

Balance function control on the background of vestibular stimulation in athletes

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Abstract

© 2018 BRNSS Publication Hub. All rights reserved. Aim: In sports activities, the athlete faces the problem of maintaining the balance of the body against the background of physical and sensory fatigue. The sum of physical and sensory fatigue results in an overload of the athlete's statokinetic system, which primarily leads to a decrease in vestibular stability and proprioceptive sensitivity, generation of muscle tension, changes in the central integration of sensory information, as well as to an impaired differentiation of fine movements, mismatch of regulation mechanisms, and speed of motor reactions. Materials and Methods: The body balance function was assessed using "Stabilan 01-2" stabilographic hardware-software complex (CJSC "OKB" "Ritm," Russia) by analyzing the oscillation of the pressure center. Vestibular stimulation was performed with the help of the Barany chair (Russia). Results: The assessment of the body balance function in athletes and persons not engaged in sports was conducted before and after vestibular stimulation. According to the data of the stabilographic test, the balance function of the athletes engaged in cyclic, situational, and precision sports did not differ. Conclusion: At the same time, the most significant differences in the regulation of the balance between athletes of different specializations are manifested after vestibular stimulation. Individuals not engaged in sports have a lower level of quality of maintaining balance, as compared with athletes, which significantly decreased under the influence of vestibular stimulation.

Keywords

Athletes, Body balance, Sensory systems, Stabilographic indicators, Statokinetic stability, Vestibular stimulation

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