

Abstract

Title:

Changes in handgrip strength in relation to laterality at indoor youth climbing course

Objectives:

The aim of this diploma theses is to investigate whether regular climbing activity of children at age 7–11 leads to development of handgrip strength or its endurance with respect to laterality. Also if climbing leads to symmetrical strenghtening of upper limbs.

Methods:

Group of 14 children at age 7–11 participated in a climbing course once a week for 3 months. Maximal grip strength was measured, persistence in pressing hand over 30 seconds and evaluation of laterality. First testing was done in October 2016 and second after 3 months in January 2017.

Results:

The research involved 13 right-handed and 1 left-handed participant and degree of laterality remained unchanged. Grip strength of dominant upper limb was stronger in 10 children from 13 (October 2016 – first measuring) at the first measurement. Our results suggest that climbing activities for three months, according to statistical analysis (t-test Microsoft Excel 2010), may contribute to the symmetrical strengthening of upper limbs in 88%. We have discovered two types development phenomena – visualised as 2 distinct curves that show the development of strength in 30 seconds.

Keywords:

Children, indoor climbing, preference, handedness, handgrip, static strength