

MEANS OF PHYSICAL DEVELOPMENT MEASURES IN SPORTS AND PHYSICAL TRAINING

Journal Website:
<https://masterjournals.com/index.php/crjp>

Copyright: Original content from this work may be used under the terms of the creative commons attributes 4.0 licence.

Submission Date: February 26, 2022, Accepted Date: March 16, 2022,

Published Date: March 28, 2022

Crossref doi: <https://doi.org/10.37547/pedagogics-crjp-03-03-08>

Dyrov Aleksandr Yurevich

Deputy Head of the Department of Combat and Physical Training of the Academy of the Ministry of Internal Affairs, Uzbekistan

ABSTRACT

Exercise is a means of physical training of a person, the actions used in accordance with the laws of physical education. Exercise has historically been structured and stylistically shaped as gymnastics, play, sports and tourism. As a means of physical education, exercise involves the active movement activity of the practitioner. The specific features of exercise are expressed in the desire to form and improve actions, the idea of the purpose of the action and the means to achieve it, as well as the intention and willpower to perform the action.

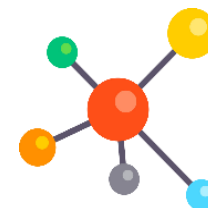
KEYWORDS

Physical exercise, physical training, gymnastics, muscle tissue, nervous system, tone.

INTRODUCTION

Physical exercises, the healing forces of nature, and hygienic factors set the means of physical training. Physical exercise is a means of physical training of a person, the actions used in accordance with the established legislations of physical education. Physical exercises have historically been structured and

stylistically shaped as gymnastics, play, sports and tourism. Physical exercise, as a means of physical training, involves the active movement activity of the practitioner. The specific features of physical exercises are expressed in the desire to form and improve actions, the idea of the purpose of the action and the



means to achieve it, as well as the intention and willpower to perform the action altogether. Physical exercises expand and improve the person's world-viewing, his/her psychologic-mental activity coincidentally. Physical exercises develop the person's feelings and will and character.

The provenance of physical exercises go back to the distant past of human society. Material living conditions — primarily all labor activity — played a decisive role in the emergence and development of physical exercises. In addition to physical exercises historically derived from work, combat, and domestic activities (walking, running, climbing, jumping, throwing something, lifting heavy objects from one place to another, swimming, etc.), the theory and practice of physical training in the process of development, exercises that were specifically created and called analytical exercises emerged. These exercises are used to develop movement qualities as well as to address specific pedagogical or therapeutic tasks.

Physical exercises are the result of the human's conscious movement. They are divided into a number of types according to their shape and effect as well as the functions they perform. As it is as clear as a day, physical movements are divided into cyclical movements that are repetitive and acyclic movements that are not repetitive. Hence, physical exercises are also divided into such movements. Running, gymnastics, swimming exercises can be called cyclic exercises or movements, sports games, martial arts, water polo, etc. - acyclic exercises or movements.

Moreover, physical exercises can also be divided into types of general-developmental exercises, special exercises, and auxiliary exercises. General developmental exercises are used as therapeutic exercises to prepare participants for the main part of

the training and the impact of physical activity in the preparation of morning physical education, physical training classes and sports training. Specific exercises are physical movements or exercises that are specific to a sport. In fact, the athlete's running, jumping, throwing exercises or the player's pushing, throwing, receiving, playing with the head of the ball, gymnast's equipment exercises, freestyle and rowing exercises, etc. auxiliary exercises are a set of exercises that help to master special exercise techniques: exercises in simulators, actions with a false opponent, deceptive actions, etc.

Physical exercises can cause negative consequences, harm if they are not applied in accordance with the laws of physical education. The pedagogically correct management of training, the optimal methodology of teaching and upbringing is a factor that determines the rational effect of exercise.

At the same time, the following factors should also be taken into account:

1. Specific characteristics of the trainee (age, gender, health, level of preparation, work, study, rest, lifestyle).
2. The peculiarities of physical exercise, their complexity, novelty, load, emotion, etc.
3. Specific features of external conditions (meteorological, local characteristics, quality of equipment and shells, hygienic condition of the training site, etc.).

Physical exercise has its own content and form, similar to all events and processes. The concept of exercise content includes a number of integrated processes under the influence of which the movement activity develops. The content of physical exercise includes all the parts of these movement activities (for example, the concept of running, long jump, running, jumping,



landing), as well as all the functional changes that occur in the body during exercise. All of these elements make up the overall content of the physical exercises.

The form of physical exercise consists of their internal and external structure and organization. The internal structure of physical exercise is characterized by how the interactions, the processes of mutual coordination, which provide the basic functions during the performance of movements. The relationship of the processes to each other, for example, is different when running than when lifting a barbell, so the internal structure of these exercises is also different. The external shape of the exercises is visible. This striking process is characterized by distance, time, and force in the process of movement.

The form interacts with the content of the physical exercises. Content is a much more active, non-stop changing aspect of exercises. Content plays a leading role in relation to form; the shape changes with the change of content, for example, the speed qualities is different when running different distances, and the components of the running technique: step size, posture position, etc. is also different.

A person is able to train with physical exercise even at any age. A person is able to perform exercises that can have different effects on any organ and system in the body from a very young age to a very old age.

From the time we are young to the time we are old, our bodies need strong, refreshing and resilient movements to keep our organs and tissues strong; is able to perform exercises that evoke a special sense of joy that is known to anyone who regularly engages in physical pleasure, refreshment and any type of sport.

Physical exercise has a comprehensive effect on the human body and does not exclude any cell from the

effects of exercise. This applies equally to every cell, to every tissue, including bone tissue. Physical exercises have a positive effect on bone tissue as well as muscle tissue.

This time can be proved by an interesting experiment conducted by cutting the nerves leading to certain muscle groups. After this condition lasted for several months, when the bones were opened and examined, it was found that the following changes had taken place. The bones of the animals, which were attached to the cut nerve muscles, stopped growing in width and height because the muscles were paralyzed and could not move the bones. These bones became weak and brittle as a result of inactivity. The bones of other animals, whose nerves were not severed and whose muscles functioned normally, continued to develop both in width and height.

Anatomists have already noted that the bulges and tumors that form in the muscle joints are particularly well developed in physically active people and athletes who have been exercising for a long time. Only in people engaged in physical labor and sports can the X-rays of the arms and legs clearly show the bulges and growths, which indicates that the areas exposed to the force of contraction of the muscles are well developed, growth is strengthened. These bumps are barely seen on the X-rays in people who do not train with physical exercise.

The large-scale changes occur in the muscles under the influence of physical exercise. If the muscles of the body remain motionless for a long time, they become loose, weak, and begin to shrink. This condition can occur in patients who have had their arm or leg plastered as a result of a fracture.

Regular physical exercise, the constant impact of exercise on the muscular system - it helps to



strengthen, develop and increase the volume of the system. Consequently, if the sport is not stopped even before it is very old, the external appearance of the body retains its beauty.

As a result of regular exercise, the muscles grow not only in height, but also in width, due to the thickening of the muscle fibers. The size of the muscles is often greatly enlarged.

The strength of muscles depends not only on their thickness, but also on the strength of nerve impulses coming from the central nervous system to the muscles. In a person who physically exercises regularly, the nerve impulses coming from the central nervous system to the muscles cause the muscles to contract with greater force than in non-exercised people.

Another feature of the muscles that comes to the body under the influence of physical training and exercise is an increase in elongation. This is especially significant for older people, who, depending on the nature of the activity, are forced to sit in the same position for long periods of time, such as sitting at a desk, writing, drawing, etc., and therefore lose mobility of the body and joints. Being in the same position for a long time leads to a loss of proper body shape, agility of the arms and legs. Decreased joint mobility and curvature of the body is a common occurrence in our lives. These conditions result from a loss of elongation in some muscle groups. Unlike very sparsely stretched ligaments, the muscles are very well stretched and retain this feature even in middle-aged and elderly people.

Under the influence of physical exercise, muscles not only stretch, but also harden. Muscle stiffness is caused, on the one hand, by the growth of the protoplasm of muscle cells and connective tissue

toward the cells, and, on the other hand, by the state of muscle tone.

Each muscle has a certain tension or tone, which can be determined by simply touching the muscles: in people who do not train physical exercise, the muscles are soft and supple, the tone is extremely reduced, while the tonus prepares the muscles for work; in people who regularly train with physical exercise, muscle tone is slightly higher and plays a major role in maintaining proper posture.

The overall tone rises when the nervous system is stimulated, especially after physical exercise. Muscle tone decreases when tired. Muscle tone is regulated by the central nervous system, so any decrease in tone indicates that the central nervous system is also exhausted. This fatigue can be relieved through physical exercises and sports.

Under the influence of physical exercise, the nutrition of muscles, their blood supply enormously increases. It is known that by virtue of physical activity not only the range of innumerable small blood vessels passing between the muscles expands, but also their volume tremendously increases.

The quantity of capillaries in the muscles of people who engage in physical education and sports is much higher than in those who do not exercise, and therefore the blood circulation in the tissues and brain is also much better than in those who do not exercise. Muscles activated by physical exercise create feelings of freshness, lightness, and cheerfulness as a consequence of complex chemical changes that occur under the influence of the central nervous system of human being.



Excessive oxygen is required during physical exercise, explicitly known that the more the muscular system works, the harder the lungs and heart activate.

The activity of the human heart, which leads a peaceful life without physical labor or sports, is that it pumps 50-60 grams of blood from the left ventricle to the aorta at each contraction. The heart shortens about a hundred thousand times a day. If the blood is able to drive the blood and collect in any pool, it would be about 6,000 liters a day. The heart does the work as it lifts 1 kilogram of load to a height of 20 centimeters with each contraction. When it is possible to force the heart to work like the engine of a lifting machine, it can lift a person 12 feet high in an hour; namely, it would have been roughly taken to the fourth floor of the building.

As a result of regular exercise, the heart adapts to work with a very large load. The heart of an exerciser, even at rest, pumps 80 to 100 grams of blood into the aorta at each contraction. A good athlete can pump up to 200 grams of blood into the aorta each time his heart beats, while a non-athlete can pump up to 100 grams of blood into the aorta every time his heart beats.

Regular exercise also affects the heart rate, which is the rate at which the heart contracts. If the heart of an untrained person is reduced to about 70 beats per minute at rest, the heart rate of athletes and trained people varies between 50-60, and even up to 40 times the heart rate of some athletes who have been practicing long-distance running, swimming, skiing for many years.

The heart of a person who trains physical exercises works economically. Its contractions are much deeper than the heart of an untrained person, and each time the heart of a trained person contracts, more blood

flows to the aorta than when the heart of an untrained person contracts.

The heart, which is fatigued by physical trainings and exercises, can begin to contract much faster and return to its original state quickly, without any damage, during physical activity, in which great effort is expended. Athlete's heart rate during competitions sometimes reaches 240-280 beats per minute! An untrained heart can never withstand such stress. Physiological data show that when a hardened heart works hard, it can pump two glasses of blood to the aorta and pulmonary artery at each contraction of the ventricles. When reduced to two hundred times per minute, the figure is 80 liters. In this case, the work done by the heart is equivalent to the work done to lift a person weighing 65 kilograms to a height of 1 meter. A small organ weighing some 300-400 grams does such a great affairs.

With the exception of cases of severe organic damage to the heart, weakening of the heart muscle as a result of incurable chronic diseases, even a sick heart can be surprisingly restored to its functional function better than when tested drugs of official medicine.

The strengthening of the heart muscle under the influence of exercise and sports is governed by a general physiological law, according to which the size of a hard-working muscle or organ increases and becomes stronger. The weight of the heart of a constantly active wild rabbit is 7.8 percent of body weight, compared to 2.4 percent of the domestic rabbit. The weight of a wild duck's heart is 11 percent of its body weight, while the heart of a domestic duck is 7 percent of its body weight. There is a similar difference between the hearts of a wild boar and a domestic pig, a goat horse and a pack horse, and so on. In the same way, the heart of an athlete or a person who exercises



regularly is not at all like the heart of a person who does not exercise.

The walls of the sportsman's heart are much thicker, and they can pump more blood than the weakened heart of a person who does not exert himself physically with each contraction. It is known that if a person does not exercise or uses his muscles almost completely, his heart will not develop and he will become weak.

It should be remembered that proper and regular physical exercise initially leads to the fact that the heart adapts to such hard work, as a result of which the heart slows down and its volume, ie the muscle mass of the heart, increases. Such an “athlete's heart” has a great power, which is able to maintain its ability to perform for many years.

Physical exercise is also important for the respiratory system. If the lung vesicles were placed side by side on a plane, they would occupy an area of 64 square meters.

The lungs contain about 3 million vesicles lined with very thin tubes filled with blood. If you spread the walls of all the bubbles and place them side by side, it will occupy an area of 100 square meters. For comparison, if a person's entire skin is spread evenly, it will occupy only 2 square meters.

Breathing deeply and evenly helps the blood to circulate properly. This is why exercise, such as taking several deep breaths and exhaling when fatigue occurs while running, can significantly improve a runner's condition.

Under the influence of exercise, the vital capacity of the lungs increases, the rib cages become more elastic, the respiratory muscles become stronger and their tone increases. All this has a positive effect on the work

of the respiratory system, especially in mental labor workers.

The lungs absorb and reproduce 16 cubic meters of air overnight. This is almost equal to the size of an average room. Increasing the volume of air you breathe in as well as exhale can only be achieved by accelerating and deepening your breathing.

In fact, if a person breathes 6-7 liters per minute in a calm state, when running fast and hard or swimming in water, this amount increases almost 20 times, reaching 120-140 liters per minute.

Running, swimming, skiing, increases the vital capacity of the lungs, which allows the person to take the deepest breaths and increase the total amount of air inhaled. The vital capacity of the lungs often determines overall physical development. In average physically developed men, the vital capacity of the lungs is 3000-3500 cubic centimeters, while in athletes it reaches 4500-6000 cubic centimeters. The lungs of rowers, swimmers, skiers, runners and boxers are characterized by the highest capacity of life.

Physical exercise also increases the excursion of the chest, i.e., the difference between the size of the chest circumference at exhalation and the size at full exhalation increases. In people who do not train with physical exercise, the difference is on average 5-7 centimeters, and in well-trained athletes it is 10-15 centimeters.

Exercises called breathing exercises, or sometimes breathing gymnastics, are of great importance to the body. Once upon a time, Hindus and other peoples in the East paid more attention to breathing exercises than to any other measures used in the treatment of diseases. The ancient Indians claimed that the air



contained vital “pranu” and practiced breathing exercises several times a day in order to live longer.

Breathing exercises have not lost their relevance even today. At the hospital, patients are forced to do breathing exercises to prevent pneumonia after surgery, or to lower blood pressure.

The runner calms his frequently beating heart by breathing in and out in moderation. An example of this is when a boxer breathes hard in the break between rounds to get more oxygen into his body.

Renewing the lungs with fresh, clean air will undoubtedly have a positive effect on the functioning of all organs and systems in the body.

Physical exercise has a major impact on the functioning of the gastrointestinal tract; physical activity relieves constipation and stagnation, which can lead to the onset of hemorrhoids in people who work sitting down. Actions have a positive effect on all metabolic processes and the work of the digestive organs. Exercise improves blood circulation in the arteries and veins in the tissues, increases metabolism, enhances the function of the circulatory and lymphatic systems.

Physical exercise also has a great effect on a person's mental state. Under the influence of exercise, the tone of the nervous system increases, the activity of the endocrine glands increases. Exercise affects the endocrine-vegetative system through the central nervous system, allowing the emergence of emotions that undoubtedly improve the quality of mental work.

Physical exercises, sports, sports games, favorite work bring creative emotional uplift, increase the general ability to work, feelings of joy and satisfaction, which are extremely necessary for human life.

Emotions affect the physical condition of the body with different strengths. It is manifested not only in various physical exercises and especially in games, but also in labor activities.

Physical exercise and sports are a source of health and beauty for both men and women.

There are certain differences between the heart of women and the heart of men. If the heart of men weighs an average of 300-400 grams, the heart of women does not exceed 220 grams. Due to the small size and weight of the female heart, each contraction causes the aorta to pump much less blood than the male heart, but in women the heart rate is slightly faster. There are also some differences in the respiratory system. At rest, women breathe faster than men, but breathing in and out is not as deep.

Training with physical exercises for a long time regularly activates nervous processes and therefore helps to maintain the ability to work, increase functional mobility of the brain and improve all functions.

REFERENCES

1. Abdullaev A., Xonkeldiev Sh.X. Theory and methods of physical education. 2000. Tashkent.
2. Axmatov M.S. Effective management of mass sports and health activities in the system of continuing education. 2001. Tashkent.
3. Safarova D.D. Human anatomy. Volumes 1 and 2. 2003. Tashkent.
4. Kerimov F.A. Scientific research in the field of sports. 2003. Tashkent.
5. Rambler: ru., Google., Yandex. Internet materials from providers. 2011-2012.