

Operative Repair of Proximal Humerus Fractures in Septuagenarians and Octogenarians: How Old is too Old?

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Purpose: With an expected doubling of the geriatric population within the next 30 years it is becoming increasingly important to determine which elderly populations benefit from orthopaedic interventions. This study assesses postoperative outcomes in patients aged 70 years or greater with a proximal humerus fracture treated surgically in an attempt to enhance understanding of long-term outcomes in this patient population.

Methods: A retrospective chart review was conducted for 201 patients with fractures of the proximal humerus (OTA 11A-C) treated operatively by a single surgeon with open reduction and internal fixation. Data from 132 independent, active patients aged 55 years or older was identified and analyzed. 7 patients were excluded due to lack of sufficient follow-up. 47 patients age 70 years or older with proximal humerus fractures were identified with a mean age of 78 ± 5 years. Average length of follow-up was 19 months with follow-up ranging from 6 to 63 months. These patients were compared to a cohort of 78 patients aged 55-69 years with a mean age of 62 ± 3 years and average length of follow-up of 20 months (range, 6-72). All complications were recorded. Univariate analysis was conducted to assess for differences in DASH (Disabilities of the Arm, Shoulder and Hand) scores, range of motion, fracture severity, CCI (Charlson Comorbidity Index), and demographic information.

Results: 92% of patients achieved fracture union within 6 months. No significant differences were found between cohorts with regard to gender, fracture severity, or CCI ($P = 0.197$, $P = 0.276$, $P = 0.084$, respectively). DASH scores for patients aged 70 and older did not differ from patients age 55-69. No differences in shoulder range of motion were identified. There was no difference in complication rates either, with 10 complications in the older elderly cohort (21%), 6 of which required reoperation and 13 complications in the young elderly cohort (17%), 8 of which required reoperation.

Conclusion: Operative fracture repair using locked plating of the proximal humerus in septuagenarians and octogenarians can provide for excellent long-term outcomes in appropriately selected patients. These patients tend to have long-term functional outcome scores, postoperative range of motion, and complication rates that are comparable to younger geriatric patients. Physicians should not exclude patients for repair of proximal humerus fractures based on chronological age cutoffs.