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ANALYSIS OF THE CRITERIA FOR SELECTING YOUNG ATHLETES SPECIALIZING IN SPRINT DISTANCES

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Abstract; The President of Uzbekistan, Sh. M. Mirziyoyev, and the government have paid great attention to Olympic sports, including athletics. The Law on "Physical Education and Sports" of the Republic of Uzbekistan (revised in 2015), Presidential Decree No. PQ-5368 on "Measures to Radically Improve the State Management System in the Field of Physical Education and Sports," and Decree No. PQ-3031 on "Measures to Further Develop Physical Education and Mass Sports" are clear examples of this. The role of high sports achievements, the intensifying competition at international competitions, and the generational change of athletes in national teams highlight the need for scientifically grounded systems for selecting and training promising young athletes.

In the selection of children for sports, along with other indicators, determining their individual physical readiness, technical training indicators, and personal qualities is essential. The need for scientific research on effective approaches and methods to improve the process of selecting and identifying talented young sprinters defines the relevance of this work.

Keywords: athletics, physical training, sprinter, speed, running, training, distance, muscles, stadium, relay race, research

Enter

Physiological and Anatomical Characteristics of Sprinters

Sprint races are categorized based on distance, ranging from 60 meters (held in indoor facilities) up to 400 meters. The requirements for physical readiness in sprinting vary depending on the length of the race, but speed remains the most important factor for all distances.

The speed in sprinting is primarily determined by the rapid contraction of muscles needed for high-speed running. The rate of muscle contraction is largely dependent on the properties of muscle fibers. The best sprinters possess a higher percentage of fast-twitch muscle fibers compared to long-distance runners. There is a

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saying that sprinters are "born, not made," but this is only partially true. Training plays a significant role in improving the ability of muscles to contract quickly for fast movements. These abilities can be developed through proper training, which also improves strength, coordination, and endurance, contributing to success in sprinting events. Additionally, training can enhance the performance of fast-twitch muscle fibers, allowing them to contract more quickly.

Research shows that the muscle composition of sprinters is also influenced by neurological and metabolic factors, which can affect performance. Sprinters have also been studied in terms of anatomical and morphological characteristics, specifically the relationship between stride length and pace, which is affected by the athlete's height, leg length, and the strength of their thigh muscles. Enhancing stride length through strength training can significantly improve the performance of less skilled sprinters.

It is generally easier for female athletes to increase their pace compared to males, and the difference between the pace of highly skilled sprinters and their less skilled counterparts is relatively small. The optimal time to begin stride-length training is after the onset of puberty, typically around 15-17 years old for boys and 13-15 years old for girls. Despite differences in body size and leg length, athletes of various body types can achieve great success in sprinting.

The anthropometric indicators of sprinters, such as height and leg length, are largely determined by genetics, passed down from their parents. The coordination capabilities of the nervous system, which play a role in fast movements, are not significantly changed through training. However, studies show that many children can achieve a sprint distance of 150-160 meters at speed, while others of the same age may reach only 80-90 meters.

Muscle fibers are classified into slow-twitch (red) and fast-twitch (white) fibers based on their mechanical work capacity. The method used to examine muscle fiber composition, called a muscle biopsy, involves extracting a sample of muscle tissue in a lab environment using specialized equipment. This diagnostic method, while scientifically important, is not widely used in sports practice for selection purposes.

Sprint running is primarily a coordinated alternation of muscle movements. Simply observing the external form of a runner's movements does not provide complete information about their performance. To understand sprinting techniques, one must first

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understand the internal mechanisms of movement, particularly how skeletal muscles contract to produce motion.

The complex anatomical and physiological structures involved in sprinting make it difficult to model or describe precisely. The challenge lies in accounting for not only the muscles of the legs but also those of the body and arms, which contribute to overall movement. Additionally, the morphological differences in muscle fiber structure between individuals can make it difficult to qualitatively assess the key movements of sprinters.

Thus, it is more appropriate to discuss the laws governing muscle contraction and the interaction between muscle groups during maximum-speed movements rather than trying to define an ideal movement model for sprinters. The use of eccentric contractions, in which muscles lengthen while under tension (such as when decelerating the legs during sprinting), is an important aspect of sprint training. Furthermore, muscles surrounding joints contract simultaneously to stabilize and control the movement, a process known as isometric contraction.

Yearly Training Distribution for Sprinting Adolescents

The yearly training cycle for preparing sprinters in athletics, specifically for 100, 200, and 400-meter races, is crucial. This cycle includes preparation, competition, and recovery phases lasting from 2 to 5 weeks. From the 1990s onward, modern techniques and tactics have been introduced into training programs, which have significantly evolved.

Training plays a vital role in maintaining peak physical form and ensuring long-term success in competitions. High-level athletes achieve their best performance during the competition phase, and proper preparation during the training phase is key to this success.

N.G. Ozolin noted the importance of balancing workload and recovery periods based on individual capabilities. The duration and intensity of training must be personalized to the athlete's unique condition, particularly when preparing for major competitions. Sprinters require intense training followed by sufficient recovery, including rest days and recovery exercises like jogging.

Conclusion

In conclusion, the workload of sprinters is aimed at developing various physiological systems and mechanisms that provide the body with energy. These are

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assessed and distributed based on the concepts of "overall volume" and "overall intensity." Research has shown that 12-13-year-old girls reach the peak of their speed and strength abilities during training.

Annual training programs for sprinters typically include 240-260 sessions, lasting between 960 and 560 hours, with total running distances ranging from 1600 to 2600 km per year. Various control exercises, such as sprinting 20-30 meters from a standing start, are used to assess the development of speed and strength. Triple and long jumps from a standing position are also key exercises used to evaluate the readiness of sprinters.

Coaches often recommend repeating specific exercises at 85-90% intensity, alternating between high-intensity sprinting with longer rest intervals and lower-intensity sprints with shorter rest periods. Exercises that develop explosive power, such as jumps, are considered essential for sprinters.

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