

Performance of Major League Baseball Pitchers after Ulnar Collateral Ligament Reconstruction

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Pitchers in the Major League Baseball (MLB) often undergo elbow surgery to recover from ulnar collateral ligament (UCL) injury, referred to as UCL reconstruction or Tommy John surgery. It is of particular interest to know how pitchers with UCL reconstruction perform after the surgery. **PURPOSE:** To examine the performance of MLB pitchers before and after UCL reconstruction based on their roles as starters, relievers, and former starters becoming relievers after the surgery. **METHODS:** Data were collected for MLB pitchers who underwent UCL reconstruction between 2008 and 2013. They were classified by their roles: 1) starters before the surgery who stayed as starters after the surgery, 2) relievers before the surgery who stayed as relievers after the surgery, and 3) starters before the surgery who became relievers after the surgery. Their performance one year before the surgery and one year after the surgery was examined by earned run average (ERA), winning percentage (WP), and strikeouts per inning (SPI). **RESULTS:** The group of pitchers who were starters before and after the surgery ($n = 33$) showed a decline in performance at post-surgery. Their ERA increased from 3.948 before the surgery to 5.145 after the surgery. They also showed decreases in WP (53.5 % to 47.1%) and SPI (0.832 to 0.789) at post-surgery. Meanwhile, pitchers who had stayed as relievers ($n = 7$) improved performance after the surgery. Their ERA was 4.051 at pre-surgery compared to 3.29 at post-surgery, and they slightly improved SPI from 0.940 to 1.026 after the surgery. Interestingly, former starters who became relievers after the surgery ($n = 4$) did not suffer from the decline in performance at post-surgery experienced by starters who stayed as starters after the surgery above. They showed similar ERA (from 2.923 to 2.795) and SPI (from 1.046 to 1.016) before and after the surgery. Because of low sample sizes, these results were derived from descriptive statistics. **CONCLUSION:** The current study indicates that pitchers with UCL reconstruction who were starters before the surgery and maintained that role after the surgery may have a more difficult time in returning to their previous levels than relievers or former starters who became relievers after the surgery. More research with larger sample sizes is warranted.