

Abstract

Title: Evaluation of postural stability in subjects engaged in combat and non-contact sports

Objectives: The aim of this diploma thesis is to investigate the influence of contact itself during sport activities on postural stability of athletes.

Methods: In this quasi-experiment study there were picked 16 athletes (n=16) in age from 22 to 35 years. Selected individuals were divided into two groups of eight according to their sporting activity (combat sports, baseball). In the mentioned individuals the postural stability was measured. To measure postural stability the computerized dynamic posturography of EquiTest Smart System from Neurocom was used. Measured data were processed using Neurocom Balance Manager Software. For the analysis of the data following statistical methods – paired t-test, Mann-Whitney test and rate of clinical significance (Cohen's d) were used.

Results: The results indicate that individuals performing in combat sports were reaching higher mean scores in Limits of Stability than baseball players. This fact has been statistically and clinically proven. On the other hand baseball players reached higher mean Equilibrium Scores in Sensory organization test, however this fact has not been statistically nor clinically proven. No significant differences between the groups in motor reaction time was found.

Keywords: Neurocom Smart Equitest, dynamic posturography, martial art, combat sports, non-contact sports, baseball, MMA, rehabilitation, physiotherapy, quasi-experiment, postural stability