

## New 10-year study confirms too many pitches strike out youth athletes early

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For years, sports medicine professionals have talked about youth pitching injuries and the stress the motion causes on developing bones and muscles. In a new, 10-year study published in the February issue of the *American Journal of Sports Medicine*, researchers showed that participants who pitched more than 100 innings in a year were 3.5 times more likely to be injured.

"The study proved a direct link between innings pitched in youth and adolescent baseball and serious pitching injuries. It highlights the need for parents and coaches to monitor the amount of pitching for the long-term success and health of these [young athletes](#). We need to all work together to end the epidemic of youth sports injuries, and education through campaigns like STOP Sports Injuries is in excellent first step," said lead researcher, Glenn S. Fleisig, PhD, of the American [Sports Medicine](#) Institute in Birmingham, Alabama,

The study followed 481 pitchers for 10-years (1999-2008). All were healthy, active youth (aged 9 to 14 years) baseball pitchers at the beginning of the study. Every year each participant was asked whether he played baseball in the previous 12 months and if so what positions, how many innings pitched, what types of pitches he threw, for what teams (spring, summer, fall, winter), and if he participated in baseball showcases. Each player was also asked every year if he had an elbow or shoulder injury that led to surgery or retirement from baseball.

During the 10-year span, five percent of the pitchers suffered a serious

injury resulting in surgery or retirement. Two of the boys in the study had surgery before their 13th birthday. Only 2.2 percent were still pitching by the 10th year of the study.

"It is a tough [balancing act](#) for adults to give their young athletes as much opportunity as possible to develop skills and strength without exposing them to increased risk of overuse injury. Based on this study, we recommend that pitchers in high school and younger pitch no more than 100 innings in competition in any calendar year. Some pitchers need to be limited even more, as no pitcher should continue to pitch when fatigued," said Fleisig.

The study also looked at the trend of playing pitcher and catcher in the same game, which did appear to double or triple a player's risk of injury but the trend was not statistically significant. The study also could not determine if starting curveballs before age 13 increases the risk of injury.

Provided by American Orthopaedic Society for Sports Medicine

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