

# Pitching Behaviors in Youth Baseball: Comparison With the Pitch Smart Guidelines: Letter to the Editor

## Dear Editor:

In the recently published article titled “Pitching Behaviors in Youth Baseball: Comparison With the Pitch Smart Guidelines,” Greiner et al<sup>2</sup> studied the pitching patterns of 100 youth baseball teams in Wisconsin. Pitch data recorded during the summer of 2019 were retrospectively reviewed and compared against the Pitch Smart guidelines for amateur baseball published by Major League Baseball and USA Baseball ([www.PitchSmart.org](http://www.PitchSmart.org)). The Pitch Smart guidelines recommend specific pitch count limits and required rest days between pitching outings based on scientific studies linking excessive pitching with an increased risk of arm pain and injuries.<sup>1,3-7</sup> The authors noted “noncompliance” with Pitch Smart guidelines in almost all (94%) teams, and nearly half (49%) of the pitchers had at least one “violation.”<sup>2</sup>

While this publication is a welcomed addition to our body of knowledge, it is important to understand the setting of the study to avoid misinterpretation. As the authors explained, “Pitch Smart guidelines are followed by more than 30 youth baseball organizations, including Little League Baseball, Cal Ripken Baseball, American Legion Baseball, and PONY Baseball.”<sup>2</sup> By our estimation, approximately 4 million athletes play in fully compliant Pitch Smart baseball leagues each year. What is not clear is how many of the 100 teams in the study played in leagues that used Pitch Smart limits. After personal communication with the authors, it remains unclear which teams in their study participated in leagues with mandated Pitch Smart recommendations. However, the authors believe that the number of teams that played with Pitch Smart limits were very few to possibly none. Therefore, we feel that the ubiquitous use of the terms “violation” and “noncompliance” in the article may be misconstrued by readers to mean pitchers and teams violating their league’s rules. In reality, the study seems to be showing that when youth leagues and tournaments play without mandated Pitch Smart limits, many of the players pitch without adequate rest for their health and safety.

We agree with the conclusion by Greiner et al<sup>2</sup> that “education of tournament directors, coaches, parents, and athletes regarding pitching guidelines is warranted in order to

limit the risk of injury.” So how do we get there? By teamwork. Major League Baseball, USA Baseball, and other influential entities must continue educating the general public. Sports medicine professionals, such as the readers of *The Orthopaedic Journal of Sports Medicine*, need to use their status to promote Pitch Smart guidelines to their patients and their community. The unified message is that amateur baseball players maximize their chance for long-term success by playing in “fully compliant” Pitch Smart organizations ([www.mlb.com/pitch-smart/compliance-program](http://www.mlb.com/pitch-smart/compliance-program)). Fully compliant programs should be praised, while leagues, tournaments, and showcases without regulations should seriously consider enacting Pitch Smart guidelines for the safety of their participants.

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## REFERENCES

1. Fleisig GS, Andrews JR, Cutter GR, et al. Risk of serious injury for young baseball pitchers: a 10-year prospective study. *Am J Sports Med.* 2011;39(2):253-257.
2. Greiner JJ, Trotter CA, Walczak BE, Hetzel SJ, Baer GS. Pitching behaviors in youth baseball: comparison with the Pitch Smart guidelines. *Orthop J Sports Med.* 2021;9(11):23259671211050127.
3. Lyman S, Fleisig GS, Andrews JR, Osinski ED. Effect of pitch type, pitch count, and pitching mechanics on risk of elbow and shoulder pain in youth baseball pitchers. *Am J Sports Med.* 2002;30(4):463-468.
4. Lyman S, Fleisig GS, Waterbor JW, et al. Longitudinal study of elbow and shoulder. *Med Sci Sports Exerc.* 2001;33(11):1803-1810.
5. Olsen SJ, Fleisig GS, Dun S, Loftice JW, Andrews JR. Risk factors for shoulder and elbow injuries in adolescent baseball pitchers. *Am J Sports Med.* 2006;34(6):905-912.
6. Petty DH, Andrews JR, Fleisig GS, Cain EL. Ulnar collateral ligament reconstruction in high school baseball players: clinical results and injury risk factors. *Am J Sports Med.* 2004;32(5):1158-1164.
7. Yang J, Mann BJ, Guettler JH, et al. Risk-prone pitching activities and injuries in youth baseball: findings from a national sample. *Am J Sports Med.* 2014;42(6):1456-1463.

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