

Relationship Between Pitching a Complete Game and Spending Time on the Disabled List for Major League Baseball Pitchers: Letter to the Editor

Dear Editor:

In the March 2018 issue of the *Orthopaedic Journal of Sports Medicine*, Erickson et al² sought to “determine the relationship between pitching a [complete game] (CG) and time on the [disabled list] (DL)” in baseball. They hypothesized that pitchers who threw a full 9-inning game would be at greater risk for injury than those who did not. They concluded that “74% of pitchers who threw a CG spent time on the DL, as compared with 20% of controls.” Their article does not support this, however.

The 74% figure is derived from 501 pitcher-seasons from 246 pitchers who threw at least 1 CG from 2010 to 2016, 370 of which included a DL trip. To create a proper comparison group, the authors attempted to match this CG group to pitchers of a similar age and with a similar number of innings pitched (IP) in the season that the CG players threw their CG (the “index season”), but they were unable to do so. Instead, they found matched controls for a subgroup of 92 CG pitchers who went on the DL (CG/DL group). This is problematic for 2 reasons. First, we cannot make a comparison of DL risk between these controls and the CG/DL group, who by definition have a 100% risk of a DL trip. Second, matching on season IP also introduces selection on the dependent variable³: CG pitchers likely tended to throw deeper into games, so obtaining a control group with similar IP is difficult unless they threw in more games, for example, by not going on the DL. This could bias the DL risk in the control group downward.

Even if we set aside these concerns, among the controls, the authors found that 50%, rather than 20%, spent time on the DL at some point during the study period. We are not told the corresponding proportion of pitcher-seasons, but given that prior injuries are a risk factor for future injuries,¹ it is possible that this is higher. The 20% figure was the proportion of controls who spent time on the DL during the index season specifically. Thus, the 74% vs 20% comparison is invalid for several reasons: It mistakenly equates pitcher-seasons with pitchers, compares a risk over the entire study period with a 1-year risk, and uses a control group that is selected on the dependent variable.

Baseball organizations should not use this study as evidence that throwing a CG places pitchers at greater risk for injury.

Zachary O. Binney, PhD, MPH
Atlanta, Georgia, USA

Address correspondence to Zachary O. Binney, PhD, MPH (email: zbinney@emory.edu).

One or more of the authors has declared the following potential conflict of interest or source of funding: Z.O.B. is a paid injury consultant for an American League baseball team. AOSSM checks author disclosures against the Open Payments Database (OPD). AOSSM has not conducted an independent investigation on the OPD and disclaims any liability or responsibility relating thereto.

REFERENCES

1. Carleton RA. Baseball therapy: what really predicts pitcher injuries? <https://www.baseballprospectus.com/news/article/19653/baseball-therapy-what-really-predicts-pitcher-injuries/>. Published 2013. Accessed June 15, 2018.
2. Erickson BJ, Chalmers PN, Romeo AA, Ahmad CS. Relationship between pitching a complete game and spending time on the disabled list for Major League Baseball pitchers. *Orthop J Sports Med*. 2018; 6(3):2325967118761354.
3. Winship C, Mare RD. Models for sample selection bias. *Annual Review of Sociology*. 1992;18(1):327-350.