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## THE INFLUENCE OF STRENGTH LOADS ON THE FUNCTIONAL STATE OF THE RESPIRATORY SYSTEM OF STUDENTS OF CONSCRIPT AGE (17-20 YEARS OLD)

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**Summary.** *The development of basic physical qualities should be based on knowledge of the laws of the body's development, the impact of physical exertion on the capabilities of functional systems, and ensure economical adaptation to various types of muscle activity. The principle of heterochrony development of the organism is the main provisions of age-related physiology, which allows to reasonably solving the task of physical education of conscript students. Conclusions.* *The process of formation of long-term adaptation to strength and speed-strength loads is provided by adjustments in the interaction of various systems and functions of the body, as well as physical load.*

**Keywords.** *Respiratory system, strength loads, enlistment age, functional state.*

Increasing the motor readiness of young people of draft age is one of the urgent tasks of physical education, the effective solution of which is largely determined by the scientific justification of the choice of the composition of means and methods of pedagogical influence [1; 8]. In turn, the search for effective methods for the development of basic physical qualities should be based on knowledge of the laws of development of the students' body, the impact of physical exertion on the

ability of functional systems to provide economical adaptation to various types of muscle activity. The level of physical fitness of the majority of young people is low and does not meet the demands of society [2; 5; 9].

In this regard, the search for approaches to solving the problems of massively increasing the motor readiness of young people of draft age, substantiating the training regimes of loads in physical education classes, identifying their availability and impact on the morph-functional development of the body is very relevant [3; 7].

One of the main provisions of age-related physiology, which allows to reasonably solving the task of physical education of conscript students, is the principle of heterochrony development of the organism. However, the specificity of the influence of muscle loads on the functional state of the body, which is largely determined by the difference in the level of development of students at different stages of ontogenesis, the nature of changes in physical capacity under the influence of the duration of their influence, are not studied enough today, which, in turn, inhibits the solution of practical tasks of physical education [4; 6].

So, why is the effect of power loads on the functional state of the respiratory system the most optimal at the draft age?

1. The age period of young men of draft age from 17 to 20 years is a favorable stage of ontogenesis for increasing motor readiness, in particular for strength and speed-power endurance. Realized in the course of long-term adaptation to strength and speed-strength loads, the age-related properties of the body provide young people with the manifestation of maximum aerobic and anaerobic tissue energy exchange capabilities, effective delivery of oxygen to working tissues and muscles, and the economy of muscle work.

2. Adaptation to strength and speed-strength loads is manifested at the initial stage of pedagogical influence by a significant increase in maximum oxygen consumption, against the background of a decrease in the efficiency of gas exchange in the lungs. At the end of the pedagogical experiment, a relative stabilization of the MSC level (maximum oxygen consumption), a significant increase in the efficiency and economy of the respiratory and blood circulation systems and an intensification of restorative processes were observed.

3. Exercises of a strength nature - such as "lifting a barbell with two hands", "lifting a kettlebell with one hand" cause in young men of 17-20 years of age a significantly increased level of work capacity, a higher content of oxygen in the blood  $109 \pm 2.3$  mm Hg. and relative constancy of indicators of acid-base balance ( $BE -3 \pm 0.3$  meq/l;  $pH -7.35 \pm 0.01$ ).

4. An increase in the intensity of breathing and blood circulation in the early period of restitution (the Lingard effect) in young men aged 17-20 years after performing strength and speed-strength exercises is more clearly manifested in the initial stages of pedagogical influence, and before its end, when most of the oxygen demand is satisfied under working time - the Lingardt effect is less pronounced.

5. Purposeful use of strength and speed-strength loads in physical education classes allows to significantly increasing the level of motor readiness of young people of draft age.

**Conclusions.** The totality of the data presented in the work allows us to believe that the process of forming long-term adaptation to strength and speed-strength

loads is ensured by changes in the interaction of various systems and functions of the body, as well as physical load, from general impact in the initial stages to more concise ones in the later ones.

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