

RELATIONSHIP OF MOVEMENT SCREENS WITH PAST SHOULDER OR ELBOW SURGERIES IN COLLEGIATE BASEBALL PLAYERS

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ABSTRACT

Background: Upper extremity injuries commonly occur in baseball players, and can often necessitate surgical interventions. Athletes recovering from previous surgeries may be at greater risk of a secondary injury due to potential residual deficits in global movement. Identifying individuals with residual movement dysfunction following surgery during a pre-participation examination may help health care professionals identify baseball players who may be at a greater risk of re-injury in their throwing arms so that appropriate interventions can be developed.

Purpose: The purpose of this study was to assess relationships between history of shoulder or elbow surgeries and Functional Movement Screen™ (FMS™) shoulder mobility scores or Selective Functional Movement Assessment (SFMA) upper extremity patterns in collegiate baseball players.

Study Design: Cohort study.

Methods: One hundred seventy-six healthy, male, Division III collegiate baseball players (mean age = 19.65 ± 1.52 years) underwent preseason screening using the FMS™ shoulder mobility screen, and SFMA upper extremity patterns. Total FMS™ scores were dichotomized into “good” and “poor” groups (good = 2 or 3, poor = 0 or 1). SFMA scores were dichotomized into “good” and “poor” groups (good = functional non-painful (FN), poor = dysfunctional painful (DP), dysfunctional non-painful (DN), and functional painful (FP). Dichotomized FMS™ and SFMA scores were compared to questionnaire data regarding history of shoulder or elbow surgeries.

Results: Thirty participants (17%) reported a previous shoulder or elbow surgery in their dominant arms. Past surgeries in the shoulder or elbow were not related to FMS™ (odds ratio [OR]=0.74, 95% confidence interval [CI]=0.30, 1.82), p=0.52) or SFMA performance (OR=0.93, 95%CI=0.38, 2.27, p=0.88) independent of grade and playing position.

Conclusion: History of shoulder or elbow surgery was not related to performance on the FMS™ shoulder mobility test or SFMA upper extremity patterns. Differences in the dates of surgery at the time of testing, and sport-specific adaptations of the upper extremities that are common in baseball players due to the cumulative tissue stress from years of throwing at the collegiate level, may explain these insignificant findings.

Level of Evidence: Level 3

Keywords: Baseball, Functional Movement Screen™, elbow surgery, movement system, Selective Functional Movement Assessment, shoulder surgery

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