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MODERN METHODS OF TRAINING SHORT-DISTANCE RUNNERS

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Abstract:
This article analyzes the process of training athletes for short-distance running, the physiological and biomechanical characteristics of muscle activity, as well as the relationship between stride length and pace on a scientific basis. The issues of running technique, muscle tension regimes, preparation stages and correct distribution of loads are covered. Based on the research, practical recommendations are given for the development of speed, strength, coordination and endurance. The article is of methodological importance for coaches, athletes and scientific researchers involved in athletics.

Keywords: Short distance, running technique, muscle tension, stride rate, preparation stages, load distribution, speed, strength, coordination, sports training.

Introduction

QISQA MASOFAGA YUGURUVCHILAR TAYYORGARLIGINING ZAMONAVIY USLUBLARI

To‘rayev Olimbek Odilbek o‘g'li
Toshkent davlat pedagogika universiteti
24/2 guruh magistranti

Annotatsiya:
Ushbu maqolada qisqa masofaga yugurish bo‘yicha sportchilarning tayyorgarlik jarayoni, mushaklar faoliyatining fiziologik va biomekanik xususiyatlari, shuningdek, qadamlar uzunligi hamda sur’ati orasidagi bog‘liqlik ilmiy asosda tahlil etilgan. Yugurish texnikasi, mushak zo‘riqishi rejimlari, tayyorgarlik bosqichlari va yuklamalarni to‘g‘ri taqsimlash masalalari yoritilgan. Tadqiqotlar asosida tezlik, kuch, koordinatsiya va chidamlilikni rivojlantirish bo‘yicha amaliy

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tavsiyalar berilgan. Maqola yengil atletika bilan shug‘ullanuvchi murabbiylar, sportchilar va ilmiy izlanuvchilar uchun metodik ahamiyatga ega.

Kalit so‘zlar: qisqa masofa, yugurish texnikasi, mushak zo‘riqishi, qadam sur’ati, tayyorgarlik bosqichlari, yuklama taqsimoti, tezlik, kuch, koordinatsiya, sport mashg‘ulotlari.

Introduction

The relationship between stride length and speed has been studied. These indicators depend on the athlete's height, leg length and running speed, and stride length also depends on the strength of the thigh muscles.

This is one of the most important results of the research.

In runners who do not have high sprint skills, the result can be improved mainly by increasing the length of the strides, mainly by training strength abilities.

It is usually easier for women than for men to increase the speed of the strides. Highly skilled sprinters can improve their results by improving coordination in the final phases of the distance while maintaining the speed of the strides.

The anthropometric indicators of sprinters are genetically transmitted from their parents. The properties of the nervous system, which express the coordination capabilities of maximally fast movements, practically do not change during sports training. Most children perform a sprint in 150-160 milliseconds, but there are such children of adult age in whom this indicator is 80-90 milliseconds.

Almost all the muscles of the body are involved in running. However, the greatest load falls on the muscles of the legs.

The basis of muscle work in running is the coordination of movements.

Let's consider the work of muscles in some phases of the running movement.

Assessing the appearance of an athlete's movements in running, assessing the full range of movements, or, in mechanical terms, studying the kinematics of movement, does not always provide complete information.

The most complex anatomical and physiological structures of the human musculoskeletal system do not currently allow for a sufficiently accurate modeling and description of the nature of running. The difficulty lies in the fact that not only each of the 50 muscles of the legs, but also many other muscles of the body and arms affect the general nature of the movement.

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In addition, the structure of muscle fibers in humans is different, and if morphological characteristics are also taken into account (the total fiber size of the body and its limbs), it becomes obvious that it is very difficult to qualitatively describe the main movement characteristics of the limbs of an athlete-sprinter.

Therefore, it is more appropriate to talk not about the ideal movement model of a short-distance runner, but about the laws of muscle contraction and the interaction of muscle groups during the execution of maximum fast movements by an athlete.

In running, it is known that muscle tension during muscle work leads to a decrease in the angle of the joint it encloses, and it shortens. In various movements, muscles must either cushion the impact on the ground or stop the legs moving at high speed. As a result, the tense muscle is stretched under the influence of external forces, such a mode is called eccentric tension.

Fast movements require the muscles to work in such a way that the joint is surrounded. Antagonist muscles surrounding the joint from opposite sides simultaneously tense and, balancing the force, “lock” the joint and create a rigid system.

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Such muscle tension is called isometric tension.

Thus, during the execution of the movement, the muscle can be relaxed or be in one of three states of tension. Therefore, when studying the internal mechanism of movement, it is necessary to know the nature of the tension of certain muscle groups, the number of motor units working simultaneously in the muscle (which determines the force of contraction), as well as the duration of their tension.

Short-distance running competitions are divided according to the length of the distance: from 60 m., competitions are held at this distance only in indoor facilities, up to 400 m.

The physical fitness requirements for short distances vary according to the length of the distance, but the most important quality for all distances is speed.

In short-distance runners, speed is the result of rapid, powerful muscle contractions that provide the efficient, smooth movements needed for high-speed running.

The speed at which skeletal muscle contractions occur depends largely on the properties of the muscle fibers.

The best runners have a higher percentage of muscle fibers than long-distance runners.

This is where the saying goes that long-distance runners are not born with more muscle fibers than sprinters. However, this saying is only partially true. The skills acquired during training help to translate muscle contractions into fast running movements. These skills need to be trained and developed. Training can also improve other skills, including strength, coordination, and specific endurance, which can help short-distance runners achieve success. In addition, training can affect the activity of various muscle fibers, increasing their possible contraction speed. Finally, the assumption that the type of fibers in the muscles does not change is not always confirmed by research.

Muscles contain both neurochemical and metabolic components that can also determine the success of short-distance running.

The relationship between the anatomical and morphological characteristics of short-distance runners, step length, and speed has been studied. These indicators depend on the athlete's height, leg length and running speed, and the length of the stride also depends on the strength of the thigh muscles.

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This is one of the most important results of the research. The results of runners who do not have high qualifications in sprinting can be improved mainly by increasing the length of the strides by training strength.

It is usually easier for women than for men to increase the speed of their strides. It differs little from the speed that highly qualified sprinters can develop.

Athletes of different heights, weights, and leg lengths achieve great results in sprinting over short distances.

The anthropometric indicators of sprinters are genetically transmitted from parents. The properties of the nervous system, which express the coordination capabilities of maximally fast movements, practically do not change during sports training. Most children perform a sprint within 150-160 m, but there are cases in children of such an age that this indicator is equal to 80-90 m.

Athletes are divided into slow (red) and fast (white) fibers according to their ability to perform mechanical work.

A test taken to study the structure of muscle fibers is called a muscle biopsy and is performed in laboratory conditions using a special apparatus. This diagnostic method is not widely used in sports selection practice.

The basis of running muscle work is the complex coordination of movements. Let's consider the work of muscles in some phases of running movement.

The assessment of the appearance of an athlete's movements in running, the assessment of the full range of movements, or, in the language of mechanics, the study of the kinematics of movement, does not always provide complete information. Movement is the result of the contraction of the main engine of a person - skeletal muscles, therefore, when considering the technique of running at short distances, it is necessary, first of all, to understand the internal structure of the movement.

The most complex anatomical and physiological structures of the human locomotor apparatus are currently not sufficiently accurately modeled and described, the difficulty lies in the fact that not only each of the 50 muscles of the legs, but also many other muscles of the body and arms affect the general nature of the movement. In addition, the structure of muscle fibers in humans is different, that is, if morphological characteristics are also taken into account (fiber size of the body), it is clearly evident that it is very difficult to qualitatively describe the main movement effects of an athlete running at short distances and playing sports.

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Therefore, it is more appropriate to talk not about the ideal movement model of a sprinter, but about the laws of muscle contraction and the interaction of muscle groups during the athlete's maximally fast movements.

Running is known to cause muscle tension in the work of the muscles, which leads to a decrease and shortening of the joint angle covered by it, in various ways, the muscles need to cushion the fall to the ground or stop the legs moving at high speed. As a result, the tense muscle is formed under the influence of external forces, such a mode is called eccentric tension.

Fast movements require the use of muscles in such a way that the joint is surrounded by them. Antagonist muscles, which surround the joints from opposite sides, simultaneously tense and, balancing their forces, “lock” the system and control the system. Such muscle tension is called isometric tension.

So, in the process of performing the movement, the muscle can be relaxed or be in one of three states of tension. Therefore, when studying the internal mechanism of movement, it is necessary to know the nature of the tension of certain muscle groups, the number of motor units working simultaneously in the muscle (which determines the force of contraction), as well as the duration of their tension.

Regular work in extreme (emergency) conditions leads to a significant increase in the maximum strength capabilities of the calf muscles. Therefore, the strongest short-distance runners in terms of muscle stiffness are significantly superior to athletes involved in other sports.

The presented data on the consistent work of muscle groups and their modes of activity during the base period of the running step allow us to take a selective

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approach to the selection of special speed-strength exercises used in the training of short-distance runners. It is known from the theory of sports training that the selection of special means is based on the principle of dynamic adaptation of the exercises used from competition to training. Typically, in practice, various high jumps, high jumps, weighted toe raises, and similar exercises are used to develop the speed-strength capabilities of the calf muscles. Many jumps, which play a large role in the speed-strength training of runners, also differ in their movement parameters from the characteristics of fast running. This is because the landing of the feet is carried out on a straight leg, and in the shock-absorbing phase, the main load falls on the muscles and ligaments surrounding the knee.

Thus, the most suitable analysis of exercises for short-distance runners should be "running on one leg, landing with the front part of the foot, in this case, many jumping exercises provide muscle strength.

In the system of training runners for short distances of 100, 200, 400 m, the annual preparatory stage is the main component. The stage includes the period between preparation, competition and transition, and lasts 5-2 weeks.

The preparatory period of training is usually 6 months (November-April). The volume of training during this period exceeds the volume of training during the competition period: 1st stage autumn-winter (2-2.5 months), 2nd stage winter-spring (2.5-3 months), 3rd stage spring (1 month).

The main tasks of the first stage of the preparatory period: improving comprehensive physical development, developing agility, perfecting running technique and tactics.

Open It is advisable to combine outdoor and indoor training.

When training in the hall, athletes should use a variety of gymnastic exercises: on a gymnastic wall, climbing a rope, various jumps (with and without support).

Weighted exercises are also useful: with a barbell, kettlebells, stones, dumbbells, sandbags and balls can be used in general development exercises (rotations, bending the body, twisting, throwing a stuffed ball from below, from the side, behind the head, behind the body, pushing from the chest with two hands).

Exercises performed with a rope strengthen the muscles of the back of the thigh.

One of the effective tools that helps develop speed and agility are sports games (basketball, volleyball). They can be performed according to simplified rules and, outside the regulations, sometimes increasing the game time by 1.5-2 times.

Educator Insights: A Journal of Teaching Theory and Practice
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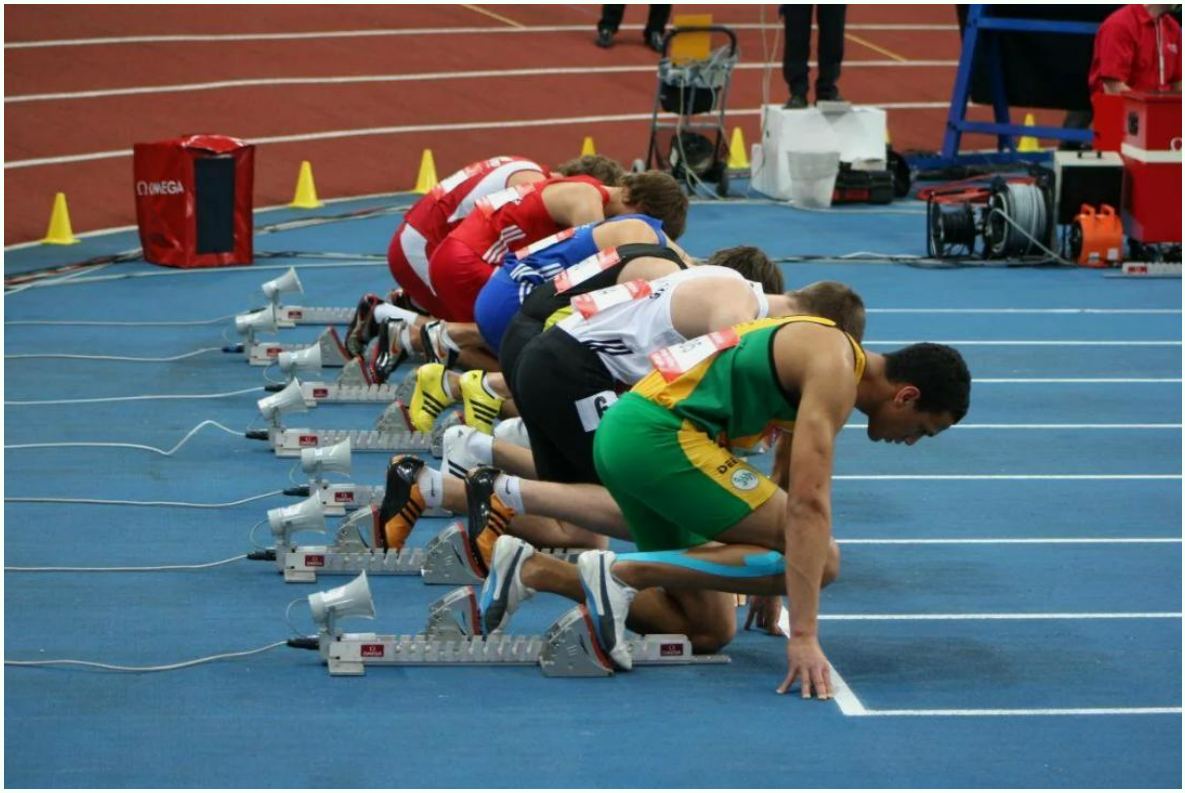
In the second stage of the preparatory period, the improvement of general physical fitness and running technique continues. At the same time, the main focus of this stage is to improve speed qualities. Training equipment is the same as in November and December. The total volume of special training equipment increases and reaches its highest level in March.



When improving physical qualities, it is necessary to avoid uniformity, which negatively affects the nervous system of the athlete. That is, if it is necessary to solve the same task on two training days, this should be done not with the same, but with different means. Alternating the use of different training equipment, changing the rhythm of exercises, introducing innovations into training, changing training locations will prevent the athlete from feeling indifferent to training.

In the 3rd stage of the preparatory period (April), the volume of general physical training equipment is significantly reduced, and the importance of special endurance and walking speed increases. Stage 3 is the stage of transition from the preparatory period to the competition period. At this time, athletes usually train 5-6 times a week.

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In April, due to the need to perform a large volume of training, it is necessary to take a break at this time. This month, it is advisable to train in mountainous areas (at an altitude of 1500 and above). Reduced atmospheric pressure and, as a result, a decrease in the partial pressure of oxygen cause the body's own specific reactions to the visible. In mountainous conditions, the athlete's body tries to supply the working muscles with oxygen. As a result, the ability to perform work in conditions of oxygen deficiency increases. After training in the mountains, the ability to absorb oxygen increases in athletes. In addition, the body uses oxygen more economically.

In the spring, the volume of athletic walking increases. The proportion of running gradually decreases, the speed of walking increases and becomes the main exercise.

When increasing speed, it is necessary to try to ensure that the technique corresponds to this speed. Otherwise, a fast athlete will make mistakes that are difficult to correct.

Training during the competition period

The competition period lasts 5 months (May-September).

During this period, the athlete must demonstrate a state of readiness for sports. This state must be maintained throughout the competition period.

The objectives of the competition period are: to develop general physical fitness, to develop the qualities necessary for short-distance runners (speed, special endurance) and athletic running technique, to develop a “sense of speed” based on the planned speed in future competitions, while during the competition period, special endurance is given great importance. A short-distance runner must know his average speed well and master it. This speed is individual for each distance.

In well-trained athletes, the difference between the stopwatch reading and the time determined by the athlete’s own feelings is 1-2 seconds per 400 m. In order to cover the entire distance at a sufficiently (planned) high speed, during training it is necessary to cover individual sections of the distance at a speed greater than the competition speed. In the first half of the competition period, great importance is attached to improving speed.

During the competition period, athletes should not forget about the selected type of technique. To correct and improve individual elements of the technique, various special exercises should be performed.

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Slow running in the forest, regular and sporty walking are an excellent means of preventing the athlete's nervous system from fatigue and restoring its working capacity.

During the competition period, the physiological load curve should gradually and steadily increase, having a wavy character.

After several periods of increasing the load, it is permissible to slightly reduce this load. For example, after major competitions or after 2-3 weeks of training with a normal load, a week of training with a relatively low load is planned. During the period of high-stakes competitions, it is necessary to reduce the load, and also to give athletes 2-3 days of rest immediately before the competition. The best athletes participate in international competitions 6-10 times a year (taking into account all distances, i.e. 100, 200 and 400, relay races).

The competitive training period consists of 2 stages:

Stage 1 - May-July, i.e. before responsible competitions.

Stage 2 - July-September, i.e. covers the period of responsible competitions.

During the first stage of the competitive period, the state of readiness for sports form (sports event) continues to develop. The main tasks of this period are to

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improve speed and special endurance. Training is held 5-6 times a week.
Training in the transition period.
The transition period (October) is a period that connects the two training paths and provides active rest. After the end of the sports season, in the fall, the athlete should reduce the training load without going into a state of complete rest. This period can last up to 4-5 weeks.
The tasks of the transition period: maintaining general physical fitness at the achieved level, gradually reducing the training load, active rest, improving technique.
This period is characterized by long walks in the forest, general developmental exercises, special training to improve the technique of track and field events, which are also used in other types of track and field events. During the transition period, athletes should pay attention to a deep analysis of the technique and correction of existing shortcomings.
The number of training sessions during this period is reduced to 3-4 times a week. Training sessions can be held indoors, outdoors (outside the city, in the forest, at a park). The places where training sessions are held should be changed.
Modern technical and tactical methods have been introduced into the essence of the annual training phase and the structure of training since the 90s, and this process is developing rapidly.
Special importance is given to training sessions in short-distance running. Training plays a significant role in ensuring that victories in competitions last longer and in maintaining sports form. But the athlete performs at the highest or highest working capacity at the competition stage, which indicates the importance of preparatory training.
N.G. Ozolin gave information about the need to take into account personal capabilities when determining the distribution of loads, the duration of rest intervals, and the pedagogical impact on training loads. In his opinion, the increase in the role of preparation depends on the place occupied by the main competition:
- when performing certain exercises with high intensity, the 1st week should be spent training with high intensity, the 2nd week with 50-60% of the previous week's volume, and then rest for one or two days. He recommended exercises such as writing muscle knots in the limbs and arms before the competition, running on a treadmill. However, he did not give the method of application for

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which age groups and equipment.

Scientists note that for qualified runners in short-distance running, preparation for responsible competitions lasts three to six months (V.G. Nikitushkin, N.N. Chevsnokov, V.G. Bauer, V.B. Zelichenok).

In order to create a favorable basis for achieving a high level of special performance using specific means and training methods, a mesocycle lasting 4-6 weeks is proposed for preparation for the main competitions of the season.

The competition period for important competitions of the year should be held in a special cycle (the stage of direct preparation for the competition). Errors in the construction of this stage lead to a slowdown or deterioration in the growth of achievements. From this it follows that the training loads immediately preceding important competitions should not be imposed in a single pattern, but should be built in accordance with the individual condition of the athlete, but from the point of view of constructing the MOT stage in training cycles, the following are of general importance:

-in annual training, the period of training, special training, pre-competition, competition and rest periods are of great importance. The loads performed in the training cycles depend on the athlete's physical fitness.

-the microcycle should be structured in such a way that within some microcycles the athlete has the opportunity to rest. This condition should be especially carefully observed in the last two days before the start;

-in competitions after training, it is necessary to pay attention to the development of the athletes' working capacity, while the competitions at this stage should not become the main competitions, but should play an auxiliary role. Because in the latter case, they interfere with regular preparation for the decisive competition, cause premature energy consumption, depress the athlete's psyche and distract him from the most critical moment;

-after successful performances in prestigious competitions, the level of athletes' working capacity often decreases somewhat, therefore, it is necessary to constantly increase competition preparation;

-the cycle of training loads after prestigious competitions that cause a high level of physical and mental stress for a sprinter should be alternated with general developmental exercises (lasting about a week);

-direct preparation lasts 4-5 weeks, during which no radical changes in sports technique can be made. It is even more important to conduct it in the specific

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conditions of the competition.

According to the results of a study conducted among young people in sprinting, the following sequence is recommended for a one-week microcycle to build a stage of preparation for competitions: 1st day (after the last training of the week, one day later) rest, 2nd day - small speed-strength load; 3rd day - rest, 4th day - competition.

Many experts believe that a longer (8-12 weeks) phase of preparation for intense competitions is necessary, and various types of microcycles form a kind of "building blocks" from which a training cycle structure is formed, which completes the special preparation phase for the competition. It is during these 4-6 weeks that athletes find solutions to the following issues:

- recovery after qualifying competitions (4-7 days);
- starting intensive training (3-5 days);
- performing increased training loads (1st week).

In order to be highly prepared for major competitions, a special pre-competition phase with a longer duration (6-7 days) is required, the purpose of which is to ensure that you are ready for the important starts in the days and hours.

The basis of the special preparation phase is a rationally structured training load in the form of microcycles, reflecting the conditions and requirements of the competition, i.e., repeated 7-day or less days. This phase is structured in the form of a detailed daily personal (6-8-week) plan, which shows the main means of preparation, as well as the use of baths, pharmacology, physiotherapy and other methods for participation in competitions, recovery from fatigue.

At the same time, all these means are reflected in the rules for organizing the special preparation phase:

-it is necessary to strictly observe the two-month period after the competitions that give the right to qualify for the team participating in the most important competitions of the year;

-it is advisable to hold qualifying competitions according to the main competition plan and on the same day, week and hour;

-after the qualifying competition, there must be a restorative microcycle before the start of the preparatory stage;

-the special preparatory stage must have its own clearly defined structure and clear goals.

-mainly to restore the body's performance after qualifying competitions and

Educator Insights: A Journal of Teaching Theory and Practice
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national championships;
-further improve physical training and technical and tactical skills;
-create and maintain high mental readiness in athletes through management and self-control;
-create competitive activity and monitor the level of preparation;

It is necessary to provide favorable conditions for the maximum use of all qualities of preparation, physical, technical, tactical and psychological, aimed at achieving the highest possible sports results. The duration of this stage, depending on the interval between the national championship and the main competition, is 6-8 weeks. It usually consists of two mesocycles. One of them (a large set of loads) is aimed at achieving high-level sports results, developing physical qualities and working abilities, and the second is aimed at bringing the athlete to clearly defined competitions, taking into account the specifics of the sports activity, the composition of the athletes, organizational problems, weather and other influences.

The distribution of training loads is an important task in solving the planning of the training cycle, and the following approach is proposed:

The distribution of loads is carried out by week periods for four stages of preparation (each of these stages has a specific number of weeks of preparation). A general direction in the distribution of loads is given to each period. For

Educator Insights: A Journal of Teaching Theory and Practice
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example, during the preparation period (autumn-winter), the total volume of loads should increase, and the intensity should decrease, while during the competition period, on the contrary, the total volume of loads should decrease, and the intensity should increase.

A detailed examination of training loads means that it is possible to calculate the training methods used and apply them at different periods of preparation.

Thus, in reality, all the loads of a runner are aimed at the development of various physiological structures and mechanisms that provide the body with energy, and are evaluated and distributed based on the concepts of "total volume" and "total intensity".

By linking the distribution of training loads to the preparation periods, they rely on such concepts as "cumulative result", "delayed information result" and "perception of physical qualities". The first concept is based on, on the one hand, the perception of the athlete's body's ability to maintain rapid training effects for a long time, and on the other hand, the long-term training effects that occur during training aimed at the development of various physical qualities at certain time intervals.

It is proposed to distribute training loads during the annual preparation period as follows: during the preparation period, as much volume as possible should be "accumulated" or "laid down" with low intensity of loads, and during the competition period, participate in competitions using the "base" by reducing the volume of loads and increasing the intensity.

Nine stages were distinguished in the training of short-distance runners, and the main loads and training tools were determined for each stage.

1. Induction.

Loads: strengthening the muscular system and musculoskeletal system, training the leading functions of the body.

Tools: jumping exercises, exercises in a stationary position, speed-strength exercises of a movement nature, anaerobic running (YQS 170-180 beats / min.).

2. The first main stage.

Loads: improving anaerobic results, developing leg muscles to maximum strength, developing the ability to switch to speed when running.

Means: anaerobic competitions (YQS 170-180 beats / min.), running on sand and uphill (distances of 150 - 200 m, repeated), jumping exercises.

Educator Insights: A Journal of Teaching Theory and Practice
Volume 01, Issue 03, March, 2025
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3. Winter pre-competition stage.

Loads: special speed training (30 + 40 + 50 m running in an increasing manner), improving the technique of maintaining the achieved strength level, running pace and tactics.

Means: re-running (at distances of up to 80 m and 150 m), jumping, anaerobic starts.

4. Winter competition stage.

Loads: achieving a high level of special abilities, using accumulated capabilities, improving anaerobic mechanisms, developing a sense of pace.

Tools: anaerobic competitions (40-50 min.), recovery runs (6-8 km), high-speed runs (80-120 m).

5. The second main stage.

Loads and tools are the same as in the first main stage, but the intensity of the exercises is higher.

6. Summer pre-competition stage.

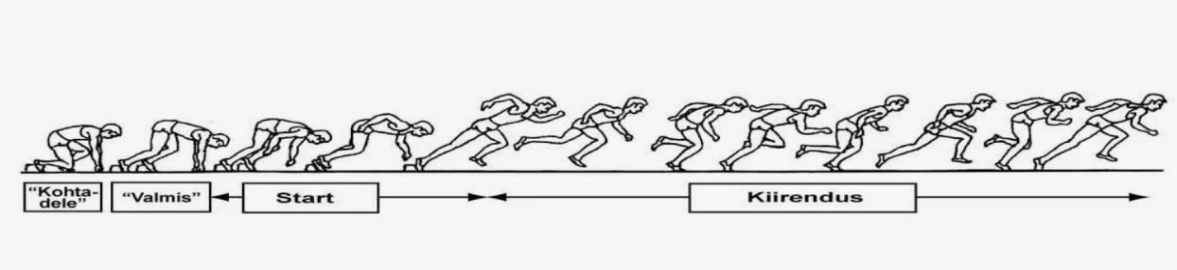
Loads and tools are the same as in the winter pre-competition stage.

7-8. The first and second competition stages.

Loads: creating the most favorable training cycle, achieving a high level of special performance, improving technical and tactical skills.

9. Transition period Various forms of good rest are the main tools at this stage.

Scientific research related to other types of sports has approached the issue of distributing training tools differently. It offers a planning model for groups of sports that require speed (at short distances); this model consists of the following sequence of preparatory loads:



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1. General endurance;
2. Speed;
3. Fast endurance.

The entire training cycle is aimed at systematically developing strength and speed capabilities for the responsible stages of competitions. In this case, power blocks must be introduced into the training periods.

The main loads are distributed throughout the entire speed range. Here, the term "main" loads is used as the main (running) load of short-distance runners. It is stated in the work that the distribution of the load depends on the level of skill of the runner. In the training of highly qualified "short-distance" runners, the main emphasis is on speed-strength qualities, on the basis of which the anaerobic workload of the body is increased. For runners of other distances, it is advisable to develop aerobic capabilities in the first stages of the training period. When planning training loads in different periods of preparation, in order to maintain its uniqueness, that is, to develop the systems and functions of the body in ensuring sports results, the following are proposed:

a) most experts associate the distribution of training loads with the preparation periods, but as we have already mentioned, just as views on periodization are diverse, views on the distribution of training loads are also diverse;

b) the theory of periodization, which allows for the distribution of training loads, is very beautiful, but, unfortunately, its rules have not been confirmed either in experience or in practice.

In running, especially in the training of 17-20-year-old athletes, the main indicators of training loads are volume and intensity.

Training loads are usually understood numerically, and volume and intensity are often used. Volume is usually measured in kilometers and meters or minutes. The intensity of training loads is ultimately measured by running speed. The speed of running at certain distances can be judged by the oxygen consumption according to the UQS, the level of lactate in the blood, and the mode of energy supply.

The effectiveness of the loads depends on their volume. Approximately the same results can be achieved when running long distances at low speed or short distances at high speed.

However, excessive emphasis on one of the two characteristics of the loads leads to unpleasant situations, which can be attributed to excessive training or insufficient preparation for specific competition conditions.

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At the same time, examples of special work are given, in which the ability to withstand the oxygen debt that arises when running at high speed is improved. These workouts consist of a series of short-distance runs with a small number of repetitions, which again include a very long rest interval between repetitions.

The study showed that performing a sufficiently large volume of work at a speed exceeding the competition speed in the period leading up to the competition has a negative effect on the result. The study showed that when sprinters perform short-distance runs in the immediate preparation phase for the competition, increasing both volume and intensity simultaneously does not contribute to an increase in the main sports result, but rather leads to some deterioration. The researchers also showed that only increasing volume or intensity has a positive effect on the sports result.

The construction of a system of microcycles in the special training phase depends on three very important cycles:

• the interaction of fatigue and recovery cycles and the order of alternating relatively high and low loads with rest;

• the need to re-use exercises in different directions that are in a favorable relationship with each other;

• general order.

According to A.F. Boyko, “when planning training loads for short-distance runners within a stage, it is preferable to teach not the numerical volume of work performed, but the methodological and biological expediency of distributing the loads over days. When fatigued by strength training, special strength exercises are removed from training 7-12 days before the start of the competition and can be included in the exercises for writing a complex on the eve of the competition. In addition, the author believes that in order to restore the strength of the leg muscles and increase their tone, it is necessary to reduce the running routine in the next 7-10 days and include jumping exercises every other day.

Understanding which zone of intensity short-distance running belongs to, its physiological characteristics, and the correct selection of tools and methods play a major role in preparing 18-21-year-old athletes for the main starts of the season.

Conclusion

Achieving high sports results in short-distance running requires a complex and multifaceted training process. Studies show that muscle tension, stride length and

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pace, nervous system activity, morphological and physiological factors directly affect an athlete's running performance. The process of preparing for competitions should be carefully planned based on annual cycles, and the volume and intensity of loads should be determined in accordance with the individual capabilities of the athlete. Also, the selection of exercises aimed at increasing the strength and speed capabilities of muscles should be consistent with technical and functional indicators. In sprint running, the development achieved in the combination of technique, endurance, speed and strength is one of the main factors determining the result in the competition. The scientific foundations and recommendations presented in the article are useful for coaches, athletes, and educators, and serve as an effective basis for improving the quality of training of short-distance runners. Therefore, this study offers a new approach to the theory and practice of sports training.

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