



HYGIENIC BASICS OF PHYSICAL EXERCISES

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ABSTRACT

This article presents the basics of physical culture hygiene. The concept and essence of hygiene, its role and place in physical culture and sports practice are revealed. I pay special attention to the hygienic regulation of physical health during physical education. Sanitary and hygienic norms and requirements for physical culture and sports facilities are considered.

Physical exercises are an important part of hygiene measures that must be carried out by a person throughout his life.

Each person needs to develop the correct daily routine, based on the observance of the rules of personal and public hygiene. The hygienic regime provides for the observance of norms and the proper organization of work, rest, nutrition, sleep, etc. Strict adherence to the developed regime from day to day leads to the formation of a number of conditioned reflexes, which makes the body's work and its interaction with the environment more harmonious. So, for example, when the set time for eating comes, the activity of the digestive glands in the stomach and intestines is activated, aimed at the complete processing of food and its subsequent assimilation by the body. Constant violation of the hours of eating leads to disruption of the gastrointestinal tract and impairs the digestibility of food.

It is important to go to bed and wake up at the same time every day. Compliance with a certain regime affects all manifestations of human activity, and even minor deviations from it led to a decrease in performance. Important elements of personal hygiene are such well-known skills as regular washing of the body, care for the cleanliness of clothes, housing, etc. An essential place in the daily routine of a person should be occupied by physical exercises. The working day should begin with morning hygienic gymnastics or, as it is also called, exercises. What is the effect of charging on the body? During sleep, diffuse inhibition occurs in the cerebral cortex. The metabolism is reduced. The activity of the circulatory and respiratory organs slows down. Muscle tone is relaxed. Skin vessels dilate. Immediately after waking up, the body cannot quickly start working, lethargy and reduced efficiency are noted. Physical exercise contributes to the rapid disinhibition of the cerebral cortex. When selecting exercises for non-athletes, consider the following points. Exercises should not be difficult; it is not recommended to introduce the use of projectiles into the complex. When doing exercises, you can use a chair, table, headboard and other household items. Exercises need to be selected for



different muscle groups. A set of exercises should be built on the principle of gradually increasing the load and lowering it in the final part. Usually, the complex of morning hygienic gymnastics consists of 7-9 exercises. The complex is recommended to include muscle stretching exercises, breathing exercises, corrective exercises to correct defects in posture, etc. Athletes can be recommended to include exercises for certain physical qualities. Morning hygienic gymnastics can be performed both individually and in a group method (for example, in a student hostel). Morning hygienic gymnastics must be carried out in a ventilated room, and even better in the fresh air. Classes should end with a water procedure and self-massage. An important component of the system of physical education is the hardening of the human body. Hardening is understood as a system of measures that increase the body's ability to maintain a balance between the external and internal environment of the body.

Hardening is based on the process of formation of conditioned reflexes, with the help of which the most perfect adaptation of the organism to constantly changing environmental conditions is achieved. The essence of hardening is that under the influence of the systematic use of temperature stimuli, one gets used to them. The nerve endings located in the skin and perceiving temperature become less sensitive, as it were, and the body becomes able to endure even sudden cooling or overheating. For the purpose of hardening, they use the influence of air, water and the sun. The main principles of hardening are: systematic, constancy, changing intensity, variety of hardening means. Successful hardening is possible only if hardening measures are applied continuously, often, for many months and years. Hardening should be carried out from early childhood to old age. Long breaks in hardening weaken the strength of conditioned reflex connections and even nullify the developed resistance to environmental factors. Granularization should be carried out by changing the conditions, the duration of individual hardening procedures and their dosage. The first hardening procedures should be carried out at a higher temperature, then gradually lower it. The duration of the procedures should also gradually increase. The systematic use of any specific stimulus increases the body's resistance only to this stimulus. Therefore, accustoming to the adverse effects of low temperatures does not simultaneously increase the body's resistance to high temperatures, and vice versa. Hardening measures should include the regular use of both cold and heat stimuli of varying intensity. The duration of the sunbath should begin with 5 minutes and lengthen each subsequent by 3-5. You should not take a sunbath earlier than 1 1/2-2 hours after eating. After a sunbath, it is useful to take a shower or other water procedure. When hardening with air, its temperature, humidity and speed of movement should be taken into account. The hardening effect occurs if the air temperature is significantly lower than the skin temperature. Air baths are divided into cold (up to 10 °), cool (11-18°) and lukewarm (above 19°). Hardening should begin with tepid baths and gradually move to cold ones. Air hardening is more affordable. The rational use of clothing also has a hardening effect. Hardening with water can be carried out in the form of rubdowns, douches, showers, bathing. Water procedures are divided into hot (above 40°), warm (32-40°), lukewarm (24-32°), cool (16-24°) and cold (below 16°). You can start rubbing from 20-24 °, lowering the water temperature by 1 ° every 2-3 days. When the water temperature is brought to room temperature, you can proceed to dousing. It is best to start hardening with water in the summer. The use of various means of hardening in combination with physical



exercises, as well as physical exercises in light special clothes in the open air, have a hardening effect. A good hardening effect is provided by sports such as skiing, speed skating, mountaineering, tourism, etc.

For the effectiveness of physical exercises, it is necessary to comply with hygienic requirements for places of employment, sports equipment, clothes, shoes, etc. These hygienic requirements are regulated by special sanitary rules.

When constructing sports facilities, the specifics of individual sports should be taken into account. The inner surface of the walls and ceiling should not contribute to the accumulation of dust and should be convenient for fixing and placing gymnastic equipment. When determining the estimated capacity of the gym, it should be taken into account that the norm of the area per student is 4 m². Halls should have good natural lighting or artificial lighting of at least 100-120 lux. The air temperature in the gymnasiums should be 14 °. The air temperature in the hall may vary depending on the nature of the exercises. The best system of artificial ventilation is supply and exhaust. Sports equipment should be stored in a special room. Sports equipment must be in good working order, well reinforced, not have nicks that could cause sports injuries. Clothing for physical education and sports should be selected taking into account the type of sport and the time of year.

In the summer, shorts and T-shirts are the main sportswear. In winter, woolen clothing is recommended, taking into account the meteorological conditions. In low temperatures and strong winds, the skier should wear shirt and trousers made of light windproof material over the ski suit, and headphones and a wool cap over the head. Sportswear should only be worn during sports activities. Athlete's shoes must be appropriate for a particular sport. The best material for shoes is leather, which has a porosity that allows sweat to evaporate, elasticity and low thermal conductivity. For volleyball, basketball and other indoor sports, it is better to have shoes with rubber soles. Runners when running on a treadmill are advised to put a sponge under the heel to protect against bruises. Proper selection of shoes and keeping them clean are important to prevent scuffs and sweating of the feet. One of the conditions for the high performance of an athlete and an athlete is a balanced diet. The higher energy expenditure during physical exercise should be covered by the delivery of more energy substances to the body. The amount of energy costs depends on the nature of professional activity and the type of sport. The total amount of energy expended in this case is determined according to special tables. Energy expenditure should be replenished through the use of carbohydrates, proteins and fats; while it is known that 1 g of proteins during combustion in the body gives 4.1 kcal, 1 g of fat - 9.3 kcal and 1 g of carbohydrates - 4.1 kcal. Knowing how many fats, proteins and carbohydrates are included in various foods, you can calculate their calorie content.

The qualitative composition of the athlete's diet mainly has a carbohydrate orientation, however, depending on the sport, it has some features. The carbohydrate orientation should be especially pronounced during sports activities that require high endurance (long-distance running, long ski transitions, etc.). The nutrition of athletes whose activities place high demands on the central nervous system (boxing, gymnastics, sports games) should be rich in protein. The nutrition of athletes whose activities are related to the development of strength (weightlifting, wrestling) should also be rich in proteins, which are necessary both to



maintain a high excitability of the nervous system and to build muscle proteins. In addition, the food of athletes should be rich in vitamins (C. group B, etc.). Diet is essential for normal functioning of the body. Important elements of the diet are the regularity and constancy of the time of eating. Food should be taken 3-4 times a day. Before going to bed, food should be taken at least 1½-2 hours in advance; it should be small in volume and not contain many proteins that increase the excitability of the nervous system.

While playing sports, although rarely, injuries are possible. Soviet researchers I.A.Kryachko and A.M.Landa established the following causes of sports injuries (as a percentage of the total number of sports injuries):

1. Unpreparedness (insufficient training and technique) - 46.4%.
2. Insufficiency of material and technical support (unsatisfactory condition of places of employment, gymnastic equipment, footwear, protective devices) - 20.9%.
3. Shortcomings in the organization and methodology of classes (lack of insurance, collisions) - 14.3%.
4. The general condition of those involved (overload, illness, lack of warm-up) - 8.2%.
5. Wrong behavior of trainees (carelessness, rudeness) - 6.6%.
5. Unfavorable meteorological conditions - 1.7%. With the right organization of sports
6. Other reasons - 1.9%.

With the right organization of sports activities, injuries can be avoided. When practicing certain sports (boxing, fencing, hockey, football, cycling and motorcycling), the use of special protective equipment is required.

Prevention of sports injuries should be based on a thorough analysis and elimination of its causes. As a result of performing significant physical exertion, fatigue, overstrain and overtraining should be distinguished.

Fatigue is a state of the body characterized by a temporary decrease in performance due to the work done. Fatigue due to muscular work is associated with a decrease in the excitability of the cerebral cortex as a result of the intense activity of the body. Fatigue is expressed in the appearance of a feeling of fatigue, drowsiness, in a feeling of inability to continue work, deterioration in coordination of movements, a decrease in muscle strength and other signs. Fatigue during sports activities is a natural phenomenon. It comes after every workout and especially after competitions. The degree of fatigue depends on the magnitude of the load and the preparedness of the athlete for its implementation. Physical activity, accompanied by an emotional rise, the consciousness of achieving a high goal as a result, causes a lesser feeling of fatigue. After sufficient rest, fatigue disappears, and performance even exceeds the initial level (according to the law of supercompensation of functions), which is typical for an increase in fitness. Fatigue should not be confused with overexertion and overtraining. Overexertion occurs in undertrained individuals as a result of excessive exertion during training or, more often, competition. Acute overvoltage is characterized by: severe weakness, dizziness, vomiting, severe shortness of breath, rapid pulse, drop in blood pressure, pain in the heart area, sometimes fainting and some other signs indicating a violation of the functions of body systems. The cause of overexertion can also be participation in competitions in a painful condition (flu, tonsillitis, etc.). In contrast to fatigue, overstrain causes a more



significant and prolonged decrease in performance, the restoration of which requires a change in the training regimen, and sometimes long rest and therapeutic measures.

In well-trained athletes, very large and often repetitive loads can lead to overtraining, which, along with a decrease in sports performance, is accompanied by some changes in the state of the body of athletes. Most often, a disorder occurs in the activity of the central nervous and cardiovascular systems. One of the means of improving the health of an athlete is sports massage. Sports massage is understood as a set of massage techniques that contribute to the physical improvement of an athlete, aimed at eliminating fatigue, and also used for sports injuries. Depending on when and for what purpose massage is used, it is divided into: hygienic, training, preliminary, restorative, massage for sports injuries. The form of massage can be general and local. Hygienic massage is usually used in the morning, after hygienic gymnastics. Training massage is done during the training period. Preliminary massage is appointed before sports competitions. Restorative massage is done for the fastest recovery of tired muscles. Massage techniques are usually arranged in the following sequence: they start with stroking, then move on to rubbing and squeezing, kneading, chopping, tapping, etc., and ending the massage with active-passive movements. The main massage techniques are performed in the direction from the periphery to the center along the lymphatic vessels. The physiological effect of massage on the body is largely associated with irritation of receptors located in the skin, muscles and reflex toning of the central nervous system. Different massage techniques affect the nervous system in different ways. Some of them irritate, excite her (effleurage, chopping, shaking), while others soothe (stroking, rubbing). The effect of massage on the circulatory and lymphatic systems is expressed in the acceleration of the outflow of venous blood and lymph. Breathing under the influence of massage becomes deeper. The metabolism is somewhat enhanced. Skin temperature increases. In order to make massage more accessible, self-massage techniques should be used more widely. All movements of the massaging hands during self-massage should also be made along the lymphatic tract towards the nearest lymph nodes. With self-massage, it is necessary to choose a starting position that provides complete relaxation of the muscles. Those who perform self-massage are subject to the same hygiene requirements as masseurs, namely, the skin must be clean and free of skin rashes (lichen, eczema, boils, etc.). With self-massage, you can use talc, boron vaseline. Massage begins with massaging the foot and Achilles tendon, then move on to other parts of the body.

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