INTRODUCTION

Although much as been done to better understand and characterize the epidemic of ulnar collateral ligament (UCL) reconstruction in pitchers, a comprehensive review of all known UCL reconstructions performed in professional baseball pitchers is lacking.

PURPOSE

The primary purposes of this work were to:
(I) Provide a robust epidemiologic report on every known UCL reconstruction ever performed in Major (MLB) and Minor League Baseball (MiLB) pitchers (primary and revision surgery)

(II) Determine the mean rates and times for return to play (RTP)

(III) Assess post-operative career duration and overall survivorship

METHODS

Three resources (including the Major League Baseball [MLB] injury tracking system) were combined and cross-referenced to identify all known professional baseball pitchers who had ever undergone primary UCL reconstruction (1974 to 2016). Variables analyzed included the date of injury, date of surgery, return to play rates, time out of play, and revision status. Trends over time were analyzed collectively and based on level of play at the time of surgery. A minimum of 2 years of follow up was required to determine return to play status.

RESULTS

- 1,429 UCL reconstructions in professional pitchers were identified.
- Annual rate of primary and revision UCL reconstruction rose for all levels of play from 1974 to 2016 ($p<0.001$).
- Mean time to return to play (RTP) at any level was 435 days (range 98 to 1,643) while the mean time to return to the prior level was 506 days (range 173 to 1,957)
- The overall rate of RTP to any level was 83.7%, and 72.8% were able to RTP at their prior level ($p<0.001$).
- MLB players were more likely than Minor League Baseball (MiLB) players to return to any level (94.6% vs. 79.0%, $p<0.001$) and their prior level of performance (80.0% vs. 69.1%, $p=0.04$).
- Mean overall survivorship (revision free and still playing baseball) was 3.8 years, and this was longer for primary surgeries compared to revisions (3.9 vs. 2.9 years, $p=0.018$).
- Overall revision rate was 6.7%

CONCLUSIONS

Ultimately, both primary and revision UCL reconstructions have been on the rise in professional baseball pitchers, and UCL injury continues to represent a significant source of time out of play. The overall rate of return to play was reasonably high at 83.7%. This is particularly true for MLB pitchers who RTP at any level 94.6% of the time, but less so for those attempting to return to MLB (80.0%). The mean time to return to play at any level is higher than many had previously thought (435 days or 14 months). After returning, players generally need an additional 2.3 months (71 days) to return to their prior level of professional baseball. As the rates of both primary and revision surgery continue to rise, appropriate steps must be taken in an attempt to reduce the burden of this common injury.