

Comparison of Home-Based and Formal Physical Therapy on the Effect of Patient-Reported Outcomes in Proximal Humerus Fractures Treated Nonoperatively

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Purpose: Proximal humerus fractures are increasingly common, representing 6% of all fractures. There is significant variability in rehabilitation protocols in patients being treated nonoperatively. It is not yet known what effect formal physical therapy has on patient-reported outcomes of recovery after proximal humerus fracture. The goal of this study was to evaluate the effect of formal physical therapy against home-based physical therapy on patient-reported outcomes in proximal humerus fractures treated nonoperatively.

Methods: Potential subjects from February 2015 through July 2016 were identified using billing codes, and screened for inclusion criteria. Exclusion criteria included operatively treated fractures and patients under 18 years at the time of injury. Patient-Reported Outcomes Measurement Information System (PROMIS) data for Function, Pain, and Mood were collected at the initial visit and compared against the final follow-up encounter.

Results: The mean age of subjects at the time of injury was 62.5 ± 17.5 years (current age 62.7 ± 17.5 years) involving 160 fractures. 55 fractures were treated without formal physical therapy (home-based therapy) while 105 fractures were treated with a formal physical therapy regimen. In patients who participated in a home exercise program, the mean difference in patient-reported function, pain, and mood were 3.76 (-0.29, 7.82; $P = 0.0686$), -6.70 (-10.66, -2.74; $P = 0.0011$), and -3.80 (-7.62, 0.02; $P = 0.0514$), respectively. For patients undergoing formal physical therapy, the mean differences in reported function, pain, and mood were 4.80 (2.05, 7.56; $P = 0.007$), -8.16 (-10.57, -5.75; $P < 0.0001$), and -2.72 (-5.25, -0.19; $P = 0.0353$), respectively. When comparing individuals who did not undergo formal physical therapy with those who underwent formal physical therapy, there were no significant differences in patient-reported function ($P = 0.5551$), pain ($P = 0.6237$), or mood ($P = 0.4655$).

Conclusion: Prescription of formal physical therapy does not improve patient-reported function, pain, or mood PROMIS scores at time of discharge after sustaining a fracture of the proximal humerus.