

Early Weight Bearing After Distal Femur Fractures in the Elderly: A Prospective, Cohort Pilot Study

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Purpose: This study was conducted to determine if early weight bearing in distal femur fractures in the geriatric population maintains fracture reduction and allows early return to function.

Methods: We performed a prospective cohort pilot study (NCT #02475941) involving 5 Level-I trauma centers. Patients 65-90 years of age with an OTA 33 distal femur fracture were eligible for inclusion. All patients were household ambulators or higher at time of the injury. The patients were treated with surgical stabilization. Following surgery the surgeon decided if patients would be weight-bearing as tolerated (EWB) or protective (toe-touch)/non-weight-bearing (PWB). Patients were followed at regular intervals clinically and with radiographs until healed. Complications were evaluated. The Oxford knee score was obtained. Analysis of variance was performed within each group to detect differences between time points. T-tests and χ^2 were performed to detect differences between the groups at each time point.

Results: There were 46 patients with an average age of 75. 11 years (24%) were in the EWB group. There were 8 with diabetes and 14 obese patients (body mass index [BMI] >35). There were 37 33A, 2 33B, and 7 33C fractures (9-0-2 EWB; 28-2-5 PWB). 5/11 in the EWB and 18/35 in PWB group had periprosthetic fractures. Most patients were treated with a knee immobilizer prior to surgery. 44 of 46 patients were injured in ground level falls. 42 patients were treated with locking plates and the majority had mostly nonlocking screws above the fracture. In the PWB group, 69% of patients were healed at 12 weeks and at 6 months; there were 2 hardware failures. One patient in the PWB group went on to revision surgery. In the EWB group, 64% were healed at 12 weeks and there were no hardware failures or additional surgeries. The average Oxford knee score was 37 (range, 17-47). There were no significant differences between the groups in any variables.

Conclusion: We investigated a prospect cohort of geriatric patients with distal femur fractures to determine efficacy of early weight bearing. Weight-bearing as tolerated as been proven in the hip, whereas the distal femur has been treated with non/protected weight bearing. We chose a prospective cohort design so the surgeon felt comfortable with wight-bearing choice after surgery in this patient population. The majority of surgeons chose PWB. Our results demonstrate EWB can be safely done in a small cohort study for geriatric distal femur fractures. Early mobilization has the advantage of a more rapid return to function for the geriatric patient with minimal complications. A randomized clinical trial could be useful in geriatric distal femur population.