

Abstract

Title: Effect of training on the slackline on postural stabilization

Objectives: The aim of this study was to determine whether training on the slackline affects postural stabilization of sample of sport active population. The aim was to detect changes in postural stabilization immediately after the first training (30 minutes) on the slackline and after long-term training on the slackline. Another aim was to determine to what extent influenced measurement on Posturomed itself postural stabilization (with help of control probands, who did not train on the slackline between measurements).

Methods: The study was attended by two groups of probands with a total amount of $n = 16$, who are healthy, active sports, sample population in the age od 21-26 (8 men, 8 women equally represented in groups). Probands of training group attended during one month eight sessions on the standard slackline- 2.5 cm wide, 11 m long, stretched at a height of 80 cm. Probands of control group didn't train on the slackline, only underwent measurements of the same intervals. Everyone participated in the 3 measurements (always 3 attempts) at the beggining of the research, immediately after completing the first training session (control group after 1 hour), and after completion of the research (control group after 1 month), always in the morning. I used the posturally provoking test "3 steps- standing on one leg" on standardized unstable surface Posturomed. Her movement was evaluated by Postural Somatooscillografie. Recording accelerometer measurements was processed by the program Microswing 6.0 from Haider Bioswing and analyzed in the program Posturomed Commander. Data were evaluated in Microsoft Excel 2007, where were statistical transformed.

Results: When comparing the training and control groups, I concluded that one (the first) training on slackline did not improved postural stabilization of training individuals, because the control group mere due to measurements on Posturomed had the same improvements ($p = 0.757319$). Comparison of long-term effects across groups is also significant- when comparing long-term effect of training on the slackline with the effect of 2 measurements on Posturomed spaced one month has shown long-term

training on the slackline most significant impact on improving postural stabilization ($p= 0.009833$). Comparing the two effects within the group also saw remarkable results. Significant difference in short- and long-term effects training on the slackline also demonstrates the long-term training on the slackline has stronger impact on postural stabilization ($p= 0.043786$). Research has shown that the mere measurement on Posturomed affects postural stabilization, particularly as a result of measurements with a shorter spacing. A significant difference is shown in comparison of the measurements of the control group, where in effect of two measurements spaced one hour there was a significantly greater improvement in comparison with the effect of 2 measurements spaced one month, where is the minimum improvement ($p= 0.036984$).

Keywords: slackline, postural stabilization, Postural provoking test, Posturomed, Postural Somatooscilography