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## Return to Play and Performance Following Anterior Cruciate Ligament Reconstruction in the National Women's Soccer League

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**Title:** Return to Play and Performance Following Anterior Cruciate Ligament Reconstruction in the National Women's Soccer League

**Abstract:**

**Background:** The anterior cruciate ligament (ACL) is a commonly injured ligament in athletes, usually requiring ACL reconstruction (ACLR).

**Hypothesis/Purpose:** To compare the return to play (RTP) and performance level of players following ACLR in the National Women's Soccer League (NWSL). We hypothesized that there would be a high return to play rate following ACLR in the NWSL, but with a decrease in performance.

**Methods:** NWSL players that underwent ACLR were identified by cross-referencing multiple online resources that were identified between the 2013 and 2020 seasons. Players were classified into the following positions: forward, defender, midfielder, and goalkeeper. The following RTP statistics were assessed: games played, games started, percentage of minutes played, and plus/minus net per 90 minutes. A sub-analysis was also performed to divide players based on median age ( $\leq 24$  vs.  $>25$ ) at time of injury. Since a majority of these outcomes significantly violated the assumption of normality, continuous variables were reported using medians and interquartile ranges and nonparametric testing methods were used throughout the analysis.

**Results:** A total of 30 NWSL athletes underwent ACLR between the 2013 and 2020 seasons. Midfielders constituted the highest percentage of injuries ( $n=11$ , 36.7%) followed by forwards ( $n=10$ , 33.3%). Of these 30 players, 27 returned to the NWSL post-injury, constituting a 90.0% RTP rate. The median RTP time was 12.1 months [interquartile range (IQR), 10.9 – 14.3 months]. There was a statistically significant decrease in the percentage of minutes played 1-year pre- and post-injury [median 87.9 (IQR: 80.7 – 90.6) vs. 25.1 (IQR: 16.3 – 57.2);  $p=0.031$ ]. On age based sub-analysis, older players started significantly more games [median 12.0 (IQR: 3.8 – 18.5) vs. 3.0 (0.5 – 6.0);  $p=0.048$ ] and had a higher percentage of minutes played [median 63.0 (IQR: 18.8 – 77.3) vs. 14.9 (2.0 – 21.2);  $p=0.046$ ] 1-year post injury compared to younger players.

**Conclusion:** Our results support the hypothesis that there is a high RTP rate following ACLR in the NWSL. Following injury, players played in a lower percentage of minutes in the season they returned, with older players starting more games and playing a greater percentage of minutes compared to younger players.