

## EVALUATION OF PROPRIOCEPTION AFTER ANTERIOR CRUCIATE LIGAMENT RECONSTRUCTION IN PROFESSIONAL FOOTBALL PLAYERS

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**KEY WORDS:** ACL, reconstruction, proprioception, football players

**INTRODUCTION:** Rehabilitation after the anterior cruciate ligament reconstruction is an essential element to treat knee instability. Proprioception improvement is one of the most important goals of the rehabilitation program (Rehm, A. et. all 1997). The aim of this paper is to evaluate proprioception of professional football players 6 months after the ACL reconstruction in comparison to proprioception of healthy football players using the Dynamic Riva Test.

**METHODS:** Football players were divided into 2 groups. First group consisted of 15 football players who undergone the ACL reconstruction using ST hamstring. The other group consisted of 15 healthy football players who were not treated surgically before. 6 months after the ACL reconstruction, proprioception was evaluated using the Dynamic Riva Test on Delos Equilibrium Board. Proprioception of healthy football players was also assessed. Using Delos Postural System Manager it was possible to evaluate control of trunk movement in 2 planes: sagittal and frontal (DVC) and control of board movement (DEB). The closer zero the results of DVC and DEB are, the better control of either trunk and board gets. The strategy indicator DVC/DEB was also calculated. The closer zero the indicator gets, the better proprioception control is.

**RESULTS AND DISCUSSION:** 6 months after the surgery, the trunk control was better and the board control was worse in single stance on the extremity after the reconstruction than on the healthy one. The strategy indicator value was lower for the extremity after the reconstruction. Comparing the assessment outcomes of the trunk control, the board control and the visual-proprioceptive control from group 1 and 2, the results were worse for both extremities in group 1, for 7.4%, 11% and 10% respectively. The better results of the trunk control and the visual-proprioceptive control may suggest that greater stress was put on the operated extremity during the rehabilitation program. In comparative evaluation the worse results in group 1, may mean that the proprioception control 6 months after the ACL reconstruction was not regained and that proprioception training is needed to fully recover.

**CONCLUSION:** 6 months rehabilitation program after the ACL reconstruction is not long and sufficient enough to gain the visual-proprioceptive control at the level of the visual-proprioceptive control of healthy professional football players. In football players who undergone the ACL reconstruction a proprioception control of the reconstructed extremity is higher than of the healthy extremity but still lower than a proprioception level of extremities of healthy football players.

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