

Patients who suffer a single patellar dislocation without recurrence – Are they doing as well as those who had surgery? Data from the JUPITER Cohort

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INTRODUCTION:

Non-operative management remains the standard of care for first-time patellofemoral dislocation in the absence of an osteochondral fracture or loose body. Extensive research has focused on identifying patients at high risk for recurrence and subsequent surgical intervention; however, few data exist on the outcomes of individuals who are managed non-operatively and do not report a subsequent dislocation. Limited prior work has demonstrated poorer patient-reported outcomes in this group compared to age-matched controls. The goal of this study is to compare outcomes of this population with patients treated operatively following a first-time patellar dislocation. We hypothesize that these groups will exhibit similar patient-reported outcomes within two years of initial treatment.

METHODS:

The study population consisted of a subset of patients enrolled from the prospectively collected multi-center Justifying Patellar Instability by Results (JUPITER) cohort study. Twenty-seven surgeons from twelve academic centers throughout the United States enrolled patients with patellar instability and treated them per their typical clinical practice. The non-operative group included patients treated non-operatively for a first-time patellofemoral dislocation from January 2017 through July 2022 that reported no further patellar dislocations over the next two years. The surgical group included patients treated operatively for a first-time patellar dislocation during the same period. Exclusion criteria included patients who experienced recurrent instability and patients who were missing discrete treatment data. Baseline demographic (age, sex, BMI) and physical exam data (Beighton mobility score, pre-operative J-sign, and pre-operative apprehension testing) were compared between groups and patient-reported outcomes (KOOS, Pedi-FABS, Pedi-IKDC, Banff Patellar Instability Index 2.0 (BPII 2.0), and Kujala) were compared between groups at baseline, one, and two years following presentation.

RESULTS:

A total of 630 patients experienced a first-time patellar dislocation without recurrence during the study period, including 343 in the non-operative group and 287 in the operative group. There were no significant differences between groups with regard to sex or BMI, however the initial non-operative group was significantly older (16.6 vs. 15.8 years, $p < 0.05$) and had significantly lower Beighton scores than the initial operative group (3.1 vs. 3.8, $p < 0.05$). The initial non-operative group also had significantly lower rates of patellar apprehension (70% vs. 82%, $p < 0.005$) as well as lower rates of J-signs seen on presentation than the initial operative group (53% vs 71% vs $p < 0.005$). Baseline patient-reported outcomes (PROs) were significantly higher for the non-operative group than the operative group for KOOS-QOL, KOOS-Symptoms, IKDC, Kujala, and BANFF ($p < 0.05$).

There were no statistically significant differences between PROs between groups at one or two years following initial presentation. The RTS rate was comparable (84% vs. 78%, $p = 0.36$), as was the proportion of nonoperative and operative patients that were able to return their desired sport activity at the same or higher level (43% vs 48%, $p = 0.71$). The change in PROs from baseline to two years was significantly greater for the operative group ($p < 0.05$) for IKDC, Kujala, and BANFF.

DISCUSSION AND CONCLUSION:

Patients treated non-operatively following a first-time patellar dislocation who do not experience a recurrent dislocation demonstrate similar patient-reported outcomes scores to those treated operatively following a first-time dislocation. Less than half of patients in either group return to sport at the same level or higher after first time patellar dislocation.