

Bibliografický záznam

BALLÝOVÁ, Monika. Impact of Arches and Acral Parts of Upper Limbs in Prop up Position on Coactivation of Muscle Chains – Pilot Study. Prague: Charles University, 2nd Faculty of Medicine, Department of Rehabilitation and Sports, 2016, 70 p., Supervisor: PhDr. Ingrid Palaščáková Špringrová, Ph.D.

Abstract

The Acral Coactivation Therapy, based on neurophysiology, is a method the principle of which consists in propping up on acral parts of the limbs with the aim to coactivate ventral and dorsal muscle chains in order to center the root joints and to straighten the axial skeleton subsequently. The practical part of the thesis is aimed at verification of the Acral Coactivation Therapy principles. Two groups of individuals were objects of the research: mountaineers and general population. Normal arches of upper limbs statistically prevailed in the group of the mountaineers, which proves the impact of regular physical activity on musculoskeletal system and its function. Surface electromyography recorded the impact of correction of the acral part on change in muscular activity. The results of the electromyographic measurement showed the same trends in muscular activity changes as the outcomes resulting from the Acral Coactivation Therapy. Statistically, the most substantial changes were observed in the dorsal muscle chain: the extensor carpi ulnaris and the triceps brachii muscles. The results show that it is better to correct particularly the arches of the hand during prop up exercises than to correct the acral parts relating to the anatomical planes of the body. The final examination of hand arches showed 40% improvement in hand arch typology in both groups, which indicates that previous motor experience is not so essential for performance of a new motor pattern.

Keywords

the Acral Coactivation Therapy, acral part, propping up, muscular coactivation, electromyography, PodoCam