

Agility Measures Related to Game Performance of NCAA Baseball Pitchers

ANDREW A WOLFE, JOE PRIEST, RANDY MARTIN and KAYLA PEAK

Kinesiology; Tarleton State University; Stephenville, TX

Category: Doctoral

ABSTRACT

Like most kinetic chains in athletic performance, the baseball pitching motion begins with the muscles of the legs and continues progressively through the torso, shoulders, and arms. Similarities are noted between the baseball pitching motion and the kinetic chain employed in agility tests that involve acceleration, deceleration, and change of direction measures of agility. **PURPOSE:** The purpose of this investigation was to determine pre-season agility in NCAA pitchers and to relate these measures to regular season pitching performance. **METHODS:** NCAA Division II pitchers ($n=10$, age 20.2 ± 1.9 yrs., weight 83.8 ± 10.3 kg, height 1.85 ± 0.48 m) volunteered as study subjects. A previously described laser-timed 60-yd shuttle run ("JJ Shuttle") provided average speeds for four contiguous agility segments (S1, S2, S3, and S4 of 10, 10, 20, and 20 yds., respectively), as well as Total Shuttle Run (TSR). Statistical measures obtained from regular season games ($n=48$), including Runs (R), Hits (H), Earned Runs (ER), Base-on-Balls (BB), and Strikeouts (SO), each normalized for innings pitched, provided evidence of game pitching performance. Pearson's Correlation Coefficient determined the relationship of average agility speeds to pitching performance. **RESULTS:** Analysis identified significant correlations ($p<.05$) between S1, S2, and TSR and normalized SO ($r=0.77$, $r=0.73$, and $r=0.87$, respectively); S3 and S4 were insignificant ($r=0.42$ and $r=0.59$, respectively). Additionally, a significant correlation ($p<.05$) was identified between S3 and BB ($r=0.67$). **CONCLUSION:** Results of this study suggest that better agility may lead to selected improvements in game performance in NCAA Division II baseball pitchers.