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Zubko Valentyna
Teacher at the department of health and sports technologies,
National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute" Kyiv, Ukraine.
orcid:0000-0002-7114-6707
Cherevichko Oleksandr
Senior Lecturer at the department of health and sports technologies, National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute" Kyiv, Ukraine.
orcid:0000-0003-3053-7100
Smirnov Kostiantyn
Senior Lecturer at the department of health and sports technologies, National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute" Kyiv, Ukraine.
orcid:0000-0002-0806-7176

SWIMMING IN UNIVERSITIES IN THE SYSTEM OF PHYSICAL EDUCATION. THE INFLUENCE OF RECREATIONAL SWIMMING ON THE ORGANISM OF STUDENTS OF HIGHER EDUCATION

When moving in water, almost all the muscles of the body work. Swimming promotes the development of endurance and coordination of movements. This is a successful means of strengthening the cardiovascular and respiratory systems. The practical value of swimming is also great. Every person should be able to swim long distances and provide assistance to someone in distress on the water. It is no coincidence that even in ancient times, swimming was one of the main signs of culture. Swimming is a sport that involves swimming over different distances in the least amount of time. Swimming is considered one of the disciplines of physical education at a university and is included in the educational program of many universities; it is a mandatory section in mass sports work and sports and recreational activities for students. Moreover, swimming as a sport is most appropriate for any age. During the classes, students will easily master the technique of sports swimming methods and will be able to take part in various competitions. To a greater extent, this will be explained by age-related anatomical and physiological characteristics, which can be best expressed in special conditions of the aquatic environment. And for this reason, it allows students to quickly master the technique of sports swimming methods.

The physiological and psychological characteristics of the body of boys and girls also significantly favor the successful use of swimming in physical education classes at a university. It is difficult to overestimate the importance of swimming as one of the popular and widespread types of sports for students. Swimming lessons are available and useful for students. For this reason, regular visits to the pool and certain systematic water procedures will instill lasting hygienic skills, gradually becoming a need and a habit. Swimming is considered an amazing form of physical exercise - it will have a healing and strengthening effect on all systems of the individual's body. It will serve as a good means of relaxation and hardening. When swimming, the mechanism of thermoregulation will be improved, immunological properties will increase, and adaptation to various environmental conditions will increase.

Key words: *swimming, student, recovery, adaptation, exercise.*

Зубко Валентина, Черевичко Олександр, Смірнов Костянтин. Плавання в системі фізичного виховання у вищих навчальних закладах. Вплив оздоровчого плавання на організм студентів вищих навчальних закладів. *Під час руху у воді працюють майже всі м'язи тіла. Плавання сприяє розвитку витривалості та координації рухів. Це успішний засіб для зміцнення серцево-судинної та дихальної систем. Велике практичне значення плавання полягає в тому що кожна людина повинна вміти пропливати великі відстані та надавати допомогу потерпілому на воді. Не випадково ще в давнину плавання було однією з головних ознак культури. Плавання - це вид спорту, який передбачає подолання різних дистанцій в воді за мінімальний відрізок часу. Плавання вважається однією з дисциплін фізичного виховання у ВНЗ і входить в навчальну програму багатьох ВНЗ, цей вид спорту є обов'язковим розділом спортивно-масової та спортивно-оздоровчої роботи студентів. Крім того, плавання як вид спорту найбільш підходить для будь-якого віку. Під час занять студенти легко оволодіють технікою спортивного плавання та зможуть брати участь у різноманітних змаганнях. Більшою мірою це пояснюватиметься віковими анатомо-фізіологічними особливостями, які найкраще виражаються в особливих умовах водного середовища. І з цієї причини це дозволяє студентам швидко оволодіти технікою способів спортивного плавання.*

Фізіологічні та психологічні особливості організму юнаків і дівчат також значною мірою сприяють успішному використанню плавання на заняттях фізичним вихованням у ВНЗ. Важко переоцінити значення плавання як одного з популярних і поширених видів спорту для студентів. Заняття плаванням доступні та корисні для студентів. Тому регулярне відвідування басейну і певні систематичні водні процедури підведуть до стійких гігієнічних навичок, поступово увійшовши в потребу і звичку. Плавання вважається дивовижним видом фізичних вправ - воно надає оздоровчу і зміцнюючу дію на всі системи організму людини. Це послужить хорошим засобом релаксації та загартовування. При плаванні вдосконалюється механізм терморегуляції, підвищуються імунологічні властивості, підвищується адаптація до різних умов навколишнього середовища.

Ключові слова: *плавання, студент, оздоровлення, адаптація, фізичні вправи.*

Formulation of the problem. As you know, water has high thermal conductivity, and staying in it will be good for training the mechanisms that regulate heat transfer from the body. Those who exercise generally have better body hardening. They will be less susceptible to colds and will not be dependent on sudden changes in weather or drafts. Direct exercises in water will improve the functioning of the nervous system of students. Regular swimming is considered a powerful factor influencing a student's higher nervous activity.

The effect of water temperature will balance the processes of excitation and direct inhibition in the central nervous system, increasing blood supply to the brain. Water gently flows around the body, massaging the nerve endings in the skin and muscles, has a beneficial effect on the central nervous system, will soothe and relieve fatigue.

After swimming, students fall asleep better, sleep more soundly, and their attention and memory improve. It is necessary to highlight that the pleasant associations associated with swimming will have a beneficial effect on the state of the psyche and will contribute to the formation of a positive emotional background, which is so necessary in everyday life.

Analysis of literary sources. In the scientific and methodological literature, the question of the influence of swimming on the general state of health of students has been fully considered by such authors as: Baechle T.R. [1], Haycraft J. [2], Khimich I., Parakhonko V. [3], Monu J.M. [4].

Active movements will strengthen the student's muscular and cardiac - vascular system; Moreover, the development of movements is directly dependent on the environment. Therefore, practicing in water and performing various movements associated with overcoming its resistance is the main factor in the harmonious development of a student. The horizontal position, a unique state of water weightlessness, activates blood flow to working muscles, which promotes their development and strengthens the cardiovascular system. Special mention should be made about breathing. Water cleanses the skin and improves skin respiration. When swimming, pulmonary respiration, ventilation of the lungs, and the amount of oxygen absorbed by the body are significantly improved.

Staying in the water, performing various movements, exhaling into the water, holding your breath during dives develops and strengthens the breathing apparatus. Swimming improves metabolism in the body (water pressure on the swimmer's chest makes it difficult to inhale, which causes increased work of the respiratory muscles, promoting their development). During swimming lessons, students overcome significant water resistance, constantly train all muscle groups (including very small ones), radically helping to eliminate various postural defects and eliminate flat feet.

Regular swimming lessons strengthen students' bodies and form strong immunity not only to colds, but also to some infectious diseases. Swimming is a natural means of massaging the skin and muscles (especially small groups), cleanses the sweat glands, thereby activating skin respiration and abundant blood flow to the peripheral organs.

When swimming in sports methods, movements are performed with a large amplitude, with the participation of large muscle groups and, as already noted, with significant water resistance. Thus, systematically performing exercises in water develops coordination and accuracy of movements, flexibility and strength, and overcoming short distances at an accelerated pace, and then, as you are prepared, medium and long distances contributes to the development of speed and endurance. The cyclicity of movements inherent in swimming as a sport not only harmoniously develops the motor system, but also forms rhythmic deep breathing.

Applied swimming is also of great importance for students. First of all, this is providing assistance to a person in distress on the waters: the ability to extract a person from the bottom or from the depths, if necessary, free himself from the grip of a drowning person, quickly deliver him to the shore and provide the necessary pre-medical assistance.

Applied swimming also involves the ability to tow various floating objects, swim across with a load or with full gear, and perform various operations related to working under water.

The significant features of swimming, which distinguishes it from other types of physical exercises and personal movements, are finding a body in water; horizontal body position; the body is in a suspended state, without solid support, that is, in conditions of relative weightlessness; when breathing, exhalation is longer than inhalation.

Swimming is considered a unique type of physical exercise and is one of the most popular sports, both in our country and abroad. Specific features of swimming are associated with motor activity in the aquatic environment. Accordingly, the student's body will be subject to a double influence: on the one hand [2] it is influenced by physical exercise, and on the other by the aquatic environment.

The corresponding features are also determined by certain physical properties of water: its density, viscosity, pressure, temperature, heat capacity. Also, when swimming, the human body is in a horizontal position.

The influence of water on the body will begin with the skin. By washing the swimmer's body, water will cleanse the skin, accordingly, increasing its nutrition and respiration. In addition, the skin will be chemically affected by trace elements contained in the water [3].

The density of water is approximately 775 times higher than the density of air, and this makes movement difficult, a certain speed limitation and high energy consumption. When swimming, the main muscular work will be spent not on keeping the student on the water, but on overcoming the force of drag.

The water pressure will prevent you from inhaling, and when you exhale into the water you will have to overcome its resistance, which leads to an increased load on the respiratory muscles. Accordingly, when swimming, a new automaticity of breathing will be developed, which is characterized by a decrease in the duration of the respiratory cycle, an increase in the frequency and a certain minute volume of breathing. This increases pulmonary ventilation and vital capacity.

In addition to the density and direct pressure of water, its heat capacity will have a significant impact on the body when swimming.

The heat capacity of water is four times greater, and the thermal conductivity is 25 times higher than air. For this reason, when an individual is in water, his body will radiate 50-80% more heat than in air. Through this, his metabolism increases to preserve the heat balance in the body.

As a result of this, mechanisms will be improved that ensure the preservation of temperature homeostasis.

And, naturally, when analyzing physiological changes during swimming and its impact on the body, it is necessary to talk about the student's motor activity.

It is established by the horizontal position of the body, high resistance to movement, the development of special motor automatisms and new coordination movements, the strict sequence of work of certain muscle groups, the inclusion of predominant muscles of the arms and shoulder girdle (up to 70%) and legs in breaststroke swimming [2].

When swimming, the main muscle groups will perform dynamic work and, depending on the distance, must be adapted to work in both aerobic and anaerobic conditions.

In addition, the horizontal position of the body when swimming will facilitate the work of the heart, increase muscle relaxation and joint function.

You also need to focus on changes in the blood. When a student is in water, the number of blood cells increases: red blood cells, leukocytes, hemoglobin. This is observed even after a single stay in water.

1.5-2 hours after exercise, the blood composition actually reaches a normal level. But the level of blood cells increases with regular exercise for a long time. Thus, it must be said that swimming, due to the impact on the body of both motor activity and the aquatic environment, leads to physiological changes in all human organs and systems.

Swimming exercises are very useful for general strengthening of the body. Swimming strengthens the back muscles well, and in addition relieves tension in the superficial muscles caused by excessive physical activity. In addition, by strengthening the functioning of the respiratory and cardiovascular systems, favorable conditions are created for enhancing metabolism throughout the body, including in the intervertebral discs. When swimming, almost all the joints of the spine are involved, they fully begin to use the capabilities inherent in them by nature.

Unlike other types of physical exercise, swimming occurs in an aquatic environment, where the human body is affected by both physical exercise and being in the aquatic environment. This two-way influence contains the specific features of swimming [4].

The human body has buoyancy, since its specific gravity is close to the specific gravity of water, that is, in water the body becomes weightless. This property has practical significance: there is no need for any movements to maintain body position in water [2], which creates conditions for correcting postural disorders, restoring motor functions after injuries and preventing their negative consequences [1].

With any method of swimming, almost all joints of the spine act with a high amplitude and in a wide variety of planes, while the limits of capabilities are somewhat expanded, and the joints of the spine no longer bear a heavy static support load [2]. At the same time, active movement of the legs in the water in an unsupported position strengthens the feet and prevents the development of flat feet [3].

Specific features of swimming are associated with motor activity in the aquatic environment. In this case, the human body is subjected to a double impact: on the one hand, it is affected by physical exercise, and on the other, by the aquatic environment. These features are also determined by the physical properties of water: its density, viscosity, pressure, temperature, heat capacity.

When a student is in water, the number of formed blood elements increases erythrocytes, leukocytes, hemoglobin. This is observed even after a single stay in water. 1.5-2 hours after exercise, the blood composition reaches a normal level. However, the level of blood cells with regular exercise increases for a longer time [4].

A characteristic feature of swimming is that the body in the water does not have solid support. This position significantly increases his motor capabilities and promotes their development. The action of muscles in the absence of solid support contributes to a longer preservation of epiphyseal cartilage in the bones of the limbs, and, consequently, to the continued growth of the student's body as a whole. Swimming lessons harmoniously develop the basic qualities: strength, speed, agility, endurance.

Thus, swimming promotes a deep positive morphological and functional restructuring of all body systems, which is possible when using swimming as a sport that also has health-improving, hygienic and therapeutic significance [1; 5].

Conclusions. Thus, during swimming, excellent conditions are created to improve the functioning of the circulatory system: the amount of oxygen absorbed by all organs and tissues of the body increases, the venous outflow from the legs increases, and almost all the muscles of the body contract. Swimming develops the respiratory and cardiovascular systems and greatly strengthens the entire body.

Swimming is beneficial for both healthy and sick people. Healthy people receive excellent training, improve their physical capabilities, and those who suffer from various diseases find an excellent dosed remedy in swimming and water procedures. Swimming helps to cure diseases such as neuroses, neurasthenia, spinal injuries, consequences of injuries and diseases of the musculoskeletal system (scoliosis, flat feet). For metabolic diseases, bronchial asthma and chronic inflammatory diseases of the respiratory system, swimming is an indispensable means of recovery.

Swimming increases the overall endurance of the body, improves immunity and overall tone of the body. Swimming helps strengthen the body, making a person less susceptible to colds. During swimming, the mechanism of thermoregulation is improved, immunological properties are improved, and adaptation to various environmental conditions increases.

During swimming, excellent conditions are created to improve the functioning of the circulatory system: the amount of oxygen absorbed by all organs and tissues of the body increases, the venous outflow from the legs increases, and almost all the muscles of the body contract. Swimming develops the cardiovascular system and greatly strengthens the entire body.

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