

Long-Term Outcome and Reoperation Rates After ORIF of Distal Femoral Fractures in Patients Older than 60 Years

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Purpose: Distal femoral fractures in patients older than 60 years are challenging fractures to treat and several authors have proposed distal femoral replacement as a primary treatment option for management of these injuries. Our hypothesis is that patients over age 60 with distal femoral fractures have long-term outcome scores after open reduction and internal fixation (ORIF) that are acceptable in comparison to knee arthroplasty outcomes and have an overall low conversion rate to total knee arthroplasty.

Methods: A retrospective review of a prospectively collected billing database was conducted for all patients who underwent ORIF of an acute distal femur fracture and were also over 60 years of age at a single Level I urban trauma center. The study period was 2007 to 2015, and only patients who had healed or had at least 12 months of follow-up were included. The hospital records were reviewed and then all study patients were called by telephone using a standardized script. Our primary outcome measure was the Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) score as it has well established comparative values in knee arthroplasty literature. Our secondary outcome was the occurrence of any secondary surgeries. The study group consisted of 116 patients of whom 68 were able to be reached for WOMAC score evaluation. The average age was 71.1 years (range, 60.4 -91.6), 78% were female, and 50% were periprosthetic fractures around a prior arthroplasty. Average follow-up was 3.2 years.

Results: The average WOMAC score for the 68 patients who could be contacted was surprisingly good at 22.3 (95% confidence interval [CI]: 19.2 to 25.1; pain 5.98, stiffness 3.26, function 13.02). Overall WOMAC scores did not differ based on whether the fracture was periprosthetic (24.1) or non-periprosthetic (20.4, $P = 0.26$ Student t test). Of note, 22 (32.3%) of the original cohort of 68 patients required return to the operating room for the treatment of a complication related to their fracture treatment. Reasons for repeat surgery included nonunion (16.2%, 11 of 68), deep wound infection requiring return to the operating room (4.4%, 3 of 68), and symptomatic hardware removal (10.3%, 7 of 68). Only 2.9% (1 of 34) of the patients with native knees were converted to total knee arthroplasty (TKA) during the follow-up period.

Conclusion: In patients over 60 years of age with ORIF of a distal femur fracture, conversion to TKA was rare and WOMAC scores are surprisingly good. Our study is the first to report WOMAC functional scores of these patients and these scores are comparable to those found in most series of patients who have had a TKA for osteoarthritis (typical WOMAC near 20). However, nonunion rates continue to be high as to overall need to return to the operating room for prominent implant removal or infection.