Abstract

Title: Evaluation of the effect of „plank“ exercise on postural stability of the individual.

Aims: The aim of this diploma thesis is to assess the effect of “plank” position exercise on postural stability of the individual, which is assessed using dynamic comtuterized posturography (NeuroCom SMART EquiTest System).

Summary: This pilot study involved 10 women ranging in age from 20 to 30 years. Participants of the study underwent thirty-day exercise intervention program, during which endurance time in “plank” position was increased gradually each day. Postural stability was measured by dynamic computerized posturography SMART EquiTest System before and after the exercise program from NeuroCom. Measured data were processed using NeuroCom Balance Manager Software. To evaluate the effect of intervention program statistical methods (paired t-test, Wilcoxon rank sum test) were used along with rate of clinical significance of intervention (Cohen´s d).

Results: The results of this study indicate that long-term “plank” position exercise has a positive effect of enlargement of postural stability limits in an upright stand position. Other parameters of postural stability, detectable by dynamic computerized posturography, were not affected.

Keywords: postural stability, stability of the axial system, stability of trunk, “plank”, prone forearms position, dynamic computed posturography