

ELECTROENCEPHALOGRAPHIC PROPERTIES OF ATHLETES PRACTICING ACYCLIC SPORTS

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The current state of the sport shows high demands on the athletes' level of training. The need for athletes to quickly and efficiently assess and perform their own actions and the actions by competitors is characterized not only by an appropriate level of physical fitness, but also by specific functional state of the central nervous system (CNS). One method that allows to adequately and reliably measure the characteristics of the CNS functional state in athletes involved in acyclic sports is a method of recording the electroencephalogram (EEG). In athletes engaged in acyclic sports the EEG during the

initiation of a motor act is characterized by a decrease in the power of alpha- and beta rhythm in left hemisphere while the power of theta rhythm in cortex' frontal regions of both hemispheres is on the contrary higher.

The successful performing of motor actions is associated with an increased power of the sensorimotor rhythm prevalently in frontal, central and parietal areas of the cortex.

The strength of muscle contraction in athletes doing acyclic sports is correlated with an increased power of the EEG high-frequency components for almost the entire surface of the cortex.

For the athletes characterized by high level of sportsmanship, the EEG demonstrated lower desynchronization index (lower reactivity of the cortex).

The state of fatigue in athletes engaged in acyclic sports is characterized by a decreased activity in frontal areas of the cortex.

Keywords: athletes, electroencephalogram.

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