

## Grip Strength Symmetries in Division I College Baseball Pitchers and Hitters

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### ABSTRACT

Integrating strength and conditioning coaches and programs for baseball athletes has yielded positive performance outcomes for both hitting and throwing. Among a variety of baseball-specific testing batter, grip strength has shown to significantly correlate with increased swing and throwing velocity. However, no investigations have examined grip strength asymmetries for hitters and pitchers. **PURPOSE:** The purpose of this study was to examine differences between right and left arm grip strength of baseball pitchers and hitters. **METHODS:** Division I collegiate baseball players ( $n = 45$ , height.  $(183.52 \pm 11.77$  cm) weight.  $(85.96 \pm 17.73$  kg.) performed dominant and non-dominant maximal grip strength at position specific arm and forearm orientation utilizing the Jamar Hydraulic Hand Dynamometer. Hitters ( $n = 22$ ) performed grip strength assessments at 90-degree elbow flexion, neutral forearm orientation (NDN). Pitchers ( $n = 23$ ) performed grip strength assessments at 90-degree elbow flexion, pronated forearm orientation (NDP). Three attempts were permitted to exert maximal force, recorded in kilograms (kg) - highest exerted force was recorded and used for analysis. An independent samples t-test ( $p < .05$ ) was employed to assess dominant and non-dominant grip strength differences. **RESULT:** The results indicated no significant differences between pitchers' dominant NDP ( $57.39 \pm 7.49$  kg) and non-dominant NDP ( $56.0 \pm 7.63$  kg),  $t(44) = .624, p = .966$ . Likewise, hitters presented no significant difference between dominant NDN ( $60.68 \pm 10.15$  kg) and non-dominant NDN ( $55.27 \pm 11.31$  kg)  $t(42) = 1.669, p = .264$ . **CONCLUSION:** Contrary to common belief, these results suggest baseball players do not present significant grip strength asymmetries. While baseball skills (i.e., throwing, hitting) require adequate grip strength to produce favorable performance outcomes, these single arm/hand movements do not place baseball players in a concerning asymmetrical grip strength state. Utilization of both hands during hitting provides reasonable explanations for the results of hitters. For pitchers, glove movement and skill, along with typical strength and conditioning may contribute to improvements in non-dominant grip strength. Furthermore, these results suggest equivalent bilateral strength may be a necessity of collegiate baseball players.