

Age Predicts Ambulatory Status Following Periprosthetic Distal Femur Fracture*John Ruder, MD¹; Gavin Hart, MD¹; Bryan Springer, MD²; Madhav Karunakar, MD¹*¹*Carolinas Medical Center Charlotte, North Carolina, USA;*²*OrthoCarolina Hip and Knee Center, Charlotte, North Carolina, USA*

Purpose: Treatment options for periprosthetic distal femur fractures include open reduction and internal fixation (ORIF) and distal femoral replacement (DFR). The purpose of this study was to evaluate the complications and functional recovery (ambulatory status, living situation, mortality) in patients undergoing operative treatment (DFR and ORIF) of periprosthetic distal femur fractures.

Methods: A retrospective review of 58 patients with distal femoral periprosthetic fractures treated with either ORIF or DFR was conducted. Outcomes included complications, discharge disposition, ambulatory status and living situation at 1 year, and 1-year mortality. Outcomes at 1 year were also compared between patients older and younger than 85 years of age.

Results: 58 patients with a mean age of 80 years (range, 61-95) met inclusion criteria. The mean follow-up was 29.5 months (range, 5-81). Patients undergoing DFR were significantly older than those who underwent ORIF (83 vs 78, $P < 0.01$). The 1-year mortality rate was 20.6%. There was no difference between groups with respect to mortality, complications, discharge disposition, or ambulatory status and living situation at 1 year. Patients who lost the ability to ambulate at 1 year were significantly older than patients who maintained the ability to ambulate (87.5 vs 76.4 years, $P < 0.05$). Patients over the age of 85 were more likely to lose the ability to ambulate and to live in a skilled nursing facility at 1 year ($P < 0.01$).

Conclusion: Distal femoral periprosthetic fractures have a high morbidity and mortality. Age at time of injury, not treatment rendered, is predictive of functional outcomes with periprosthetic distal femur fractures.