CHARLES UNIVERSITY, PRAGUE

FACULTY OF PHYSICAL EDUCATION AND SPORT

Teaching children to swim at a younger and older school age for the purpose of strengthening the body

Thesis

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Abstract

Name: Teaching children to swim at a younger and older school age for the purpose of strengthening the body.

Goal: The goal of the study is to identify and prove the strengthening effect that appears on children engaged in swimming.

Methods: A theoretical empirical study in which I created a swimming program based on a comprehensive literature review. During writing of this work academic literature resources and scientific studies were used.

Results: I found and convinced that teaching children to swim in early ages really has a positive effect on their health development. Children who are doing swimming regularly have more resistance against viruses, respiratory and cardiovascular diseases. In addition to it, was found that swimming has a complex of benefits not only on physical health, but on mental too.

Keywords: Swimming, strengthening, children, body, younger and school age.

Content

1. Introduction

The ability to swim is one of the vital skills. Swimming is also one of the most important means of physical education, thanks to which it is included in the content of physical education programs of preschool institutions, general education schools, secondary and higher specialized educational institutions. At the same time, the data indicate a low percentage of children who can swim.

Despite the efforts of a number of researchers to find the most effective means that purposefully affect the formation of movement techniques in the process of learning to swim, the desired result has not yet been achieved: the learning process takes a long time, the percentage of children who have not mastered the skill of swimming is quite high. This is especially important for preschool children, because in this period the most intensive formation of knowledge, skills, and abilities takes place. This age is associated with a global mental neoplasm – the arbitrariness of mental processes and behaviour, manifested in the ability to control one's mental and motor activity.

The performance of swimming actions associated with the movement of the human body in the aquatic environment creates certain difficulties for the perception of their own movements and control them. Successful mastery of motor action largely depends on how developed the student's ability to correctly perceive and evaluate his own movements is, how adequate his motor representations are. Practice shows that in the process of learning, children in most cases have incorrect ideas about the movement being studied.

Goals of the work

The aim of the study is to identify the strengthening and hardening effect that appears on children engaged in swimming.

Research objectives:

1. To study and analyze the scientific and methodological literature.

2. To establish the influence of children's swimming training on the hardening and strengthening of the body as a whole.

3. Consider the role, place and importance of swimming in the structure of physical education.

4. Creation of training program for children of school age.

3. Method

A theoretical empirical study in which I created a swimming program based on a comprehensive literature review. During writing of this work academic literature resources and scientific studies were used.

1. Analysis of literature sources on the research topic

1.1 Swimming promotes health improvement and physical development

At all times and generations of living people, such problems as the health of the younger generation, the upbringing of children's needs for a healthy lifestyle, healthy leisure have been quite acute and continue to be.

Among many mass sports, perhaps only swimming combines the possibility of harmonious development of the body, a pronounced wellness orientation and an important applied value. According to its dynamic characteristics, swimming is one of the available means of physical culture for people of different ages and fitness.

Swimming is a unique type of physical activity. The specific features of the effect of swimming on the child's body are associated with active movements in the aquatic environment. At the same time, the human body is exposed to a double effect: on the one hand – physical exercises, on the other – the unique properties of the aquatic environment in which these exercises are performed. We must not forget that water is of particular importance for the human body, which is 80% water (and brain cells are 90% water), all vital processes take place in the aquatic environment of the body, and the first 9 months of the development of the human body occur in the aquatic environment. (Spock B. 1990)

The experience of pediatricians shows that early swimming training contributes to the harmonious development of babies and has a positive effect on the development of all body systems: improves breathing, blood circulation, strengthens the musculoskeletal system, has a beneficial effect on the activity of the central nervous system.

Taking care of a child's physical development is almost as important for his harmonious development as a rational regime, regular and full nutrition, adequate sleep and frequent outdoor activities.

Early physical development is a whole set of exercises, methods and actions aimed at the physical development of the baby for the first few months. Certainly, early infant swimming affects the improvement of the physical development of the child.

Swimming is a physical action, the basis of which is the retention and movement of a person in the water in the desired direction. During swimming, which is a means of massaging the skin and muscles, the child overcomes significant water resistance, constantly training the musculoskeletal system, i.e. a kind of gymnastics is carried out.

During swimming, the sweat glands are cleansed, which contributes to the activation of skin respiration and abundant blood flow to the peripheral organs. Horizontal position during swimming is a kind of state of weightlessness, which activates the blood flow, developing and strengthening the cardiovascular system.

It is best to start learning to swim from the age of 2-3 weeks, but no later than 3 months, because every child is born with certain innate reflexes that fade after 3 months. These are swimming innate reflexes, thanks to which the child is able to learn to swim. (Osokina T.I. 1985)

Parents should understand that teaching a baby to swim is possible until the baby's tonic reflexes have disappeared, which are replaced by statokinetic reflexes, and learning to swim is almost impossible until the age of 3-4, when the child will be able to consciously follow the instructor's commands.

Bathing, swimming, games and entertainment on the water are one of the most useful types of physical exercises, they contribute to the health of children, strengthen their nervous system. Therefore, the sooner you teach a child to water, teach him to swim, the more the positive effect of swimming will have on the development of the entire child's body.

First of all, the muscular system of a preschool child is poorly developed, its mass is 22-24% of body weight (in an adult-40%). According to their structure, composition and functions, the muscles of children differ from the muscles of an adult. The muscles of a child contain more water, at the same time they contain less protein and inorganic substances, their mechanical strength is lower. Muscle bundles are still poorly formed, the innervation apparatus of the muscular system is also insufficiently developed. (Makarenko L.T.2002)

In children body, the muscles contract more slowly than in an adult, but the contractions themselves occur at shorter intervals. They are more elastic and shorten to a greater extent when shortened, and lengthen when stretched. These features of the child's muscular system explain the fact that children get tired quickly, but physical fatigue passes faster. As a result, it is clear that the child is not adapted to prolonged muscle tension, monotonous static loads.

The child performs swimming movements with the help of large muscle groups of arms, legs, trunk, already well developed by the age of 3-5. Against the background of their intense activity, underdeveloped small muscle groups are also involved in the movement. Therefore, swimming classes are especially favorable for the overall development of the muscular system of children.

Movements during swimming are characterized by large amplitudes, simplicity, dynamism. In the cycle of swimming movements, tension and relaxation of muscle groups alternate sequentially, and the muscles of the child are, therefore, in favorable conditions. Short-term muscle tension, alternating with moments of relaxation, rest, do not tire the child's body, allow it to cope with significant physical exertion for quite a long time.

The child's cardiovascular system is well adapted to the needs of a growing organism. The volume of blood in a child (per 1 kg of weight) it is relatively larger than that of an adult, but the ways of its movement through the vessels are shorter and the blood circulation rate is higher. The vessels are relatively wide, and the blood flow through them from the heart is not difficult. The blood flow towards the heart is facilitated by the great mobility of the child: the muscles during movement push venous blood through the vessels. But it must be borne in mind that the child's heart gets tired quickly under stress, is easily become excited and does not immediately adapt to the changed load, the rhythm of its contractions is easily disturbed. It follows then, the need for frequent rest for the child's body. These features of the child's cardiovascular system should be taken into account when choosing physical exercises.

During swimming, the circulatory organs of the child are in facilitated conditions of activity due to the position of the swimmer's body; close to horizontal, the work of large muscle groups in large arcs, the mechanical effect of water pressure on the surface of the body, helping the outflow of blood from the periphery and facilitating its movement to the heart.

The correct rhythm of the muscles and respiratory organs also has a beneficial effect on the activity of the cardiovascular system. Since it is possible to arbitrarily dose the physical load on the heart during swimming, swimming is one of the effective types of therapeutic physical culture, contributing to the development and strengthening of the health of those who have weakened cardiac activity.

The respiratory organs of children have their own characteristics: narrowness of the respiratory tract, tenderness and slight vulnerability of the mucous membranes, abundance of blood and lymphatic vessels in the mucous membranes and walls of the respiratory tract. This causes easier penetration of infection into the respiratory organs, contributes to the occurrence of inflammatory processes of the respiratory tract and irritation from excessively dry air, especially indoors.

People who are systematically engaged in swimming have developed respiratory muscles and respiratory organs, there is a good consistency of breathing with movements. When swimming, a person breathes clean, dust-free and sufficiently humidified air. When inhaling while swimming, the respiratory muscles carry an additional load due to the need to overcome water resistance, the necessary effort is also made when exhaling into the water. As a result of increased activity, the respiratory muscles strengthen and develop, the mobility of the chest improves, the vital capacity of the lungs increases. In swimmers, it reaches 5000-7300 cm3 or more. (Makhaneva M.D. 1980)

Systematic swimming and bathing have a positive effect on the development of the respiratory organs of preschoolers, the vital capacity of their lungs increases to 1800-2100 cm3. (Makhaneva M.D. 1980)

The musculoskeletal system of the child is in the stage of formation. Therefore, the child's spine is soft, elastic, its natural curvature is not yet fixed and straightens in the supine position. Due to this malleability, it is easily subjected to abnormal bends, which can then become fixed, form a deformation. When swimming, the lifting force of the water supporting the child on the surface, as it were, facilitates the body, so the pressure on the supporting apparatus of the skeleton, especially on the spine, decreases. In this regard, swimming is an effective means of strengthening the skeleton, is actively used as a corrective (correcting defects) means.

In preschool children, the pelvic girdle is not yet sufficiently developed, the ossification of cartilage tissue is just beginning. Therefore, excessively sharp loads on the lower limbs of children are strictly contraindicated, in particular, jumping into the water from a height of more than 40-50 cm cannot be recommended. Soft rhythmic movements of the legs when swimming provide a large and versatile load on the lower limbs. This creates very favorable conditions for the gradual formation and strengthening of the firm support of the lower extremities - the pelvic girdle.

Due to the age-related weakness of the ligamentous-muscular apparatus and the accelerated process of ossification, the child's foot is easily deformed, as a result, flat feet often develop. It can be caused by excessive load on the feet or improper distribution of it on the inner and outer arches of the feet. A large dynamic footwork in the unsupported position when swimming has a strengthening effect on the formation of a child's foot, helps to prevent the disease of flat feet. (Vorotilkina I.M.2004)

In therapeutic gymnastics, swimming is increasingly being used as a means for the prevention and treatment of various disorders in children's posture, for example, scoliosis, kyphosis (changes in the normal shape of the spine), as well as joint stiffness and various consequences of infantile paralysis (polio).

In the process of swimming, coordination develops, the rhythm of movements necessary for any motor activity and all vital manifestations of the child's body. However, mastering a certain rhythm of movements is quite a difficult task for preschoolers. The development of rhythmic movement skills takes place in a variety of organized and independent activities of children. But swimming is especially effective in developing the rhythm of movements in preschoolers, and thereby improving the activity of all systems of the child's body.

1.2 The effect of swimming on the cardiovascular, respiratory system and musculoskeletal system

First of all, the muscular system of a preschool child is poorly developed, its mass is 22-24% of body weight (in an adult-40%). According to their structure, composition and functions, the muscles of children differ from the muscles of an adult. The muscles of a child contain more water, at the same time they contain less protein and inorganic substances, their mechanical strength is lower. Muscle bundles are still poorly formed, the innervation apparatus of the muscular system is also insufficiently developed.

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1.3 The effect of swimming on the central nervous system

The central nervous system develops intensively in the first three years of a child's life. Already in 2-2.5 years old, the general picture of the structure of the brain in children differs little from that of an adult. The cells of the cerebral cortex of children have a great ability to fix and retain newly established adaptive connections. The high plasticity of the cerebral cortex in childhood largely determines the child's ability to learn new movements relatively easily.

Up to 6 years old, in the activity of the central nervous system, the processes of excitation still prevail over the processes of inhibition, therefore, as a rule, the preschooler is very mobile, his movements are fast, impulsive, attention is unstable. A preschool-age child has a tendency to imitate. In this regard, it is advisable to base the teaching of children's movements on a visual display. At the same time, at preschool age, there is an active mastery of speech. Therefore, the explanation when learning the movements is of great importance.

At 5-6 years old, children master and perform various arbitrary movements quite well. However, they still have some unpreparedness for performing complex motor actions due to the slow concentration of inhibition, there is a weak ability to analyse muscle tension, inaccuracy of response movements to complex stimuli, etc. In this regard, the movements of preschoolers are often inaccurate, erratic, uneconomical, accompanied by the involvement of extra muscle groups in the work, a significant increase in the activity of the cardiovascular and respiratory systems.

In children under 7 years of age, the properties of the central nervous system are getting tired quickly, but also rest quickly, so large short-term loads with frequent breaks are permissible in teaching preschool children to swim. Children are more tired of monotonous activities that require big precision of movements. (Shebek V.N. Ermak N.N. Shishkina V.A. 2000)

1.4 Positive effect of swimming: hardening of the body of children and improving the mechanism of thermoregulation, increasing immunological properties

Early swimming is a wonderful incentive to the active development of the baby, affects almost all organs and systems of the child's body. This is a universal way of hardening, physical development, education. It is known that the heat capacity of water is almost 28 times higher than the heat capacity of air, the human body loses 30 times more heat in water than in air. It is for this reason that water treatments are a very strong hardening agent. Swimming increases the body's resistance to acute respiratory diseases. It is noticed that if "floating" babies still have acute respiratory infections, then they have a lighter course, a minimum duration and complications develop less often.

Proper physical education of a child is unthinkable without hardening his body. The most effective means of hardening are air, sun, water. The most effective is water hardening. It is easy to differentiate it – by strength and duration due to various methods of using water of the required temperature – when wiping, pouring, bathing. Bathing and swimming are especially effective, as they combine the effects of water, air, sunlight on the child's body and are accompanied by movement.

To achieve a useful hardening effect and strengthen the body, it is necessary to follow several rules:

- Classes should be held regularly, otherwise the achieved hardening effect will decrease;
- It is not allowed a large temperature drop, as a result of which there is a high probability of catching a cold;
- It is necessary to increase the lesson time depending on the acquired skills.

(Levin G. M.1974.)

1.5 The role, place and importance of swimming in the structure of physical education

The means of physical education include hygienic factors, natural forces of nature, physical exercises. The physical development of a person is also influenced by a variety of movements included in various activities (such as labor, etc.), unconditional reflexes, massage.

A full-fledged solution to the problems of physical education is achieved only with the complex application of all means, since each of them affects the body differently.

Hygienic factors (the mode of classes, rest, sleep and nutrition, hygiene of the room, playground, clothing, shoes, sports equipment, etc.) increase the effectiveness of the impact of physical exercises on the body. If the exercises are carried out in a clean, bright room, then children have positive emotions, work capacity increases, the mastering of these exercises and the development of physical qualities is facilitated.

Hygienic factors are also of independent importance: they contribute to the normal functioning of all organs and systems. For example, a good-quality and regular diet ensures timely delivery of the necessary nutrients to all organs, promotes normal growth and development of the child, and also has a positive effect on the activity of the digestive system and prevents its disease. Normal sleep provides rest and increases the efficiency of the nervous system. Proper lighting prevents the occurrence of eye diseases (myopia, etc.) and creates the most favorable conditions for the orientation of children in space.

Cleanliness of the premises, physical education equipment, inventory, toys, attributes, as well as clothes, shoes, and the body of children serves as prevention of diseases. Observance of the daily routine teaches children to be organized, disciplined.

The natural forces of nature (sun, air, water) enhance the effectiveness of the influence of physical exercises on the child's body. During physical exercises in the air, with solar radiation, children have positive emotions, more oxygen is absorbed, metabolism increases, the functional capabilities of all organs and systems increase. The sun, air and water are used to harden the body, to increase the body's adaptability to high and low temperatures. As a result, the temperature-regulating apparatus is exercised and the human body acquires the ability to respond in a timely manner to sudden and rapid changes in meteorological factors. At the same time, the combination of natural forces of nature with physical exercises increases the hardening effect. The natural forces of nature are also used as an independent means. Water is used to cleanse the skin from contamination, to expand and narrow its blood vessels, mechanical effects on the human body. The air of forests, gardens, parks, containing special substances (phytoncides), contributes to the destruction of microbes, enriches the blood with oxygen. The sun's rays favor the deposition of vitamin C under the skin, protect a person from diseases. It is important to apply all the natural forces of nature, combining them most expediently.

Physical exercises are a specific means of physical education used to solve health, educational and educational tasks. Therefore, physical exercises are widely used in different periods of a person's life.

Movements included in various activities have a positive effect on the child's body, if proper posture is observed, as well as the dosage of physical activity.

Of all cyclical sports, swimming differs from others in that it can be practiced almost from birth. And at the same time, many older children, teenagers, young men and even adults do not know how to swim at all or move in the water incorrectly, without experiencing sufficient loads, and therefore swim without much health benefit.

Swimming, like other cyclic exercises, has a beneficial effect on the CS (cardiovascular system), contributing to an increase in its power, efficiency, and vital activity. With systematic swimming exercises, thermoregulation improves, the intensity of blood flow increases, and the heart muscles strengthen. Gas exchange is also improving, which is very important for the full development of a growing organism. (But all this, of course, only with a fairly correct swimming technique and proper breathing.) Moderate swimming loads have a beneficial effect on the nervous system, "relieving" fatigue, improving sleep and increasing efficiency.
Swimming can be effectively used to prevent and even treat quite common among modern children and adolescents disorders of posture and slouching. So. when breaststroke swimming, the spine is straightened. And teenagers who swim freestyle usually have high growth rates. (Glazyrina L.D. 1999.)

1.6 Physical changes in children's bodies as a result of swimming

As the basis of my work, I took the research for 2009 and 2010, conducted on the basis of the Sechenovsky sports complex, where a German swimming group consisting of 15 people, 7 of them girls and 8 boys, aged 9-10 years, participated. The children in this group were at the initial stage of learning.

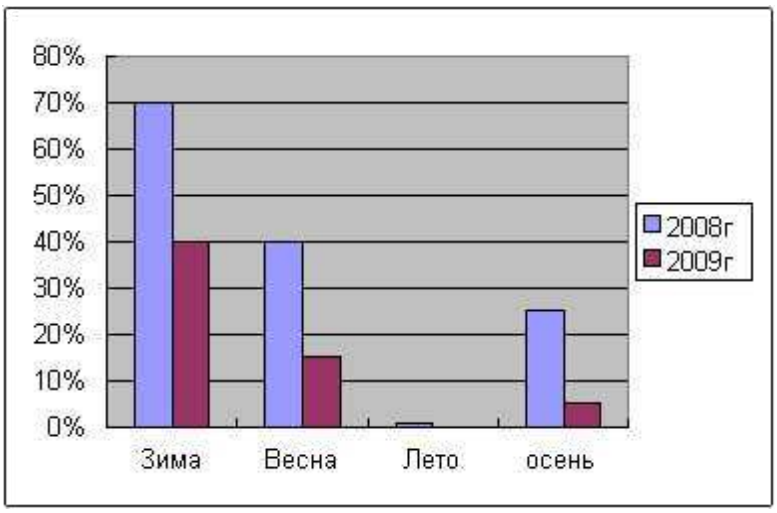
In the course of the study, a survey was conducted on the morbidity of students. The task was to compare the incidence rates for 2008 and for 2009. Then the heart rate was measured before physical exertion and after, until the heart rate was fully restored.

The initial heart rate indicators are: 65-70 beats per minute. In the course of the study, anthropometric measurements of the height and weight of engaged children were also carried out.

The initial data were taken for September 2009. The control measurement of growth took place in April 2010. To conduct this study, baseline indicators were taken for 3 periods: May 2009, September 2009, December 2009 and a control measurement in April 2010.

The following system of methods was used in the course of the study: empirical: study, generalization of pedagogical experience; questioning, interviewing, conversation, observation of the results of educational and educational activities; analysis of psychophysical parameters of schoolchildren's health; experimental work included in the natural educational process.

As a result of my observation and studied literature, it was revealed that as a result of teaching children to swim, the incidence of SARS (Severe acute respiratory syndrome) decreased by 30%.



Picture 1, Indicators of morbidity reduction in children engaged in swimming (Winter, Spring, Summer, Autumn); (Karpman, Sport medicine. 1980)

Based on the indicators of this table, of course, it should be noted that swimming is an effective means of hardening, increasing resistance to colds and exposure to low temperatures. In addition, the changes taking place in the blood increase the protective properties of its immune system, increasing resistance to infectious and colds.

So, as a result of swimming lessons, the human body has a versatile positive effect. For health purposes, swimming is accessible and useful for almost all age categories.

Systematically engaged in swimming, there is a physiological decrease in the pulse rate to 60 or less beats per minute. At the same time, the heart muscle works powerfully and economically.

From the given table No. 1 it can be seen that at the first stage, the heart rate returned to the baseline within 5-6 minutes, which indicates a low level of preparedness of those involved. But as a result of increased physical activity, the heart rate began to decrease to the initial data by 3-4 minutes.

Thus, as a result of swimming, positive changes have occurred in the cardiovascular system (in the form of increased contractility of the muscular wall of blood vessels and improved heart function), which led to faster transportation of oxygen-saturated blood to the peripheral parts of the body and internal organs, which contributes to the activation of general metabolism.

Table No. 1, Measurements of cardiovascular contraction

Recovery of cardiovascular contractions in time:	Measurements of cardiovascular contractions at the beginning of the experiment:	Measurements of cardiovascular contractions at the end of the experiment:
1 min.	120 beats/min.	110 beats/min.
2 min.	115 beats/min.	95 beats/min.
3 min.	110 beats/min.	80 beats/min.
4 min.	90 beats/min.	70 beats/min.
5 min.	85 beats/min.	
6 min.	70 beats/min.	

As a result, I can say that the physical fitness of the students has improved and the heart rate has improved, this indicates the strengthening of the cardiovascular system.

Table No. 2, Dynamics of growth changes in girls and boys

Boys		Girls	
Growth in September 2009 (cm)	Growth in April 2010 (cm)	Growth in September 2009 (cm)	Growth in April 2010 (cm)
123,6	127,5	122,4	127,3
122,5	133,1	120	132,7
124	135	123,1	135,3
120,2	136,5	122,7	138,4
122,9	134,8	121,3	127,6
123,1	128,9	120,9	128,0
120	128,5	123,5	131,7
124,6	134,3		

Drawing conclusions from these indicators, we can say: children with indicators below average height, in accordance with the physiological indicators for this age, have increased their indicators to average, this suggests that swimming contributes not only to health promotion, but also to improving the physical qualities of the body of children.

Also from the table it can be seen that the growth of girls is slightly larger than boys, on the control measurement. The geographical environment, climate, and lifestyle also have an impact on growth. Regular physical exercises and sports contribute to increased growth, affecting the thickness and length of bones, and affect the growth of the body as a whole, mainly up to 16-18 years in women and 18-20 years in men. After 22 years, it is possible to increase growth by correcting posture defects (stooping), eliminating scoliosis and other body defects.

Table No. 3, Dynamics of body weight changes in boys

May	September	December	April
2009	2009	2009	2010
28,2	27,9	28	32
29,5	29	29	32,6
27,4	27	27,1	31,4
29,3	28,8	28,8	32,8
27	26,5	26,7	30,9
28,8	28,1	28,1	32,3
27,4	27,1	27,1	31,5
26,7	26,3	26,4	30,4

Table No. 4, Dynamics of body weight changes in girls

May	September	December	April
2009	2009	2009	2010
25,4	25	25	30
26,5	26,1	26,2	30,6
27,4	27	27,1	31,4
26,3	25,8	25,8	31,7
28	27,5	27,7	31,9
25,8	25,1	25,1	29,3
26,4	26	26,1	30,5

In the initial period of training, body weight decreased, then it stabilized, and in the future, due to the increase in muscle mass, it increased slightly. This indicates that the training process was built correctly.

All of the above studies allow me to speak with full confidence that the conducted research has revealed the peculiarities of hardening and strengthening the body, physical, neuropsychic development, emotional and immune status, in children engaged in swimming.

2.0 Teaching children to swim

Now there is a possibility of mass swimming training for kids in almost every family – in a home bath, and all year round, without interruptions. And this opportunity should be used to the fullest. A 1-2-year-old child, not to mention infants, a "home pool" is quite enough for him to develop harmoniously physically, grow up healthy and seasoned, disciplined and acquire the necessary skills for the subsequent development of sports swimming in the kindergarten pool, secondary school or any other.

Picture 2 and Picture 3 show how young children learning to swim in a children's polyclinic

Picture 3. Teaching infant to swim on backs. (Vorotilkina, Physical culture and welness work in a preschool educational institition, 2004)

But even if for some reason the child was not taught from infancy, then at the age of one year it will be more difficult to do this, but still the anatomical and physiological features of the child contribute to the development of movements in the water: its specific gravity is less than that of an adult, so it is much lighter and better (more stable) keeps on the water; the body it has a well-streamlined shape; the mobility of the joints and ligamentous apparatus allows you to successfully master a variety of movements. The child begins to speak – his vocabulary by the age of two is 220-400 words, but he understands much more. He is already crawling freely, turns over from his back to his stomach and vice versa, lying on his stomach, lifts his torso, leaning on his hands, independently moves from a lying position to a sitting position and vice versa, walks on all fours, starts walking (first in a lateral direction), climbs a ladder to a small height, can crawl under the bench on his own, to get through the hoop.

Active movements strengthen the muscular and cardiovascular systems of the child; moreover, the development of movements is directly dependent on the external environment. Thus, practicing in the water and performing various movements associated with overcoming its resistance is the most important factor in the harmonious development of the baby. The horizontal position, a peculiar state of water weightlessness, activates blood flow to the working muscles, which contributes to their development and strengthens the cardiovascular system. This is the swimmer's working pose, his starting position for the subsequent performance of swimming movements.

Special mention should be made of breathing. At this age, the child's breathing is frequent and shallow, which is explained by the body's great need for oxygen and, in connection with this, the strenuous work of the respiratory apparatus. Staying in the water, performing various movements, exhaling into the water, holding your breath during dives develop and strengthen the breathing apparatus.

It is difficult to overestimate the health, therapeutic and hygienic significance of swimming in the life of a person, and especially a child. According to experts, dosed swimming classes contribute to the treatment of diseases of the cardiovascular system: ischemia, angina, myocarditis, neuroses, etc.

During swimming, a person overcomes significant water resistance, constantly trains all muscle groups (including very small ones), radically contributing to the elimination of various posture defects and the elimination of flat feet. Constant bathing and swimming harden the body, form a strong immunity not only to colds, but also to some infectious diseases. And here the temperature factor is decisive.

Due to the constant overcoming of water resistance and its high density, inhaling and exhaling during swimming is difficult for a beginner, and he has to make additional efforts to strengthen the lungs, bronchi, blood vessels, as well as intercostal muscles. As you master one of the ways of swimming, breathing becomes natural, habitual, and increasing the speed of swimming contributes to further training of the breathing apparatus.

When swimming in sports, movements with a large amplitude are performed, with the participation of large muscle groups and, as already noted, with significant water resistance. Thus, the systematic performance of exercises in the water develops coordination and precision of movements, flexibility and strength, and overcoming at an accelerated pace at first small segments, and then, as you prepare, medium and long distances contributes to the development of speed and endurance. The cyclical nature of movements, characteristic of swimming as a sport, not only harmoniously develops the motor apparatus, but also forms rhythmic deep breathing.

The process of teaching swimming to children 1-2 years old, if it is built methodically correctly (which provides for a consistent study of exercises based on the natural growth and development of the child, as well as his motor fitness), contributes not only to hardening, the formation of skills that form the basis for the study of methods of movement in the water, but also in this regard, the formation of basic movements. For example, at 12-18 months, a child begins to walk independently and quite quickly – it is this kind of walking that helps him maintain balance. However, the baby's legs are still bent at the knees, the trunk is tilted forward – hence the short and uneven step, unnecessary movements. Performing walking in the home pool (in light conditions), the child develops these movements and thereby improves the walking skill.

Sometimes you have to hear that it is at the age of 3-5 that a child is afraid of water and therefore he allegedly needs a set of preliminary exercises to eliminate hydrophobia. According to the author's long-term observations, there are very few such children at this age; a survey of coaches working with this contingent showed that there are no more than 5% of them. (Levin G.1974)

In that case, the analysis of the literature data indicates the relevance of the problem of optimizing the educational and training process in swimming.

2.1 Swimming styles

In that article, I will consider the techniques of the following swimming styles: chest crawl, back crawl, breaststroke and butterfly. During studying the above styles of swimming, the following will be considered: the position of the body and head, the technique of the hands, the technique of leg movement, breathing technique and general coordination of movement.

2.1.1 Crawl on the chest

A crawl on the chest is the fastest way of moving in the water. With well-mastered crawl movements, you can swim long distances and not feel fatigue in your muscles. Rhythmic breathing creates favorable conditions for sufficient oxygen saturation of the blood.

In modern crawl, the body is at the surface of the water, with the shoulders located slightly higher than the pelvis. With this position of the torso, the so-called angle of attack appears, contributing to the emergence of lifting forces, reducing the midsection of the swimmer, his hydrodynamic resistance.

The angle of attack is defined as the angle between the longitudinal axis of the body and the horizontal. In the crawl on the chest, it can be equal to 3-5 °. At sprint distances, the angle is greater than at long distances. The position of the head in the crawl is natural, it is located in the plane of the trunk. The trunk does not only move forward when performing rowing movements. The thoracic part of it rotates around the longitudinal axis by 23-25 ° in one direction and in the other. Turns of the thoracic part of the trunk create favorable biomechanical conditions for performing a stroke with your hands.

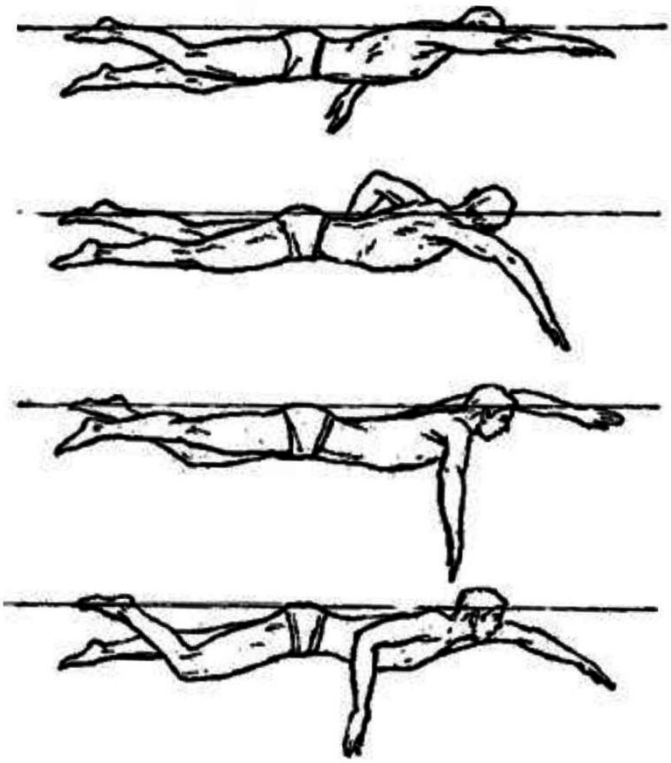
Footwork in this method of swimming is a complex kinematic chain of sequentially interconnected movements of the thigh, shin and foot.
Examples can serve as proof of this, when people who have mastered the technique of foot movements are able to move easily, freely and practically without getting tired. Conversely, incorrect movements cause rapid fatigue of the thigh and lower leg muscles with little or no forward movement of the body.

The movements of the legs in the crawl on the chest are performed alternately in the vertical plane (Picture 3). When one leg makes a kick, the other begins a preparatory movement. The percussive movement (it is also called a stroke) is made down, and the preparatory movement is made up.

The preparatory movement consists of two phases. In the first phase, the movement is performed with a straight leg when it reaches a horizontal position. At this moment, the thigh muscles are relaxed and the gluteal muscles work mainly. The second phase is characterized by a change in the direction of movement of the hip. The hip stops first, and then the knee starts to go down. At this moment, the foot continues to move upward to the position when the heel is level with the surface of the water or rises slightly above it. In this phase, the leg muscles rest, They are as relaxed as possible, preparation for the shock movement is underway.

The main task of the legs when swimming with a crawl on the chest is to ensure the balance of the body, and to create a lifting force that allows you to reduce the volume of the submerged part of the body.

Picture 4, Swimming on chest. (Osokina, How to teach children to swim. 1985)



As for the hands, the strokes with the hands in the crawl on the chest are performed alternately. When one hand finishes the working movement, the other begins to develop effort. Before starting the stroke, the brush enters the water with the palm down in front of the shoulder joint of the same name. At the same time, the elbow is higher, and the hand and forearm form one line. At this moment, the arm is relaxed, but does not fall down when entering the water. After entering the water, the hand and forearm move forward and slightly down. With this movement, the brush begins to slowly perform palm flexion in the wrist joint.

The crawl on the chest is characterized by a uniform forward movement of the body, which allows the swimmer to develop a high average speed of movement. The main factor ensuring the uniform movement of the body in the water are alternate movements of the hands. Due to the higher speed of movement through the air, the hand finishing the preparatory movement has time to develop an effort in the initial part of the stroke at the moment when the opposite one has not yet finished the stroke.

Breathing in the crawl on the chest, as in other swimming methods, is three-phase. The swimmer inhales, holds his breath while inhaling, and then exhales. It is believed that holding the breath while inhaling provides better oxygen saturation of the blood, since at this moment the intrapulmonary pressure increases, contributing to an increase in the diffusion of oxygen through the pulmonary membrane into the blood plasma. The rabbit's breathing rate is determined by the pace of movement. To inhale, the swimmer turns his head at the moment when the arm towards which the swimmer turned his head has finished the stroke.

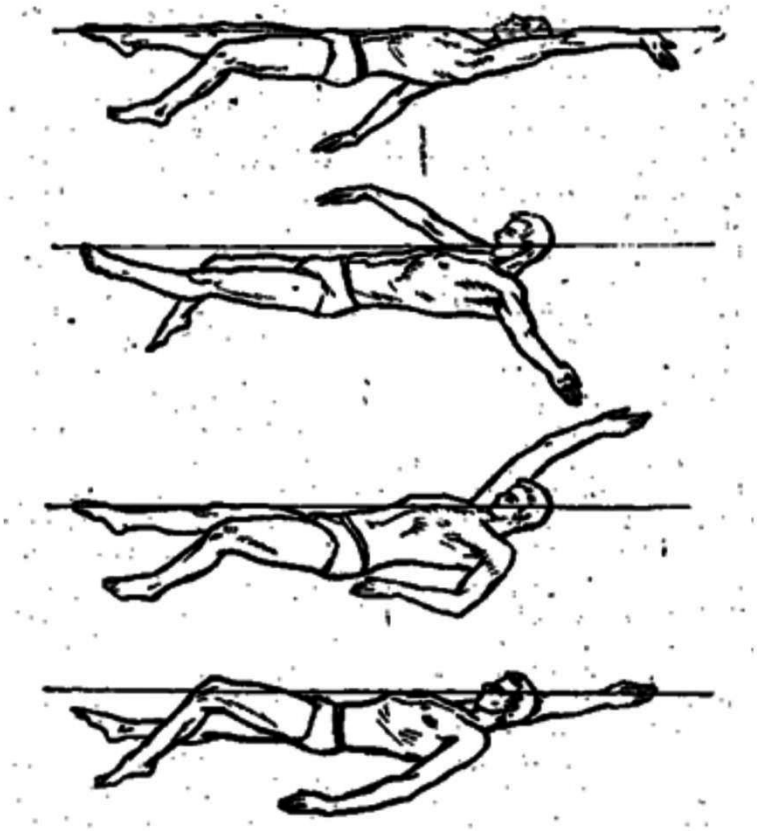
2.1.2 Crawl on the back

Footwork in the crawl on the back is more important than in the crawl on the chest. Therefore, spin swimmers, as a rule, perform six percussive movements with their feet for two strokes with their hands. Unlike the crawl on the chest, the movements of the legs in the crawl, on the back have a larger scope and greater flexion in the knee joints. The legs of the swimmer on his back work rhythmically and only slightly deviate in their movement from the vertical plane.

The kinematics of the movements of the legs in the back position is very similar to the movements of the legs in the crawl on the chest. The shock, or working, phase is performed upwards, the preparatory phase is performed downwards. After the end of the stroke, the leg is straightened at the knee joint, the foot takes a position near the surface of the water. The magnitude of the angle at which the leg is bent in the hip joint depends on the immersion of the swimmer's pelvis.

The preparatory movement begins with the extension of the straight leg in the hip joint until the leg takes a horizontal position. Then the extension in the hip joint ends and its flexion immediately begins. The foot continues to fall down, and the leg bends at the knee joint. This is the end of the preparation for the strike.

Picture 5, Swimming on the back. (Osokina, How to teach children to swim. 1985)



In the initial part of the impact movement, the hip continues to bend with increasing speed, in the hip joint, the knee rises up, dragging the lower leg with it. The toe of the foot, rising up and meeting the resistance of the water, stretches and turns inward.

Just as in the chest crawl, the main pulling force when swimming on the back is created by the hands (Pic. 2). After the end of the stroke, the arm sweeps over the water straightened at the elbow joint and enters the water along a line running parallel to the axis of the body through the center of the shoulder joint of the same name. Before entering the water, the palm turns outward.

The rowing movement begins with the flexion of the hand in the wrist joint, with the palm facing downwards outwards. Plunging to a depth of 30-40 cm, she moves backwards and, crossing the shoulder line, approaches the surface of the water. At this moment, the arm is bent at the elbow joint to an angle of 75-90 ° and all its links are located in the same plane.

In the second half of the stroke, the speed of the arm movement increases. The hand and forearm lag behind the shoulder, trying to maintain a perpendicular position with respect to the direction of movement. At the end of the second half of the stroke, the brush, continuing to move backwards, sinks, turning the palm downwards. This last movement solves mainly the problem of creating a support on the water necessary to maintain the body in a higher position. After the end of the stroke, the straightened arm rises out of the water and assumes its original position by the beginning of the next stroke.

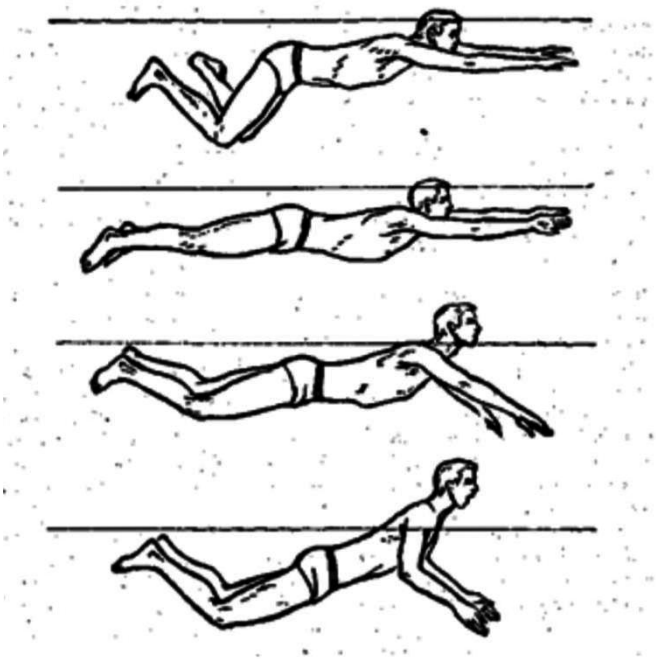
Alternating rowing movements of the arms maintain a continuous pulling force and as a result, it allows the body to move forward evenly.

Breathing in the crawl on the chest is three-phase: inhalation through the mouth, inhalation delay and fast exhalation. The beginning of the inhalation always coincides with the moment of lifting one hand out of the water and the first part of the stroke of the other hand. For one cycle of hand movement, one breath is performed. Unlike other swimming methods, breathing in a crawl on the back may not be associated with the pace of hand movement. For example, when fatigue appears, spin swimmers sometimes begin to breathe more often, inhaling when lifting each arm out of the water.

2.1.3 Breaststroke

The history of the development of sports breaststroke technique began with the basic breaststroke. Swimmers performed rowing movements with their legs with their knees wide apart. The feet and the stroke period moved sideways backwards, and then converged. Their trajectory resembled semicircles. The arms, straight at the elbows, moved sideways to the shoulder line, and then, bending, approached the chest and were brought forward to the starting position. The swimmers took a breath at the beginning of the arm stroke.

Picture 6, Swimming in breaststroke style. (Osokina, How to teach children to swim. 1985)



One of the most important rule is to perform a rowing movement with the legs only after the end of the preparatory movement of the hands. The main driving force was developed by the legs, the arms only supported the intra-cycle speed. The movement of the shoulders up and down was considered erroneous. After the kicking, the sliding phase was mandatory.

In modern breaststroke, the preparatory movement of the legs is performed by bending them in the knee and hip joints (Fig. 3). In the knees, the legs bend completely, that is, up to an angle of 45-509, in the hip joints — up to 110 °; At the end of the preparatory movement, the knees are at a distance equal to the width of the pelvis, and the feet are shoulder width apart. The ankles are fully unbent, the socks are spread apart.

The rowing or kicking movement begins with the rapid extension of the legs in the knee and hip joints. The outward-facing feet move back to the sides, and then inward. The extension of the legs in the knee and hip joints coincides with the end of the movement of the legs inwards by Rowing, the surfaces in breaststroke are the inner surfaces of the foot and lower leg. The feeling of water pressure in these areas when performing a stroke is an indicator of the correctness of the movement.

In the technique of modern breaststroke, an extremely important role belongs to the hands. Before the start of the stroke, the arms are stretched forward and are at the surface of the water, the palms are directed downwards. The rowing movement begins with the flexion of the hands in the wrist joints. At the same time, the palms turn outward downwards.

Then the arms, slightly bent at the elbows, move to the sides and slightly down. The palm occupies a perpendicular" position to the direction of its movement. Since the promotion of the hands beyond the shoulder line is not allowed by the rules of the competition, the stroke with the hands to the sides ends when the hands reach their level. After that, the hands change the direction of their movement, approaching the trunk, while the arms bend significantly at the elbows. Once under the chest, the hands, without stopping their movement, move forward, and the straightening at the elbows ends. After that, the cycle repeats again.

Inhalation begins at the end of the rowing movement of the hands, at the moment of convergence of the hands and ends with the beginning of their withdrawal forward. The pause on the inhale coincides with the withdrawal of the arms forward, and the exhalation — with the rowing movement.

2.1.4 Butterfly

Butterfly style is officially considered the most difficult. During the swim, all muscle groups are involved. Most beginners lose strength almost immediately in the first couple of minutes of the swim.

During butterfly swimming, the whole body (from neck to toe) makes undulating movements. That is why it is also called «dolphin style».

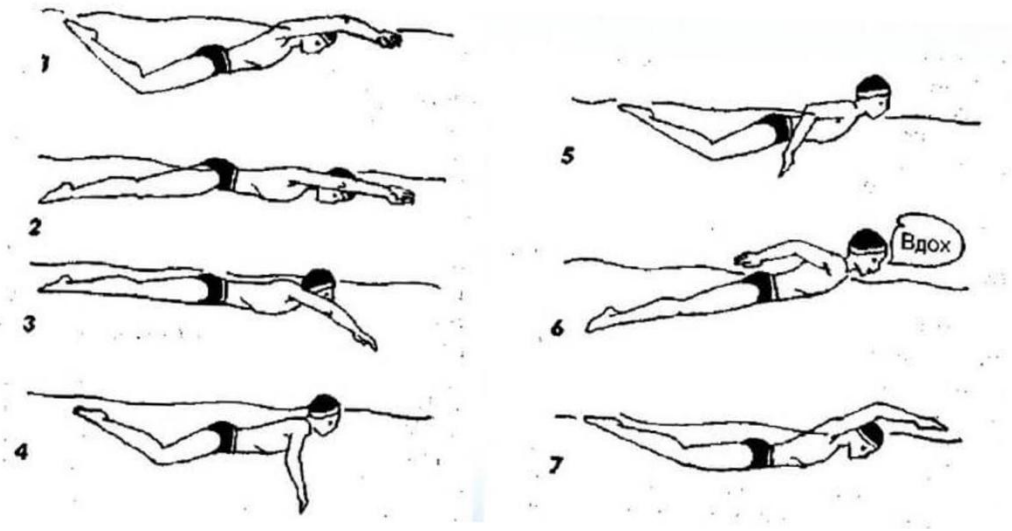
The speed during butterfly swimming is inferior to the crawl, but much ahead of the breaststroke. This style is not suitable for long-distance swims due to the high energy consumption. The main distances in the butt pool are 50 m, 100 m, 200 m and as part of a complex swimming.

The legs should be together, they work in continuation of the arms and lower back. The swimmer makes the first push weak, since the head comes out of the water (a strong impact on the water can be painful), the push when the legs come to the surface is stronger. The movements of the legs come from the hip. The knees remain motionless (they cannot be bent).

Hands when immersed in water should be closed (this increases the speed of sliding). Then they separate to the sides and make a simultaneous stroke. He makes a stroke with his hands up to the hips (in breaststroke — up to the shoulders), and then his hands draw an arch over his head.

The head appears on the surface immediately after the stroke. At this point, the swimmer should take a sharp breath with his mouth. The athlete has only a few milliseconds to get oxygen. Exhalation is performed by the nose.

Picture 7, Swimming in style butterfly. (Levin, Swimming for kids. 1974)



Coaches have developed a method of teaching butterfly swimming for beginners:

Work out the movement of the dolphin. To do this, an auxiliary board is used to help keep on the water. It is required to thoroughly work out the vibrations of the body.

Connect your hands to swimming.

Butterfly involves all muscle groups. The main load falls on the shoulders, back muscles, lower back, chest, abs and hips. It is worth mastering the technique of butterfly swimming only after success has been achieved in the crawl and breaststroke heats. It is recommended to study this style only under the supervision of professional trainers in the pool. It is not recommended to use it for an untrained swimmer.

2.2 Methods of teaching children to swim

Teaching methods are such methods and techniques of the teacher's work, the use of which provides a quick and high–quality solution to the task - mastering the skill of swimming. When teaching swimming, three main groups of methods were used: *verbal, visual and practical*.

Verbal methods using description, explanation, story, conversation, analysis, giving instructions, evaluating actions, commands and orders, counting, etc., the teacher helps students to create an idea of the movement being studied, to understand its form, content, direction of impact, to comprehend and eliminate errors. Brief, accurate, imaginative and understandable speech of the teacher increases the effectiveness of these methods. The emotional coloring of speech enhances the meaning of words, helping to solve educational and educational tasks, shows the teacher's attitude to the case, to students, stimulates their activity, confidence, interest.

Due to the specifics of swimming, all the necessary explanations, analyses, assessments are carried out in the preparatory and final parts of the lesson on land. When the group is in the water, only laconic commands, counting, orders are used, since the audibility conditions worsen for those involved and the danger of overcooling increases. The description is used to create a preliminary idea of the movement being studied. The most characteristic elements of it are described without explaining why it is necessary to do so.

The story is used mainly in the organization of games. A conversation in the form of questions and answers increases the independence and activity of students, helps the teacher to get to know them better. The analysis of the game or summing up of the lesson is carried out after completing any task.

Analysis and discussion of mistakes made when performing exercises, violations of the rules of the game, etc. They target students to correct their actions. The instruction is most often of a methodical nature, focusing on the details or key points of the movement being performed, the development of which makes it possible to then perform the exercise as a whole.

Methodical instructions in swimming lessons are given to prevent and eliminate errors before performing each exercise, during and after it. The instructions clarify individual points in the exercise, explain the conditions for its correct reproduction, suggest the sensations that should arise during this. Commands and orders are used to manage the group and the learning process.

2.2.1 Visual methods

The use of visual methods helps to create specific ideas about the movement being studied, which is especially important when teaching sports equipment.

Viewing the studied movement with simultaneous reproduction of the tempo or rhythm creates an idea of the form and nature of its reproduction. Along with a figurative explanation, visual perception helps to understand the essenc of movement, which contributes to its rapid and lasting development. The role of visual perception in teaching children is especially great.

A strong tendency to imitate, especially in younger schoolchildren, makes visibility the most effective form of movement training. Visual methods include the display of exercises and swimming techniques, the use of educational visual books, kinograms and films, the use of gestures.

2.2.2 Exercise method

This method is characterized by repeated performance of the movement as a whole and in parts, taking into account the amount of physical activity, which is regulated by changing the number of exercises performed in the lesson, their complexity, the number of repetitions, the pace of performance, the duration of rest between exercises, etc.

The study of swimming techniques is carried out by repeatedly performing its individual elements aimed at mastering the method of swimming as a whole, i.e. two methods of learning are used – in parts and in general. All the exercises used in the process of learning to swim make up a single methodological system that provides for the sequence of studying individual exercises leading to the development of swimming techniques as a whole.

2.2.3 The method of learning in parts

The study of swimming elements in parts simplifies the mastery of swimming technique, and also reduces the number of mistakes made, which generally reduces the duration of training and improves its quality.

Mastering individual elements of the technique also expands the motor experience. The method of learning in parts is based on a system of summing exercises, the consistent study of which ultimately leads to the development of the "method of swimming as a whole".

Studying the material in parts at the initial stages of learning to swim is psychologically motivated and understandable. This is due to the fact that mastering the simplest movements brings moral satisfaction, increase self-confidence, which is especially significant in the first steps of learning.

2.2.4 Competition method

This method is distinguished by the following features: 1) achieving victory as a result of the maximum activation of their capabilities: 2) the desire to show the maximum level of physical and mental fitness in the fight for first place. All this places high demands on moral and volitional qualities, contributing to the education of perseverance, self-control already at the first lessons in the pool.

The use of the competitive method gives a more intense physical and mental load than the usual method of multiple repetitions.

2.2.5 Game method

This method is characterized by: 1) emotionality and rivalry; 2) variable application of acquired skills and abilities in connection with changing game conditions; 3) the ability to take initiative and make independent decisions in game situations; 4) complete improvement of physical and moral-volitional qualities: dexterity, speed, strength, endurance, as well as resourcefulness, courage, will to victory , etc.

The game helps to foster a sense of camaraderie, endurance, conscious discipline, the ability to subordinate their desires to the interests of the team. The game, like the competition, increases the emotionality of swimming lessons, being a good means of switching from the monotonous, monotonous movements that are characteristic of swimming. As a result, competitive and gaming methods should be applied from the first swimming lessons.

2.3 Definition of younger and older school age

2.3.1 Younger school age

The beginning of primary school age is determined by the moment the child enters school. The initial period of school life on average occupies the age range from 6-7 to 10-11 years (grades 1-4). This period is associated with an increase in physical and mental stress, the expansion of the child's social boundaries and adaptation in society. The child evaluates himself and his abilities differently, experiences another crisis and learns to be an independent and responsible person. At primary school age, children have significant reserves of development.

First of all, the work of the brain and nervous system is being improved. The nervous system of younger schoolchildren is unstable. The excitation and inhibition of the nervous system is associated with its low mobility. The balance between nervous excitement and inhibition did not work out. From here the rapid fatigue, the inability to perform monotonous work for a long time, younger schoolchildren are quickly distracted, they do not know how to quickly switch from one type of activity to another. Haste in actions, inaccuracy, and carelessness are also noted.

The slight extensibility of the musculoskeletal system provides the child with well-expressed flexibility, but cannot create a strong "muscular corset" to maintain the normal location of the bones. As a result, deformations of the skeleton, the development of asymmetry of the body and limbs, the occurrence of flat feet are possible. This requires special attention to the organization of the normal posture of children and the use of physical activity.

An essential physical feature of younger schoolchildren is increased muscle growth, an increase in muscle mass and a significant increase in muscle strength. The increase in muscle strength and the general development of the motor apparatus is due to the greater mobility of younger schoolchildren, their desire to run, jump, climb and inability to stay in the same position for a long time. From the age of 5-7 years to 10-11 years, the length of the limbs increases rapidly, exceeding the growth rate of the body. The increase in body weight lags behind the rate of increase in body length.

2.3.2 Older school age

The average school age (from 9-11 to 14-15 years) is commonly called adolescent or teenage in psychology and other fields of knowledge. Adolescence is the period of life between childhood and adulthood.

In physiology , this period is conventionally divided into three phases:

1. Pre-puberty, preparatory period.

2. The actual puberty period, during which the main processes of puberty are carried out.

3. The post-puberty period, when the body reaches full biological maturity.

The main aspects of physical maturation — skeletal maturity, the appearance of secondary sexual characteristics and the period of growth spurt — are closely related to each other in both men and women.

The gradual strengthening of bones, ligamentous apparatus and muscle mass in a teenager makes it necessary to constantly monitor the formation of his correct posture and the development of a muscular corset, to avoid prolonged use of asymmetric poses and unilateral exercises, excessive weights.

The maturation of the musculoskeletal system and central regulatory mechanisms ensures the development of the most important qualitative characteristics of motor activity. Middle and high school age have sensitive periods of development of strength, speed, agility and endurance.

2.4 Training program for school age children in swimming pool

The purpose of the program: to give special knowledge, skills, to teach actions in the water, to teach swimming.

With continuous training, the highest level of teaching children to swim is achieved.

Goals of the program:

- health promotion, hardening, instilling persistent hygiene skills;

- learning the technique of swimming and mastering the vital skill of swimming;

- training in the basics of the technique of all swimming methods and a wide range of motor skills;

- comprehensive physical development (development of basic physical qualities: strength, endurance, speed, agility, flexibility) and coordination abilities;

- familiarization with the rules of safety on the water and mastering the skills of applied swimming;

- formation of interest, motivation for swimming and a healthy lifestyle;

- education of moral, ethical and strong-willed qualities

The program is designed for 4 months. The duration of classes in the group is 2 times a week for 40 minutes. For the distribution of children into groups, a preliminary survey of parents and a check of the children's swimming readiness is carried out. 10-15 children can study in one group.

Basic principles:

1. Classes in the deep pool are held on the extreme paths using support and safety equipment: foam belts, swimming boards, safety pole. Gradually, in the process of mastering the skill of swimming, reduce the use of means supporting on the water.

2. Much attention is paid to the psychological training of students: elimination of fear of water, strengthening of self-confidence, education of courage, familiarization with safety measures.

3. In the initial training of swimming in a deep swimming pool, when studying sports methods, the crawl on the back and the crawl on the chest are first mastered in parallel, then the breaststroke and dolphin (butterfly) method.

4. The initial swimming training program can be divided into three stages:

Stage 1 of training: introduction to the water; preparatory exercises in the water (mastering breathing, elementary rowing movements with hands and feet, sliding, jumping into the water); general development and special physical exercises on land.

Stage 2: learning the technique of swimming with a crawl on the chest and on the back, falling forward from a low side, diving under water, new general and special exercises for a swimmer on land; improving the swimming skill.

Stage 3: further improvement of the skill of swimming with a crawl on the chest and on the back, learning the technique of training starts and turns, familiarization with individual elements of dolphin (butterfly) and breaststroke swimming techniques.

Educational and thematic plan for the group of initial swimming training

1.	Age of the child	7-10
2.	Amount of trainings during the week	2
3.	Duration of one lesson (minutes)	40
4.	Theoretical training (hours)	1
	Rules of conduct in the pool	1
5.	Practical training (hours) Including:	30
	Preparatory exercises for mastering with water Training jumps and diving Flight simulation exercises (chest crawl and back crawl, breaststroke, dolphin) Rowing simulation exercises (chest crawl and back crawl, breaststroke, dolphin) Swimming through the elements Swimming in full coordination Starts and turns	
6.	Competitions and control tests	1

	TOTAL	32

Exercises for learning basic swimming skills

With the help of preparatory exercises for learning with water , the following tasks are solved:

1) Formation of a complex of reflexes (auditory, visual, respiratory and vestibular) corresponding to the basic properties and conditions of the aquatic environment.

2) Learning the working pose of a swimmer, the feeling of support on the water and breathing in the water - as preparation for the study of sports swimming techniques.

3) Elimination of instinctive fear of water - as the basis of psychological preparation for training.

Performing preparatory exercises allows a beginner to familiarize himself with the physical properties of water (density, viscosity, temperature, to experience the pushing lifting force of water and a sense of support on water.

Skill	**Exercises**
Getting used to water	- imitation of walking in the water along the side from ladder to ladder, holding on to the side (1-2 lessons); - imitation of rinsing clothes, holding on to the side with one hand (1-2 lessons); - patting on the water, stroking the water (1-2 lessons); - "waves on the sea" – active game (1-3 lessons); - movement along the dividing rope (with the help of hands) (3-4 lessons); - who will jump higher out of the water, holding his hand over the side (1-3 lessons);

Immersion in water	- holding on to the side, wash your face, spray yourself in the face with water, plunge with your head, spray each other in the face (2-3 lessons); - holding on to the side to dive to the eyes, dive with your head under water; dive under water, stay for 3-4 seconds; the same with opening your eyes in the water - hold your breath while inhaling (4-5 lessons); - holding on to the side, lower your legs to the depth, dive with your head under water (4-5 lessons); - move across the pool holding on to the side, dive under the dividing paths (4-5 lessons)
Correct breathing	- lower the lips into the water, exhale (4-5 lessons) - dive into the water up to the eyes, exhale (5-6 lessons) - dive under the water with your head, exhale into the water (7-24 lessons) - breathe exhale-inhale and hold your breath while inhaling (7-24 lessons)
Floating and lying on the water	- lying face down on the chest, holding on to the side of the pool, holding your breath while inhaling (3-4 lessons); - the same, releasing the board for a few seconds (4-6 lessons);

	- "float" sideways to the side, holding on to the side with one hand (5-7 lessons); - diving – intercepting hands alternately down and then up holding on to the stairs (7 - 10 lessons); - lying on your back sideways to the side of the pool, holding on to the side with one hand (5-10 lessons); - the same, releasing the board (7-10 lessons); - "STAR" - take a deep breath to increase buoyancy, lie on the water face down or on your back, spread your arms and legs in different directions (6-10 lessons);
Sliding	- sliding along the side of the pool, holding on to the pole (1- 12 lessons); - sliding along the side of the pool, hold the pole in front of your hands (1-12 lessons); - sliding across the pool, the child is towed back to the board (3-12 lessons); - sliding on the chest with different positions of the arms: arms stretched forward, at the hips, one in front, the other at the hip (3-12 lessons);

	- sliding on the back with different arm positions: arms stretched forward, along the body, one hand in front, the other at the hip (3-12 lessons); - sliding on the chest with subsequent turns on the back and chest (5-12 lessons);
Movement in the water with the help of elementary swimming movements	- sitting in a stop at the back on the edge of the side, the feet touch the water with the feet – foot movements as in the crawl on the chest method (1-20 lessons); - lying on the edge of the side, on the stomach, legs lowered into the water – foot movements as in the method of crawling on the chest (1-20 lessons); - lying on the edge of the side, on the back, legs lowered into the water – foot movements as in the crawl on the back (1-20 lessons); - towing with a safety pole – holding on with two hands, then with one hand in the chest position, kroll foot movements (5-23 lessons); - foot movements as in the method of crawling on the chest, holding on to a swimming board (6-20 lessons) pole (3-12 lessons); - sliding on the back, holding on to the pole with footwork (6-10 lessons);

	- foot movements as in the method of crawling on the back, holding on to a swimming board (6-20 lessons);

Training diving

Tasks:

1. Elimination of the instinctive fear of water and rapid development with an unusual environment

2. Preparation for the successful execution of the starting jump and elements of applied swimming.

When studying jumps, it is necessary to observe safety precautions and discipline.

1. Children who have mastered basic swimming skills are allowed to jump

2. Jumps are performed at the teacher's command

3. It is necessary to explain to children that it is possible to jump only after making sure that the previous jumper has sailed to a safe distance.

Diving	- jump, feet down, holding on to the safety pole (5-15 lessons); - jump, feet down, the safety pole is fed after surfacing (7-18 lessons); - jump, face down from the side of the pool to the safety pole (18-26 lessons); - sitting on board, falling into the water, holding on to the pole (3-7 lessons); - jump feet down, holding on to the pole with both hands from the side (3-7 lessons); - the same with one hand (7-10 lessons); - the same from the pedestal (10-13 lessons);

	- jump face down with a "frog" with insurance in the water (8-12 lessons); - jump feet down, take the pole after surfacing (8-15 lessons);

In the process of studying preparatory exercises aimed at mastering with water, the classes gradually include exercises to teach children to swim with a crawl on the chest with a parallel study of swimming techniques using a crawl on the back.

One of the features of swimming is that the movements are performed in a different environment and in an unusual horizontal unsupported body position for a person. Therefore, beginners cannot perform the entire complex (coordinated and in a certain sequence) of swimming movements at once.

The scheme in teaching techniques to sports swimming methods looks like this:

1) footwork training;

2) training in the coordination of breathing with footwork;

3) handwork training;

4) training in coordination of breathing with handwork;

5) general coordination of footwork, hands and breathing;

6) swimming in full coordination

Exercises for studying and improving the technique of swimming crawl on the back

1. Swimming on your feet on your back, the board in your outstretched arms and pressed against your stomach / hips.

2. Swimming on the legs on the back, hands at the hips.

3. Swimming on legs with different arm positions (one extended behind the head, the other at the hip; both hands behind the head).

4. Swimming on your feet on your back with a board + hand crawl exercise on your back (one hand holds the board, the other performs a rowing movement and takes hold of the board, then the other also performs).

5. Swimming with the help of movements of the legs with a crawl on the back, hands at the hips, with simultaneous stroke with two hands.

6. Swimming on the legs on the back, hands at the hips, with alternate rowing movements of the hands (legs work continuously)

7. Swimming on the back with one arm extended behind the head, the other pressed against the hip, simultaneous change of hands over the top.

8. Swimming on the back in full coordination of movements.

Exercises for studying and improving the technique of swimming crawl on the chest

1. Crawl leg exercises, lying on the chest on the side, holding hands on the side (arms outstretched), holding one hand on the side.

2. Swimming on your feet with a crawl on your chest with a board in your hands, inhale after 6 kicks.

3. Swimming on your feet with a crawl on your chest with or without a board, one arm extended forward, the second at the hip – inhale towards the pressed hand, after 25 m change of hand positions.

4. Swimming on your feet with a crawl on your side with or without a board, one arm extended forward, the second at the hip – inhale towards the pressed hand, after 25 m change of hand positions.

5. Swimming on your feet with a crawl on your chest with a board + exercise hand crawl to hold your breath \ in coordination with breathing, various combinations are possible – inhale only on one hand, alternately in different directions, through a stroke, etc.

6. Also without a board

7. Crawl swimming while holding your breath.

8. Crawl swimming 3 strokes, stop movements with your hands, lie on your side –

take a breath, turn your head down, make 3 strokes, stop movements with your hands, lie on the other side – take a breath, etc.

9. Swimming on the legs with a crawl, one hand holds the board, the other is stretched out along the body. With your free hand, perform an upward movement of the elbow, like a shark fin, hold the hand in this position and then return to the starting position, after 25 m. changing the positions of the hands.

10. Swimming crawl breathing 3×3, 5×5.

Exercises for learning the technique of breaststroke swimming.

1. Simulated movements of the breaststroke hand while standing on the side

2. Swimming on the legs with a crawl + hands breaststroke to hold your breath, in coordination with breathing.

3. Simulated breaststroke foot movements sitting on the side, then sitting on the side of the legs hanging in the water, lying on the side of the legs hanging in the water.

4. Lying on your back, breaststroke foot movements.

5. Lying on your chest with a board in your hands, breaststroke foot movements, pull up your legs – inhale, push with your feet – exhale.

6. Breaststroke swimming: hands in front, at the hips.

7. Breaststroke swimming with separate coordination while holding your breath.

8. Breaststroke swimming with fused coordination and sliding breathing.

Exercises for learning dolphin (butterfly) swimming techniques.

1. Swimming with a dolphin on his feet with a board in his hands

2. Swimming on the legs of a dolphin on its back

3. Swimming on the feet of a dolphin on its side with a board

4. Swimming on the legs of a dolphin, arms extended forward, hands breast – inhale

(inhale after 4-5 kicks).

5. Diving with the help of dolphin foot movements, hands in front and at the hips.

6. Swimming on the hands of a dolphin while holding his breath, with breathing.

7. Swimming by a dolphin in a fused two-stroke coordination with breath retention, with breathing, inhaling after 3, 5 strokes.

8. Swimming on the legs of a dolphin, with the right hand – inhale, with the left hand –

inhale forward, then with two hands as when swimming a dolphin, inhale at the end of the stroke.

3. Discussion and conclusion

According to experts from all over the world, the period from the birth of a child to his admission to school is the age of the most rapid physical and mental development of a person, the initial formation of qualities necessary throughout later life. A distinctive feature of this period is that it is at preschool age that general development is provided, which serves as the basis for acquiring any special knowledge and skills in mastering various types of activities in the future. At preschool age, a child acquires the foundations of personal culture, its basis corresponding to spiritual values.

Plasticity and high lability of the body of preschoolers determine their high sensitivity to environmental factors. Among the factors that negatively affect the state of health, the following are indicated: deterioration of environmental conditions, a decrease in living standards, stress, physical inactivity, and others.

The methodology of teaching swimming to preschool children should be based on the basic didactic requirements of pedagogy and have an educative and developing character. General didactic principles – consciousness, systematicity, visibility, accessibility, strength and particular methodological provisions of the theory of physical education – the principle of increasing the load, repetition are carried out during classes in accordance with the age characteristics of children.

An individual approach is mandatory in working with preschoolers. Fragility, lack of formation of the child's body requires careful consideration of the abilities, inclinations, and most importantly – the capabilities of each child. Only with strict consideration of gender, age, degree of physical development and health, susceptibility to colds, water habits and changes in temperature conditions, individual reactions to physical exertion, it is possible to find the most correct methods of work when teaching swimming to children.

Taking care of a child's physical development is almost as important for his harmonious development as a rational regime, regular and full nutrition, adequate sleep and frequent outdoor activities.

After studying the material on the topic, I came to the following conclusions:

1. Early swimming training promotes the harmonious development of babies and has a positive effect on the development of all body systems: improves breathing, blood circulation, strengthens the musculoskeletal system, has a beneficial effect on the activity of the central nervous system.

2. The effectiveness of the functioning of the pedagogical system for the formation of a healthy lifestyle of preschoolers is ensured, firstly, due to the teachers' focused attention not on introductory and educational and educational, but on educational and developmental tasks aimed at understanding the meaning and quality of tasks performed by children, and not on mechanical memorization and repetition of educational material; insecondly, due to the active use of the biofeedback method in the process of solving educational, educational and developmental tasks.

3. The basis of the methodology of health promotion is: a systematic approach, from the point of view of which human health can be considered as an integral state of the body; a pedagogical approach, based on which the process of developing a person's value attitude to their own health is subject to the laws of training and education; theory and methodology of physical education, proving that purposeful motor activity of a person it is inextricably linked with the process of teaching him the skills of a healthy lifestyle.

The analysis of indicators of the levels of physical development, physical fitness and functional condition of children 9-10 years old engaged in swimming, conducted in the study, indicates that they, compared with children who do not swim, indicators are higher in such parameters as: the development of respiratory and cardiovascular systems, reduction of colds. This situation dictates the need to orient the system of forming a healthy lifestyle of children in preschool educational institutions to a greater extent on health-strengthening technologies of physical education.

4. A full-fledged solution to the problems of physical education is achieved only with the complex application of all means, since each of them affects the body differently.
5. Movements included in various activities have a positive effect on the child's body, if proper posture is observed, as well as the dosage of physical activity.

Thus, learning to swim not only prevents diseases, but also cures. Unlike other systems, swimming develops symmetry, coordination and endurance in the body. It stimulates the internal organs and determines their harmonious functioning.

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