



The effect of removing visual sense information on maximal knee flexion and abduction during single-leg landing in healthy young active men

Poster Presentation

Nader Nokhodchi *

Department of Sport Sciences, Faculty of Humanities, University of Bojnord, Bojnord, Iran
(nadernokhodchi1@gmail.com)

Abstract

Introduction: Landing is one of the most important movements in many sports that can cause various sports injuries in the knee joint. Several kinematic variables are considered as risk factors for anterior cruciate ligament injury. Among these factors is the maximum amount of flexion and abduction of the knee during landing. Decreased flexion and increased abduction increases the risk of anterior cruciate ligament injury. The aim of this study was to investigate the effect of removing visual sensation information on maximal knee flexion and abduction during one-leg landing.

Methods: The present study was applied research. 18 healthy active men (weight 76.71 ± 8.27 kg, height 174.11 ± 3.08 cm, age 22.94 ± 1.98 years) in two positions with open eyes and closed eyes, one-legged landing operation from a 30 cm platform. The maximum amount of knee flexion and abduction was measured by two cameras perpendicular to each other in the sagittal and frontal plates at a frequency of 200 frames per second.

Results: The results of paired t-test showed that the removal of visual sensory information caused significant changes in maximal knee flexion. However, the removal of visual information did not cause significant changes in the maximum abduction rate.

Conclusion: Elimination of visual sensation information reduces maximal knee flexion during landing, thereby increasing the risk of anterior cruciate ligament rupture injury. Based on the research results, it can be stated that any disorder that leads to a decrease in information related to the sense of sight, can increase the risk of anterior cruciate ligament rupture injury.

Keywords

Visual sense information; cinematic; Knee joint

Reference:

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