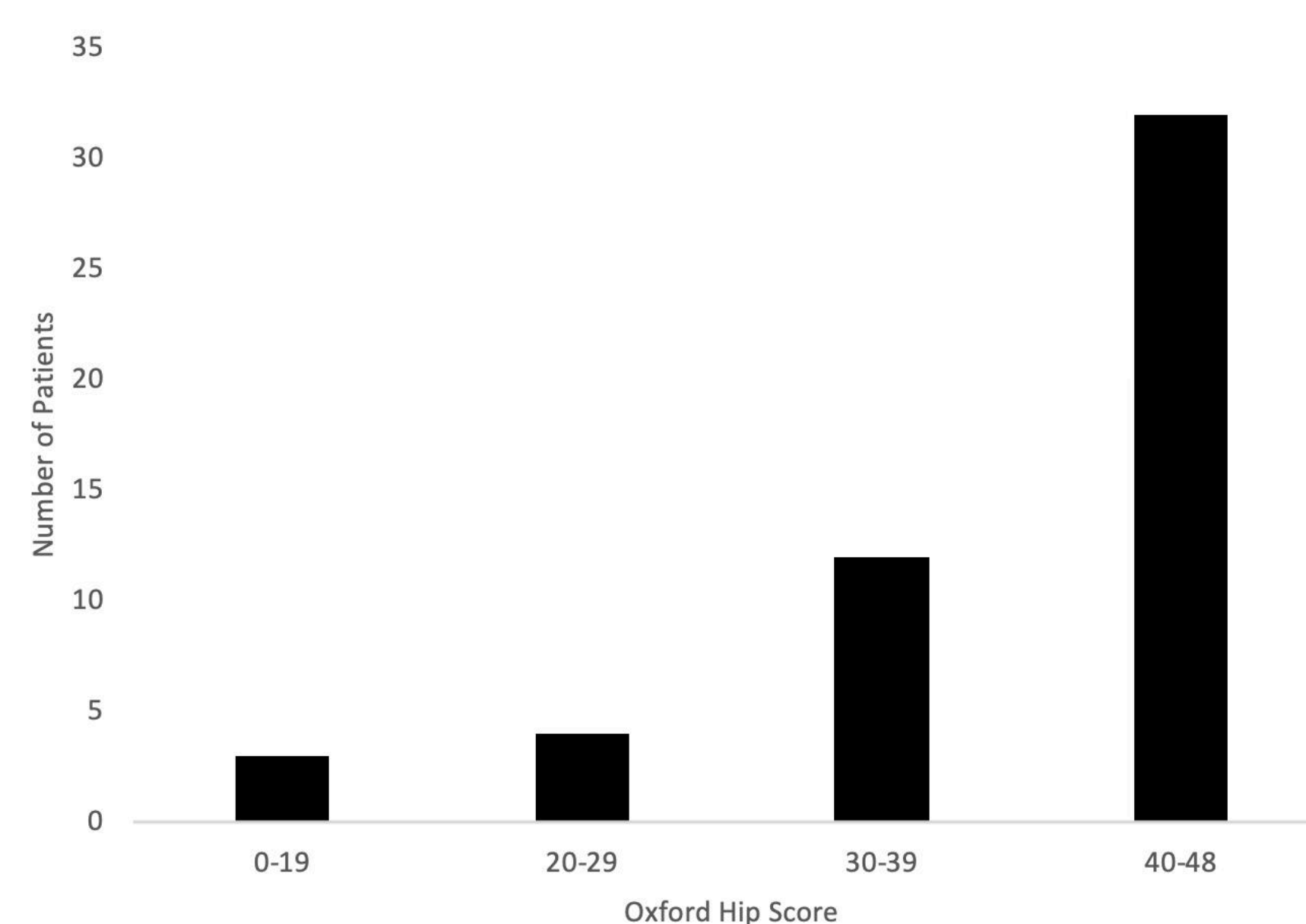


Figure 5 – Oxford Hip Score (51 patients completed PROMS)

| Complication | Number |
|-------------------------|--------|
| Revision | 7 (9%) |
| Aseptic | 2 (3%) |
| Infection | 3 (4%) |
| Dislocation | 2 (3%) |
| DVT/PE | 3 (4%) |
| Partial Sciatic Paresis | 1 (1%) |
| Dislocation | 4 (5%) |
| Mortality 28 days | 1 (1%) |
| Mortality 1 yr | 3 (4%) |

Figure 6 – Complications encountered (number (%)/n=77)

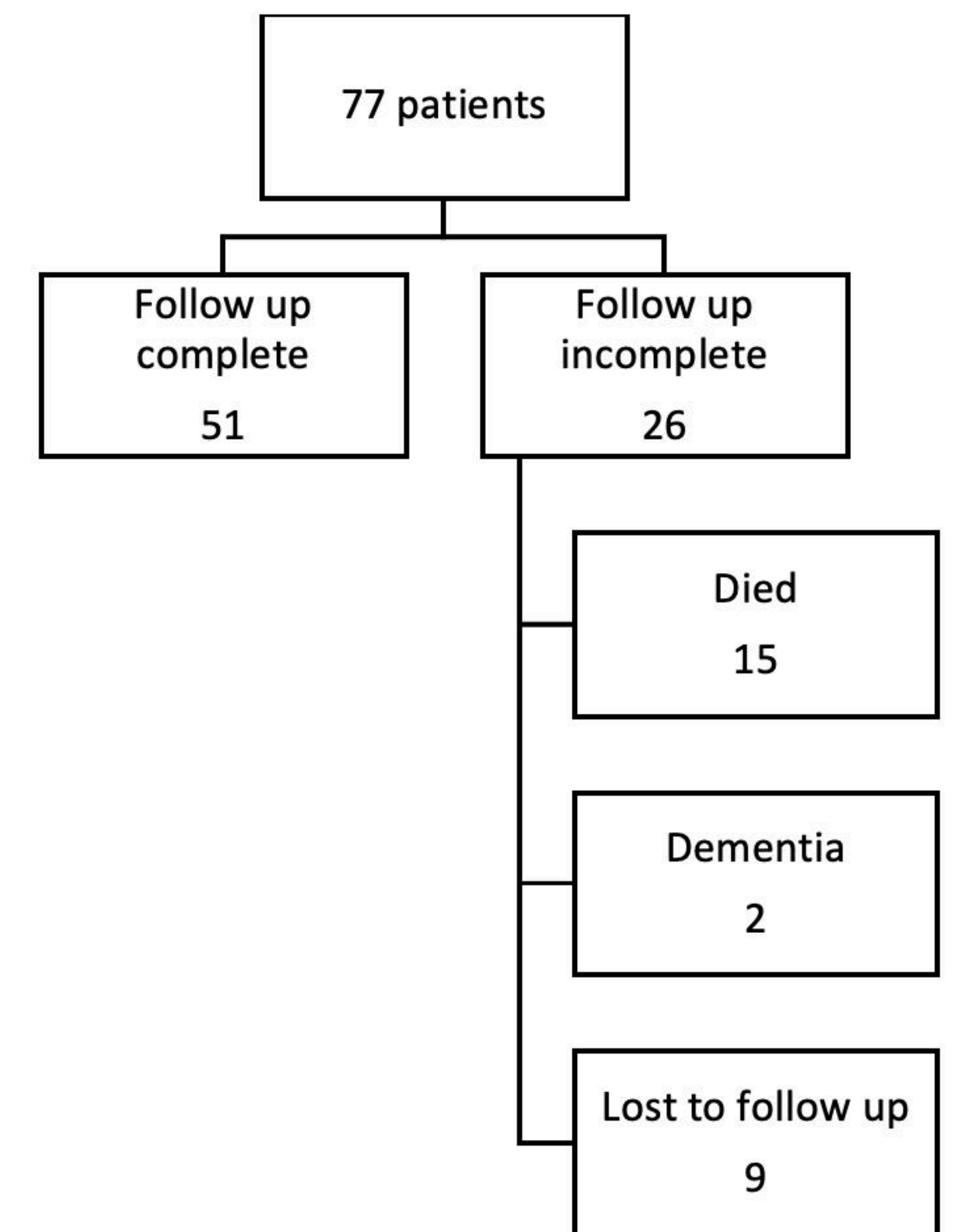


Figure 7 – Chart showing follow up issues

Conclusion

Functional outcome scores are equivalent to primary THR completed for osteoarthritis and fractured neck of femur however there is an increased rate of complications including revision surgery.

Complication rates are similar to patients undergoing early and late THR for staged acetabular fixation followed by THR.

The combined fix and replace approach represents a safe and attractive functional option for this difficult fracture type, when performed in a specialist centre by Orthopaedic Surgeons dual trained in Orthopaedic Trauma and Adult Reconstruction.

Disclosures

- Stryker
- Consultancy
- Education and Training
- JRI
- Design panel for Acetabular Revision System