Do Patients Know Their Postoperative Plan?
A Prospective Cohort Study of Orthopaedic Trauma Patients

Adam Jester, MD*; Christopher Ruland, MS; Ebrahim Paryavi, MD, MPH; Max Coale, BA; Timothy Zerhusen, BS; Robert O'Toole, MD;*
R Adams Cowley Shock Trauma Center, Department of Orthopaedics,
University of Maryland School of Medicine, Baltimore, Maryland, USA

Background/Purpose: Postoperative physical therapy in the orthopaedic trauma population is thought to be important to help patients maximize functional recovery following an injury and surgery. Little previous work exists regarding patient comprehension of the postoperative plan in orthopaedic trauma patients. It was hypothesized that patient knowledge of postoperative physical therapy instructions following an orthopaedic injury would be low.

Methods: 194 patients were given a questionnaire testing their knowledge of their physical therapy plan following an acute orthopaedic injury and intervention. 212 patients were prospectively enrolled and identified over four separate convenience sample time periods between August 2013 and November 2014. Inclusion criteria consisted of patients age 16 or older who were admitted with an acute orthopaedic injury and returned for their first follow-up appointment during these time periods. Patients did not need to have surgery to be eligible for this study. Exclusion criteria consisted of patients with moderate to severe traumatic brain injury, spinal cord injury with neurologic deficit, and pathologic fractures. Four patients declined the study, five were excluded due to seeing a health care provider prior to filling out the questionnaire, and nine questionnaires were incompletely filled out, for a total of 194 completed questionnaires. The study patients had an average age of 46 years and included 65% Caucasians, 31% African-Americans, and 4% other races. 60% of participants were male and 56% had private insurance. The primary outcome measure was the percentage of patients who knew their postoperative physical therapy plan, based on correctly answering questions pertaining to weight-bearing status, range of motion, and bracing instructions. A secondary outcome was a composite knowledge score (0-1) that was created for 21 patients with intra-articular fractures of the knee or elbow who also had specific range of motion and bracing instructions.

Results: Despite the fact that 73% of patients were performing therapy exercises following hospital discharge, only 66% (95% confidence interval [CI]: 60-73) of patients correctly identified their postoperative weight-bearing status. Bivariate analysis revealed that non-white patients have 51% decreased odds of correctly identifying their weight-bearing status (P = 0.02) and patients with private insurance are 1.96 times as likely to correctly identify their weight-bearing status (P = 0.03). However, a multivariate model demonstrated that these associations are confounded as neither factor was significant when controlling for the other (P range 0.08 to 0.10). There were no significant differences in correctly identifying weight-bearing status with respect to age, gender, or discharge location. Only 12 out of 21 patients with intra-articular elbow and knee injuries were performing any range of motion exercises, and their mean knowledge score was only 0.7 (standard deviation [SD] 0.44-0.99). There were no significant differences in therapy comprehension with respect to age, gender, race, socioeconomic status, or discharge location.

Conclusion: It was observed that orthopaedic trauma patient understanding of even the most basic postoperative physical therapy instructions is generally low. Intervention strategies to improve this deficit are likely justified. Surgeons should be aware that their postoperative plan may not be carried out correctly, even if the patient is undergoing physical therapy.

See pages 47 - 108 for financial disclosure information.