

**PHYSIOLOGICAL VALUE OF CERTAIN TESTS FOR ASSESSMENT OF
MOVEMENT QUALITIES**

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Annotation: The article deals with matters concerning the analysis of the results of study of physical cost of a number of testing exercises which stipulate a possibility to evaluate speed-force abilities of young 9-10 year-old volleyball players. We have shown significance of taking into account the physiological cost of these tests not only for evaluation of development level of the studied abilities but also for defining the level of functional capability of children to perform these testing exercises.

Key words: Movement qualities, skilled athletes, level of development, physiological value.

INTRODUCTION

Intensification of competition and continuous improvement of results in modern sports competitions requires a new scientific approach to the training process. In this regard, it is especially important to choose and use tests that evaluate sports training. It is known that the training of qualified athletes continues from the stage of selection and initial training to the stage of improving sports skills. During this multi-year period, athletes gradually adapt to loads of increasing training volume and intensity.

The formation of physical qualities and technical-tactical skills is regularly monitored throughout the year with the help of various tests. Such activities are officially included in all training programs. However, the physiological (bioenergetic) potential used to perform these tests is ignored in these programs and in sports practice. Physiological bases of physical qualities and their bioenergetic values are described in detail in many scientific and educational literature.

(1,4,5). But there is almost no official scientific data reflecting the physiological value of normative tests that assess the level of development of these qualities. However, it is important to know their physiological value when using movement tests. The purpose of this work is to perform a series of tests designed to determine the level of development of speed and strength qualities (running for 30 m, standing long jump, standing vertical jump for 20 s). It is aimed at studying the physiological value of the results of these tests in 9-10-year-old volleyball players (respiratory frequency - NOCh, heart rate - YuQCh, lung vital capacity - ŪTS).

From the indicators listed in Table 1, it can be observed that the quickness and strength qualities of 9-10-year-old children who have just started playing volleyball are significantly less developed than those of children who have started playing other sports.

1 table.

Quick-strength qualities and their physiological value in 9-10-year-old volleyball players (n=20)

1 жадвал.

Tests	Result	Physiological value		
		NOC (min)	Load (min)	ŪTS(ml)
30 m run	6,7±1,9	<u>17,2±2,3</u>	<u>78,6±3,2</u>	<u>1218,6±26,7</u>
		31,1±4,1	144,0±6,1	1342,3±29,3
Standing long jump	145,2±4,6	<u>18,3±3,4</u>	<u>77,4±4,2</u>	<u>1132,0±19,3</u>
		19,7±3,7	86,3±5,1	1149,0±17,7
Vertical jump for 20 s	13,4±0,8	<u>18,7±4,1</u>	<u>79,7±5,1</u>	<u>1153,2±21,5</u>
		34,5±4,1	152,0±6,3	1467,3±23,7

Note: the denominator is before the test, the ratio is after the test.

For example, if running 30 m is equal to 6.7 s according to our results, it is equal to 5.4-5.6 s in volleyball children, and 5.6 s in handball children (2). observed. Standing long jump is also not enough in our 9-10-year-old examinees compared to other young athletes. The only reason for this, in our opinion, is that the number of children who participated in the selection tests was not enough when they were selected for the volleyball team. So, there was no competition in the selection process.

In addition, failure to properly explain the conditions of the competition to the children participating in the competition or failure to follow the rules of conducting the tests (using a stopwatch, not accurately measuring the jump distance, the stopwatch not meeting the standard, etc.) can also cause incorrect readings. However, according to the opinion of local experts and coaches, children are accepted directly to sports clubs almost without selection. In any case, it can be assumed that the average statistical value of the indicators obtained from 20 children who participated in the research determines the characteristic of the physical capabilities of these children.

Determining the physiological value of the indicators obtained for the purpose of evaluating the quick-power qualities made it possible to shed some light on the mentioned hypothesis. In particular, the interpretation of the observed numbers showed that the result of children running 30 m was equal to 6.7 ± 1.9 s, and the physiological value of this speed quality had a specific appearance. For example, before running for 30 m, the frequency of breathing was equal to 17.2 times per minute, but after running, this indicator increased to 31.1 times (difference - 13.9 times). So, for running 30 m, children took in 13.9 times on average, that is, a little less than twice as much O₂, and released about the same amount of SO₂.

The frequency of contraction of the heart was 78.6 times/minute in a relative rest, and after running for 30 m, the rhythmic activity of the heart increased to 144.0 beats per minute. Therefore, the average pulsometric value of running 30 m is equal to 65.4 times.

The living capacity of the lungs was 1218.6 ml on average before the run, but at the end of the run, this indicator increased to 1342.3 ml. Although the results of running 30 m indicate that the children's speed is not high, the obtained physiological indicators proved that the body reacted sharply to this short load. Such a reaction of the body indicates that the anaerobic capacity of these children is not yet well formed.

Standing long jump averaged 145.2 ± 4.6 cm. Before performing this test, NOCh was equal to 18.3 times/minute, but after the test it accelerated to 19.7 times. Heart rate increased from 77.3 times to 86.3 times/minute. $\bar{U}TS$ almost did not change (1132.0-1149.0 ml).

The vertical jump test in one place for 20 s was a special test for the tested children, which showed their natural inexperience in this matter. The technique of performing the test is not up to the mark, the number of jumps and the speed were not as usual.

True, in some cases (M-ov, A-ev, K-ov) 20 p. the number of standing vertical jumps increased to 15-17 times. However, the average statistical indicator was 13.4 ± 0.8 times. So, this jumping exercise indicates that the examined children have not mastered it enough. However, this test - jumping, according to its structure, belongs to complex coordination movement skills, and its quick and efficient performance is not within the skill level of even highly trained athletes.

That's probably why this skill-test, which was performed 13.4 times for 20 seconds, had a sharp effect on the children's body and caused the tested functional indicators to deteriorate.

In other words, although the work is of low volume (times) and of low quality, it is noticeable that its physiological value is much greater. Including NOCh 18.7 times/minute before the test, 34.5 times after the test. So, the respiratory value of the performed work is equal to 15.8 times/minute.

UQCh 79.7 - 152.0 times/minute, and $\bar{U}TS$ 1153.2 ml - 1467.3 ml. It can be recognized that the indicator with the greatest physiological value is the test that determines the speed of jumping - 20 s. standing in one place during the vertical jump exercise. It is clear from the physiological data that the functional readiness of the human body is closely related to its physical capabilities. The greater the functional reserve (or bioenergetic potential) in the body, the greater the possibility of handling the workload. However, functional reserve does not arise by itself. On the contrary, it is necessary to regularly form the level of existing physical qualities from a genetic point of view at the expense of higher than possible pressures. Only then can the expected functional reserve fund be established.

The obtained results and their comparative analysis lead to the conclusion that the determination of the physiological value of movement tests used in the selection and training process is not only the basis for an objective assessment of physical qualities, but also reveals how functionally ready children are to perform these tests.

Approaching the issue of testing in this way makes it possible to organize physical and functional training in accordance with the characteristics of the chosen sport.

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