

Second Tommy John surgery linked to performance decline, shortened career

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Vasilios (Bill) Moutzouros, M.D. Credit: Henry Ford Hospital

Major League Baseball pitchers who underwent a second Tommy John surgery saw their performance decline and their career shortened, according to researchers at Henry Ford Hospital.

In a retrospective, case-controlled study, researchers analyzed [performance](#) and longevity data of 33 pitchers who had a second surgery following the original elbow reconstruction between 1996 and 2012 and compared them with pitchers of similar age who had no prior Tommy John surgery. Key findings for pitchers after a second surgery:

- 65 percent returned to [pitching](#) at MLB level.
- On average they lasted three years or less at the MLB level.
- Innings pitched dropped nearly in half.
- Walks jumped to 4.79 from 4.02 for every nine innings.
- Wins and losses dropped in half.

The study is believed to be the largest to date to evaluate pitching performance and career longevity after a second Tommy John surgery. It is being presented at the annual meeting of the American Academy of Orthopedic Surgeons March 23-31 in Las Vegas.

"Although a second surgery may not be career ending, it appears to be career-limiting by virtue of a decreased workload and pitching productivity," says Vasilios (Bill) Moutzouros, M.D., a Henry Ford orthopedic surgeon and the study's senior author.

"And for those who return to the [major league](#) level, they experience a mixed bag of performance levels. In several categories their performance declines significantly."

The findings come one year after a companion Henry Ford study showed for the first time a link between the surgery and declining pitching performance at the MLB level. It involved the largest cohort of MLB pitchers at the time to examine the issue.

An UCL injury is believed to be tied to the overuse and excessive stress on the inner elbow, coupled with pitching velocity and joint motion, says

Robert Keller, M.D., a four-year Henry Ford orthopedic resident and study co-author whose father Phil was a teammate of pitcher Tommy John in the 1970s.

"It's possible that increased surveillance of pitch counts, a lesser pitching role or a lack of arm endurance after a second surgery may be contributing factor in performance and pitching workload," Dr. Keller says.

Tommy John surgery, named after the former Los Angeles Dodgers pitcher who underwent the pioneering surgery 40 years ago, has since been performed on legions of [pitchers](#) at the professional and collegiate levels. In medicine it is known as ulnar collateral ligament (UCL) reconstruction. During the two-hour outpatient procedures, the UCL in the medial elbow is replaced with a tendon from the same arm or from the hamstring area.

In a second, or revision, surgery, a new tendon is attached to the inner elbow where the UCL should be. It is made more delicate due to scar tissue from the original surgery and the subsequent injury.

Provided by Henry Ford Health System

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