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**ІННОВАЦІЙНІ ТЕХНОЛОГІЇ  
В СИСТЕМІ ПІДВИЩЕННЯ КВАЛІФІКАЦІЇ ФАХІВЦІВ  
ФІЗИЧНОГО ВИХОВАННЯ І СПОРТУ**

ТЕЗИ ДОПОВІДЕЙ  
VI МІЖНАРОДНОЇ НАУКОВО-МЕТОДИЧНОЇ КОНФЕРЕНЦІЇ  
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## USE OF FUNCTIONAL TESTS TO ASSESS THE STATE OF THE CARDIOVASCULAR SYSTEM IN STUDENTS

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**Actuality.** The leading criterion for the health of students is, as is known, not only a high level of mental activity, but also physical development. The ability of their organism to maintain resistance to various factors (endogenous and, in particular, exogenous) depends on normal physical and neuropsychological development, functioning of organs and systems of students, to adapt to changing environmental conditions and to successfully show the best results in learning. In those with some variations in health, adaptive capacity is usually lower than that of completely healthy students, which results in lower educational outcomes. Deviations that arise in the regulatory systems of the cardiovascular system are usually preceded by a variety of disorders, namely: hemodynamic, metabolic, energy disturbance and, therefore, are the earliest diagnostic features of the morbidity of the subject that needs to be corrected, which is especially relevant for young people. Age, especially for students.

**Purpose of the study** – using the functional tests of Martine-Kushelevsky and Ruffie to evaluate the functional state of the cardiovascular system of students of the Kharkiv national medical university.

**Results of the work.** The research was conducted on the basis of Kharkiv National Medical University. The sample included 25 students, the average age of which was 21, students of the 3rd year. To determine the Ruffie index, the participants measured the heart rate (HR) for 15 seconds before and after the load. The assessment of cardiac performance was calculated using the appropriate formula.

The results were evaluated on a scale of 1 to 15. To determine the type of reaction of CVS, heart rate and blood pressure were

measured before and after loading. After that, the analysis of the received data was carried out. It should be noticed that the Ruffet index was used to evaluate the cardiac performance during physical work, Martine-Kushelevsky's test – evaluation of CVS recovery processes after loading.

According to the results, students were divided into three groups: 26% had norm tonic type of reaction; 55% of participants had hypotonic and 24% hypertensive type.

In the first group, the Ruffet index was  $5,8 \pm 0,5$ , the second group –  $6,0 \pm 0,7$  and the last –  $7,3 \pm 0,4$ . That is, in a quarter of students who had a hypertonic type of reaction, the output of the integral index of CCS in the range of "stress" was noted, indicating an increased load on the blood supply apparatus, most likely due to the consumption of a large part of the energy by students for preparation for classes and sessions and stay all the time in stressful situations due to the high mental and physical load at the university, the lack of examination by doctors, especially in the presence of hypertonic response, which will be reflected and their results in innovation activities.

**Conclusions.** After analyzing the data, it was found that in the quarter of students there is a functional voltage of the cardiovascular system. It is necessary not to lose time and to have time to make corrections, as it negatively reflects on their learning outcomes and may endanger the development of diseases of the cardiovascular system through constant stresses.

## References

1. Veretennikov V.L. Correction of the psychophysiological state of students on the basis of the integral indicator of adaptability to learning in the university. Educational notes of the University of Lesgaft. 2011. №10 (80). 51 p.