Should We Limit Innings Pitched Following Ulnar Collateral Ligament Reconstruction in Major League Baseball Pitchers?

Rush University Medical Center, Chicago, IL

**Introduction**

Ulnar collateral ligament reconstruction (UCLR) has become a common procedure amongst major league baseball (MLB) pitchers. Despite an increase in the overall number of revision UCLR performed in MLB pitchers in recent years, risk factors for failure following primary UCLR have not been well elucidated. There is speculation that limiting the number of innings pitched in a player’s first full season back to MLB, as well as in their overall career, will decrease the player’s risk for re-injury. It is unclear if a limit on innings pitched following UCLR should be instituted to prevent revision UCLR. The purpose of this study was to determine if innings pitched following UCLR is associated with an increased risk of revision UCLR.

**Methods**

All MLB pitchers between 1974-2015 who pitched at least one full season following UCLR were included. Inclusion criteria were male, MLB pitcher (defined as having pitched in at least one MLB game prior to undergoing UCLR), and pitched at least one full season following UCLR. Players who returned to MLB and played in at least one full season following their UCLR were included in the statistical analysis. The number of innings pitched in the first full season following UCLR as well as the number of innings pitched in the player’s entire career following UCLR was recorded. The number of pitches thrown in the first full season following UCLR as well as the number of pitches thrown in the player’s entire career following UCLR was also recorded. Pitchers were separated into two groups. One group did not require a revision UCLR while the other group did require a revision UCLR.

**Results**

154 pitchers were included; 135 did not require revision UCLR while 19 underwent revision UCLR. No significant difference existed between pitchers who underwent revision UCLR and those who did not in the number of innings pitched or pitches thrown in the first full season following UCLR (p=0.9016 and p=0.7337). No significant difference existed in revision UCLR between starters who pitched more than 180 innings in the first full season following UCLR and those who pitched less than 180 innings (p=0.6955). Furthermore, no difference existed in revision rate between pitchers who pitched more or less than 180 innings in the first full season following UCLR (p=0.6678).

**Discussion**

Despite the increasing number of both primary and revision UCLR in MLB pitchers, risk factors for revision UCLR are not well defined. This study indicates there is no association between the number of innings pitched and the number of pitches thrown during the first full year after UCLR and the future need for revision UCLR. Furthermore, there was no association between limiting the number of innings pitched or pitches thrown during the first full year after UCLR and the subsequent length of the pitcher’s career. The ability of a player to return to pitching is a combined decision between the player, surgeon, trainer, and coach and not based on clear scientific parameters. This study has found that the cause of revision UCLR does not appear to be related to the number of innings pitched or pitches thrown following index UCLR.