

Instability Is Rare Following Open Reduction and Internal Fixation of Femoral Head Fractures

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Purpose: Femoral head fracture-dislocations routinely have posterior capsule injuries or posterior wall fractures. Some surgeons cite posterior access as justification for trochanteric osteotomy for open reduction and internal fixation (ORIF). Our preference is for ORIF followed by examination under anesthesia (EUA) to confirm stability prior to leaving the operating room (OR) with separate posterior exposures only in the event of unstable EUA. Our goal is to evaluate the rate of unstable EUA following femoral head ORIF without posterior injury repair. A secondary goal is to identify hip survival with this treatment algorithm. We hypothesize that instability is rare following ORIF of the femoral head and the proposed benefits of trochanteric osteotomy may be overemphasized.

Methods: This retrospective review identified 25 patients with femoral head fractures surgically fixed with anterior Smith-Petersen approach with rectus femoris tenotomy. Demographic, injury, and outcomes data were obtained. The main outcome of interest was instability on EUA following fixation of the femoral head requiring separate posterior exposure. Our secondary outcome was hip survival defined as reoperation or conversion to total hip arthroplasty (THA). Comparisons were made using Pearson's χ^2 test.

Results: There were 13 Pipkin Type II fractures, 2 Type III fractures, and 9 Type IV fractures. Pipkin IV fractures were included only if ORIF of posterior wall was not planned prior to EUA. 20 patients had EUA following fixation of the femoral head and none demonstrated intraoperative instability. 5 patients were lost to follow-up after discharge. Mean follow-up from surgery was 61 weeks (range, 2-415; 95% confidence interval, 16-106). No patient required reoperation for latent instability. 3/25 (12%) were revised to THA at 436, 926, and 1168 days post-index operation.

Conclusion: Instability is rare in patients following ORIF of femoral head regardless of the posterior capsular or wall injury. EUA after femoral head ORIF may successfully identify any latent instability. Hip survivorship with this treatment protocol is similar to prior series. In some patients, trochanteric osteotomy for posterior injury access may be unnecessary.