

# Researchers highlight shoulder and elbow injury possibility in youth players

March 28 2015

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Pitching speed, player's height, and pitching for multiple teams may correlate with a history of shoulder and elbow injuries, according to new research released today at the American Orthopaedic Society for Sports Medicine's (AOSSM) Specialty Day.

"Our findings indicate that a 10 inch increase in [height](#) is associated with a 20% increase in likelihood of a [history](#) of injury, a 10 mile per hour increase in velocity is associated with a 12% increase likelihood of a history of injury, and playing for more than one team is associated with a 22% increase in the likelihood of a history of injury. Using these three factors alone allowed accurate prediction of 77% of injury histories," said lead author, Peter N. Chalmers, MD from Rush University Medical Center in Chicago, where the study took place.

Chalmers, and his co-authors Terrance Sgroi DPT, Andrew Riff MD, Matthew Lesniak DPT, Eli Sayegh BS, Nikhil Verma MD, Brian Cole MD MBA, and Anthony Romeo MD, evaluated 420 youth and adolescent pitchers in pre-season training using two-camera, high-definition, high-[speed](#) video analysis. The players' pitching and injury history were also collected. Thirty-one percent had a history of a previous injury and 30% had current pitching-related pain. Shoulder and elbow pain and injury are common in youth baseball players and significant research has been done to evaluate causes. This study is one of the few to evaluate breaking pitches as a risk factor for injury, although breaking pitchers did not correlate with injury history once the authors had accounted for pitch velocity.

"Pitch velocity was the single strongest correlate with a history of [shoulder](#) and elbow injury.," said Chalmers. "The current USA Baseball, Little League America, and Major League Baseball recommendations lead to youth and adolescent pitchers throwing a lower number of pitches at a high velocity, but this strategy may not decrease the "peak" stresses experienced by the elbow and thus may not decrease the risk of injury. Further study is needed."

Provided by American Orthopaedic Society for Sports Medicine

Citation: Researchers highlight shoulder and elbow injury possibility in youth players (2015, March 28) retrieved 26 April 2024 from <https://medicalxpress.com/news/2015-03-highlight-shoulder-elbow-injury-possibility.html>

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