

Elbow position not a predictor of injury

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Elbow position alone appeared to not affect injury rates and performance in college-level, male pitchers say researchers presenting at the American Orthopaedic Society for Sports Medicine's Specialty Day in San Francisco, CA.

"The elbow's position in relation to an injury and enhanced performance in baseball pitchers is highly dependent upon the trunk's position," said lead researcher, Carl W. Nissen, MD of Elite [Sports Medicine](#) and Connecticut Children's Medical Center in Farmington, CT. "Our research showed that the pitching motion is complex and a direct relationship between true elbow position and how much stress is placed on a joint does not appear to exist."

The researchers studied 55 collegiate-level, male pitchers who pitched a fastball towards a target 60'6" away. Kinematic data was collected using a Vicon 512 motion capture system, and kinetic data was calculated using custom Matlab programming based on inverse dynamic techniques.

Visual elbow drag had a positive association with ball [velocity](#) ($p=0.046$). [Regression analysis](#) showed that for every 10cm of visual elbow drag ball velocity was decreased by 1.3m/s.

"The results of this study suggest that an improperly positioned elbow (visual or true) is not a factor in increasing injury rates as neither elbow drop nor drag correlated with elbow stress. Elbow drag, however, did correlate with decreased ball velocity demonstrating that [elbow](#) position

is important for pitcher performance," said Nissen.

Provided by American Orthopaedic Society for Sports Medicine

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