

## Development of Physical Qualities (Speed) in 13-14-Year-Old Boxers

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**Annotation:** This article covers the modeling of the situations of application of movements in the system of technical and tactical improvement of boxers in regular and large-scale training fights, primarily in conditions close to competitions.

**Key words:** training, technical and tactical improvement of boxers, physical qualities ,speed, boxers

Morphological, functional and biomechanical characteristics of 13-14-year-old children reflect significant changes in the ability of children to perform loads of large volume and speed. The growth of movement and vegetative function indicators does not change linearly with age, because there are concrete stages of decrease and increase of results depending on the sensitive laws that reflect physical qualities, which is a series of experiments. corresponds to the results.

Continuous monitoring of the growth dynamics of sports results, taking into account morphofunctional indicators, makes it possible to predict with great confidence the transition from the initial training group to the training group in BO'SM, in which boxers will achieve stable results or leave the sport. can deliver.

For example, during the ascertaining pedagogical experiment, the average values of the researched characteristics according to the data obtained as a result of anthropometric measurements were within the normal range, but the analysis of the variability of the data (V %) showed a large difference in values:

- the minimum value ( $V = 6.2\%$ ) is in the length of the body, and the maximum
- ( $16.5\%$ ) - was observed in body mass;
- the circumference of the chest is quite stable during inhalation ( $6\%$ ), exhalation ( $6.1\%$ ), normal ( $6.5\%$ ), but the biggest differences in indicators are during excursion ( $20.5\%$ );
- long indicators change within acceptable levels;
- sizes of body segments: shoulders ( $5.5\%$ ), arms ( $5.9\%$ ),
- feet ( $6.3\%$ ), shoulders ( $6.5\%$ ), palms ( $6.8\%$ ), pelvis width ( $7.5\%$ ), shins ( $8.6\%$ ), shoulder width ( $5.3\%$ ));
- leg indicators are quite variable ( $8\%$ ); thigh ( $10.4\%$ ), body length ( $11.7\%$ );
- indicators of shoulder girdle max ( $7.5\%$ ) and min ( $8\%$ ), palm ( $7.1\%$ ), shoulder area max ( $6.8\%$ ) and min ( $8.9\%$ ), thigh max ( $8.5\%$ ) and min ( $9.3\%$ ), the calf has an acceptable difference of max ( $9.9\%$ ) and min ( $8\%$ ) values and is within the normal limit.

Thus, the following characteristics were determined in the tested 11-13-year-old adolescent athletes: body mass, chest excursion, body, arm length, body segments, thigh girdle max and min, calf - max and min. in the period of youth, the growth and development processes of the organism are most affected.

Characteristic morphological characteristics of adolescent athletes and the specificity of functional manifestations, form a unique complex of individual signs, which are reflected in the tendency to engage in various types of activities. Under the influence of manifestation and development of movement abilities lies a whole adaptive reaction that leads to the effect of adaptation, the morphofunctional specialization of the organism.

Assessment of physical fitness was carried out according to pre-selected and approved control exercises:

- fast track (30 m run, five silent times, number of projectile hits in 10 s);
- quick-power oriented (quietly on a support while lying down, pull-ups in a hanging position, standing long jump, throwing a stuffed ball ( $t = 1$  kg), lifting the legs at an angle, while performing silently on a support while lying down clapping in front of the chest);
- aimed at demonstrating endurance (jumping ropes for 60 s, running 800 m).

Consideration of age-related characteristics is important in the process of functional training of young athletes at the initial training stage.

There are favorable opportunities for developing quickness of movements at the junior school age. Short-term rapid loads of children are determined by their functional capabilities, high excitability of the innervation mechanisms that control the activity of the motor apparatus, high mobility of the main nervous processes and high speed of metabolism typical for the child's body.

Movement at high speed is not only functional, but also determined by the morphological characteristics of a person: body length and mass.

The speed of movements is characterized by the number of movements that a child can perform in a unit of time. This quality is determined by three indicators: the speed of a single movement, the latency period of a simple movement reaction, the frequency of movements within a unit of time, and the time to cover a distance. The speed of individual movement increases from the age of 4-5 and reaches the level of an adult by the age of 13-14. By the age of 13-14, the time of simple movement reaction, which is determined by the speed of physiological processes in the neuromuscular apparatus, reaches the level of an adult. The time of the normal reaction is genetically programmed, rarely affected by training, and its reduction does not exceed 10-15%. From 7 to 13 years of age, the maximum voluntary frequency of movements increases, at this stage of individual development there are the best conditions for forming the frequency of movements.

In the process of performing physical exercises, there is a collective manifestation of speed. The greatest importance is attached not to the manifestation of elementary forms of quickness by a person, but to the speed of performing a whole act of movement. They were chosen as control exercises to assess the level of development of physical qualities in school-aged children. For example, running 30 meters from a high start is used to assess the level of development of physical qualities in school-aged children.

Overcoming external resistance or weight during rapid movements is accompanied by considerable muscle tension. Therefore, in sports practice, quickness is manifested in specific forms of quick-power qualities. 11-13-year-old children have good resistance to short-term fast-power loads.

In boys, the greatest increase in standing long jump is 8-9% at the age of 8-11 years, its highest values are determined at the age of 13-14 years.

Dynamic exercises of an explosive nature are used more for the development of quick-strength qualities. At the age of 12-14, the speed of movement increases due to the development of quick-strength qualities.

9-10 years of age is also characterized by rapid development of flexibility. This is helped by the high plasticity of the central nervous system, in particular, the rapid development of the movement analyzer, which is expressed in the improvement of its spatio-temporal descriptions with spatial accuracy of movements.

Spatio-temporal indicators of dexterity grow rapidly in junior school age, and by the age of 13-14, the flexibility of adolescents practically approaches the level of an adult.

Young students have every opportunity to develop flexibility. Morphological characteristics of THA, high elasticity of ligaments and muscles, high mobility of the spine indicate the need for effective use of special exercises to develop this quality. The highest natural rate of flexibility development in boys is observed from 7 to 10 years old, and by 13-15 years, active flexibility reaches its maximum size.

Morphological and functional opportunities favorable for the development of strength appear at the age of 8-11 years. The increase in strength is associated with an increase in muscle mass, an increase in the thickness of muscle fibers, an increase in the reserves of carbohydrates and proteins rich in energy compounds, and an improvement in nerve control. The development of strength happens unevenly. At the age of 8-11, strength increases rapidly, at the age of 11-13, due to puberty, the rate of strength growth slows down. From the age of 14-15, the strength increases rapidly again, and by the age of 18-20, it reaches its maximum value. These periods are the high-sensitivity phase of dynamic strength training. In 7-10-year-old students, static tension is observed along with the rapid development of fatigue. Absolute and relative strength in adolescent athletes increases under the influence of two factors - natural age-related changes of the body and increase in sports skills. For example, in swimmers, the increase in absolute strength is determined to the greatest extent by natural changes, and the increase in relative strength depends on the level of the swimmer's skill. Thus, the increase in sports results in swimming occurs not with an increase in absolute strength, but mainly with an increase in relative strength. If, in swimmers, a sharp increase in strength was detected at the age of 14-17, in basketball players, it was detected at the age of 13-15, and the growth rate of the total values of absolute strength, the growth rate of the total values of relative strength is much larger than The annual increase in absolute strength from the moment of starting systematic football training until the age of 14 years is 21%, while the increase in relative strength is only 2.5-3%. Such a difference is explained by the anatomo-physiological features of adolescent development at this age and the tradition of increasing weight and height indicators.

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