

# **Return to Play and Risk for Reinjury Following Revision Anterior Cruciate Ligament Reconstruction in Soccer Athletes**

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## **INTRODUCTION:**

Although soccer athletes are known to undergo a high number of revision anterior cruciate ligament (ACL) reconstructions, there is limited information on the outcomes of revision ACL reconstruction with regards to further knee injury and return to participation in this patient population. The purpose of this study was to test the hypothesis that graft choice and patient sex are associated with return to play and risk for future surgery in soccer athletes undergoing revision ACL reconstruction.

## **METHODS:**

Subjects enrolled in the prospective MARS cohort, who were identified as soccer athletes, were contacted to report their return to play following ACL reconstruction. Information regarding if and when they returned to play and their current playing status was recorded. If they were not currently playing, they were asked for the primary reason they stopped playing soccer. Any additional knee surgery following their revision ACL reconstruction was also recorded. Player demographics and graft choice were collected from their baseline enrollment data at the time of revision ACL reconstruction.

## **RESULTS:**

Out of 95 soccer athletes, soccer specific follow up was collected on 76% (33 male, 39 female) while additional surgery information was collected on 95% (44 male, 46 female). The female soccer players were significantly younger than the male soccer players ( $20.0 \pm 5.7$  vs.  $28.1 \pm 9.0$  yrs,  $p < 0.001$ ). Females were more likely than males to have additional knee surgery (20% vs. 5%,  $p = 0.05$ ). The rate of recurrent graft tear was low (5.6%) with no significant difference between males and females. There was a trend towards lower risk of recurrent graft tear with BTB autograft compared to other grafts (0% vs. 10.3%,  $p = 0.06$ ). Overall, 62% of soccer athletes returned to soccer at an average of 9.6 months after surgery. There was no significant difference between males and females in the rate of return (male 70% vs. female 56%) or time to return to play. At an average follow up of 6.4 years, only 19% of soccer athletes who underwent revision ACL reconstruction are still playing the sport, a significant decrease compared to initial return to play. There was no significant difference in the long-term return to play between males (21%) and females (18%). The majority of athletes stopped playing soccer because of their knee (72%) and it was essentially the same for men (73%) and women (72%).

## **DISCUSSION AND CONCLUSION:**

Soccer players can get back to their sport after revision ACL reconstruction but the rate of participation drops significantly over time. Most players stop participating in soccer because of their knee. Female soccer players face a higher risk of additional knee surgery after revision ACL reconstruction than male soccer players. While the overall rate of recurrent ACL graft injury is low, BTB autograft, when available, may be a preferable graft to reduce the risk for re-tear.