**EduVision: Journal of Innovations in Pedagogy and Educational Advancements**
**Volume 01, Issue 06, June, 2025**
brightmindpublishing.com
**ISSN (E): 3061-6972**


# THE NATURE OF PHYSIOLOGICAL LOAD IN THE TRAINING PROCESS IN RUNNING

Ravshanjon Solijonovich Mamatkulov
Senior Teacher of the Faculty of Physical Education of the
Chirchik State Pedagogical University. Uzbekistan

**Abstract**
The article examines and highlights the issues of physiological changes in the functional systems and organs of an athlete under the influence of track and field exercises, as well as the specifics of training in mid-mountain conditions and physiological criteria for selection in track and field.

**Keywords**: Physical training, lesson, exercises, teacher, mentor, educator, methodical training, professional training, student.

## Introduction

# ХАРАКТЕР ФИЗИОЛОГИЧЕСКОЙ НАГРУЗКИ В ТРЕНИРОВОЧНОМ ПРОЦЕССЕ

Равшанжон Солижонович Маматкулов
Старший преподавадель факультета физическая культура Чирчикского государственного педагогического университета.Узбекистан

**Аннотация**
В статье рассмотрена и освещены вопросы физиологических изменений в функциональных системах и органах спортсмена под влиянием легкоатлетических упражнений, а также особенности тренировок в условиях среднегорья и физиологические критерии отбора в легкую атлетику.

**Keywords**: Athletics, physiology, rehabilitation of the body, student, running, teacher, health, professional training, runner.

EduVision: Journal of Innovations in Pedagogy and Educational Advancements
Volume 01, Issue 06, June, 2025
brightmindpublishing.com
ISSN (E): 3061-6972


Many people are involved in track and field, which has penetrated into the most remote corners of the globe, becoming one of the most popular sports in the world. Almost all sports in one way or another use exercises from track and field to prepare athletes. During training and competitions, scientific research is carried out, which in the future helps to develop such sciences as physiology, biomechanics, sports medicine, theory of physical education and sports, etc.

Starting from an early age, track and field exercises are widely used in preschool institutions, schools, secondary and higher educational institutions. Track and field exercises increase the activity of all body systems, promote hardening, and are one of the effective factors in the prevention of various diseases. Easily dosed exercises can be used both for the development of the physical qualities of high-class athletes and for the development of the younger generation, for people with poor health, the elderly, during the rehabilitation period after injuries and simply to maintain the normal functioning of the human body. A large role is given to types of track and field in the physical training of conscripts and military personnel. Availability, relative simplicity of exercises, minimum costs allow to practice various types of athletics practically everywhere, both in rural and urban areas.

Sports training in athletics and competitive activity give athletes the opportunity to realize their potential abilities, to prove themselves as individuals, to form their character and optimal mental sphere.

Athletics can be characterized as:

a sport where athletes show results on the edge of human capabilities;

a means of recovery and rehabilitation of the body;

a means of education and development of the younger generation;

an academic discipline that contributes to the formation of a specialist in the field of physical education and sports.

To assess the achievements of preparedness in athletics, to stimulate participation in this sport and to better organize competitions, a division of athletes into categories has been established. In connection with the development of mass athletics and the continuous growth of achievements, the standards are periodically revised.

Physiologists have established that if both the intensity and duration of a runner's training session are chosen correctly, other important effects can be observed, in particular, an increase in triglyceride stores in muscle fibers (mainly in type II

EduVision: Journal of Innovations in Pedagogy and Educational Advancements
Volume 01, Issue 06, June, 2025
brightmindpublishing.com
ISSN (E): 3061-6972


fibers), as well as an increase in the activity of special enzymes, both located in muscle fibers and outside them, including lipolytic enzymes of fat cells.

Thus, a typical means of developing aerobic lipid (fat) power is running at a constant pace for about an hour. From this point of view, runs will be ineffective if the speed is higher than marathon speed, although not exceeding the speed at the anaerobic threshold, since the rate of lipid consumption will be too low and the lipid stores in the muscles will be depleted in a time longer than the athlete can maintain such a pace. Running at a very slow pace is also ineffective, unless the distance covered by the athlete is quite long.

Running with gradually increasing speeds or running at variable paces can also have a positive effect on the rate of lipid consumption, as long as most of the workload remains within the above-mentioned speed range. Slow running, performed before or in between such exercises and after them, will be beneficial because it promotes the depletion of lipid stores (and glycogen) in the muscles. In the case of athletes just starting their marathon training, an increase in aerobic fat power can be achieved even by long runs with an intensity below 92%. As the athlete's results progress, the speed should increase.

The duration of the load is an important factor. In order to excite the desired biological signal or spread the desired effect to as many muscle fibers as possible, the exercise must be performed for a long time.

Thus, the following are typical physiological loads during the training process for runners: repeated uphill runs lasting 8-10 sec, performed with maximum intensity; continuous or repeated running at a speed equal to or slightly higher than the speed at the anaerobic threshold; continuous running with an intensity slightly below the anaerobic threshold; running with alternating efforts performed at a speed above the speed at the anaerobic threshold, with efforts performed at a speed below the speed at the anaerobic threshold.

Physiological features of training with young runners; In the process of practical work with young runners-athletes, who have significant individual differences in the nature of adaptation to physical loads, the boundaries of the zones listed below can easily be erased with multiple repetitions of training loads. And yet, the classification of training work, which is based on the principle of the predominant focus of influence on one or another functional system, has undoubted advantages, expressed in the objectivity and reliability of assessments.

EduVision: Journal of Innovations in Pedagogy and Educational Advancements
Volume 01, Issue 06, June, 2025
brightmindpublishing.com
ISSN (E): 3061-6972


As a result of the conducted studies of the urgent training effect of various running exercises, all training loads were divided into the following groups:

Loads of predominantly aerobic orientation; on average, the heart rate during such loads was within the range of 130-150 beats / min, pH up to 7.35 and BE up to 3. This type of loads included cross-country training and some forms of strength work - lunges, walking with high hip lifts (the said strength training was carried out on segments from 100 to 600 m).

Loads of mixed aerobic-anaerobic impact were divided by us into 2 intensity zones: 1st zone - HR from 150 to 170 beats / min; pH from 7.36 to 7.30 and BE from 3 to 5 mEq / l; 2nd zone - HR from 175 to 185 beats / min; pH from 7.30 to 7.20 and BE from 10 to 15 mEq/l.

This group mainly included the following exercises: running on sections from 200 to 400 m and running on sections from 600 to 3000 m (performed by repeated and alternating method), as well as tempo running on sections up to 5000 m.

Work in the mixed zone is a kind of transition from improving aerobic mechanisms of energy supply to anaerobic ones. Therefore, running in this zone was used starting from September, and its volume gradually increased until January and from February to April. In January and from April to June, the volume of the load in this zone sharply decreased, which was caused by a significant increase in the volume of running in the anaerobic zone.

Loads of anaerobic-glycolytic effect: the heart rate during such work was more than 180 beats / min; pH from 7.20 to 7.02 and BE from 15 to 27 mEq/l. These included running on segments from 400 to 1000 m (repeated and interval methods). This also included special running exercises on segments from 100 to 600 m.

We classified speed-strength exercises performed with maximum effort (execution time 10-15 s) as anaerobic-alactate loads. Running in the anaerobic zone was used throughout the entire annual training cycle, with the exception of the 1st stage of the preparatory period. Anaerobic loads gradually increase throughout the annual cycle, reaching their peak. Thus, the basis for continuous growth of the performance of young runners (14-15 years old, sports classification - II-III category) is the correct choice of training means and dosage of the volume and intensity of the training load, taking into account the physical development of athletes. At the same time, the issue of the ratio of aerobic, mixed and anaerobic

**EduVision: Journal of Innovations in Pedagogy and Educational Advancements**
**Volume 01, Issue 06, June, 2025**
brightmindpublishing.com
**ISSN (E): 3061-6972**


training loads in the annual cycle is of particular importance, since it remains unresolved to this day and causes disagreement among specialists.

**REFERENCES**:

1. Р.С.Маматкулов. Ш.Казаков. Ф.Юсупбаева. Д.Умаралиева.
2. Легкая атлетика: Учебник. «Book trade-2022» Ташкент-2022г
3. Таймазов А.В. Развитие спортивно- оздоровительных кластеров как инновационный подход к решению региональных социально-экономических задач. Экономика и управление. 2016;(7):24-27.
4. Смуригина Л.В., Ганибоев И.Д.,/организация и методика тренировки бегунов на средние дистанция, методическое пособие– Т.: 2011 г. 190
5. Маматкулов Р.С. Научно-теоретические основы развития физический культуры студентов высших учебных заведений кластерным методом Научно-методический журнал «Народное образование» 2021 № 5
6. Маматкулов Р.С. Особенности и применение кластерного метода его организации на уроках в средней школе и в высших педагогических учреждениях. International Journal on Integrated Education.Volume 3, Issue III, March 2020.