

# Fatigue contributing factor in kid's pitching injuries

March 6 2016

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Shoulder and elbow injuries in adolescent pitchers are becoming more and more prevalent each year. Researchers presenting their work today at the American Orthopaedic Society for Sports Medicine's (AOSSM) Specialty Day, highlight how fatigue can affect pitching mechanics and potentially result in injuries.

"Our study simulated a 90-pitch game for 28 elite, adolescent [pitchers](#) and investigated how their shoulder and elbow motions affected pitching speed, accuracy, pain, and pitching mechanics. As expected, the boys became progressively more fatigued and painful with additional pitches. We also found that their pitching mechanics changed, which may ultimately contribute to injury" said lead author, Peter Chalmers, MD from Rush University Medical Center, in Chicago.

Study participants ranged in age between 13-16 years of age, had been pitching for approximately 6 years and pitched an average of 94 pitches per week. Shoulder range of motion was assessed before and after each game. Speed and accuracy were measured for every pitch and every 15th pitch was videotaped. Perceived fatigue and pain were assessed after each inning.

"Through our analysis of pitching mechanics, it was noted that core and leg strength may be a key component of fatigue and ultimately injury in pitchers. As pitchers became fatigued, trunk rotation timing began to falter and pain increased. We hope that with additional research, we can work towards programs to help build strength and prevent these [shoulder](#) and elbow pitching injuries," said Chalmers.

Provided by American Orthopaedic Society for Sports Medicine

Citation: Fatigue contributing factor in kid's pitching injuries (2016, March 6) retrieved 27 April 2024 from <https://medicalxpress.com/news/2016-03-fatigue-contributing-factor-kid-pitching.html>

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