

ABSTRACT

Title: Kinematic analysis of a putt stroke in healthy and disabled golfer

Objectives: The aim of this study is to objectify the movements during a putt stroke using 3D kinematic analysis and monitoring the pressure of the lower limbs to the ground for a healthy and disabled golfer of comparable performance and identify differences in stability of technique and performance between players.

Methods: On a sample of 1 healthy and 1 handicapped golfer with similar performance was determined process of a putt stroke using 3D kinematic analysis of the CODA Motion system and pressure plate BodiTrak. Specifically, the difference between the putt stroke of the players in selected parameters, stability of performance and accuracy were evaluated. The obtained data were processed in Microsoft Excel. The Wilcoxon test for independent samples and Cohen's d was to determine statistical and factual significance.

Results: We found the statistical and large factual significance of the difference in the performance of the putting stroke between the disabled and healthy players ($p < 0,01$, $d > 0,8$) for most parameters. The most fundamental difference was found in the pressure of the lower limbs, when the disabled golfer had a greater pressure on the back limb. High stability of execution was found in 80 % of parameters in the basic stance for both players. In the variable parameters, very small percentage was found in healthy (24,4 %) and disabled (33 %) players. An insignificant statistical and factual difference ($p > 0,01$, $d < 0,2$) was found in the in the performance and in the club head speed in the impact.

Keywords: performance, golf, putting accuracy, putting technique