

THE ROLE AND IMPORTANCE OF PROTEINS IN THE ACCELERATION OF THE RECOVERY PROCESS IN BOXERS

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ABSTRACT

One of the most important tasks today is to train athletes to be physically and mentally fit, preparing them for international competitions. It is a technological method and a set of tasks for the provision, delivery and training of the reserve of athletes of the Republic.

INTRODUCTION

The direction of development of the training process is determined by the optimal variability of its microstructures. This is due to the rational change of training tasks, exercises, training and rest days, the necessary change in the direction of loads, and so on.

The planning of sports training is to anticipate the conditions, means and methods of solving the tasks of sports training, the results of the sport that the athlete must have. Athlete training planning is the identification of key indicators in the training process based on the analysis of the characteristics of the contingent of athletes (or a single athlete) and their distribution over time. Successful management of the training process of athletes requires consideration of two important conditions: first, a sharp increase in the volume and intensity of loads (loads in modern sports to achieve high results are approaching the limit of biological norms); second, the equation of numerical parameters and skill level of training (in the experience of the world's leading athletes). Therefore, optimizing the training structure and creating optimal training programs remains of paramount importance.

In order to manage the load in training, it is necessary to ensure its optimal size and intensity. The problem of load optimization is largely realized through its method of direct and indirect control of physical movements. One of the most important problems of wrestling is to increase the working capacity of athletes. One of the main reasons for this is that the number of sports competitions is growing, along with the fact that the world's leading athletes exercise at least 3-4 times a day and the scale and intensity of sports training increases. Therefore, in the training of highly qualified athletes, great attention should be paid to the widespread and regular use of rehabilitation tools to accelerate the training process and increase the ability to work in sports. Intense post-workout fatigue is defined as one of the most important prerequisites for resting the body on a regular basis for a certain period of time to ensure a high level of post-workout performance. One of the most complex factors that lead to the use of restorative means in extreme physical and mental (mental) loads related to wrestling is fatigue. Fatigue is a physiological process that occurs under a mental or physical load and is a process that passes after a short rest. . Excessive fatigue, on the other hand, is a condition in which the development of a pathological condition occurs when the fatigue process overlaps, when the participants participate in training without recovery after illness, when the training regime is violated. As a result of intense physical exertion, there are strong changes in the internal environment of the body, the blood reaction is shifted to the acidic side, energy resources are

reduced, thermoregulation is disturbed, the cardiovascular and respiratory systems are disturbed. Therefore, determining the training loads to take into account the recovery process is one of these key tasks.

A detailed explanation of the recovery process before determining the load, that is, after a change in the functional state of the organism, it is understood that its physiological state returns to a state of homeostasis (preservation of the internal environment) before or near work. Athletes use a wide range of tools in sports medicine to restore the body's ability to work. This includes, first of all, a special diet, ergogenic diet and vitamins. Medicines also help to improve physical endurance. As a result, the state of fatigue disappears, the ability to work increases, it is easier for the body to adapt to the next load.

It is known that in the post-training period not only the resources expended by the organism, but also its physiological functions are restored, but also important functional structural reconstructions. During training and competitions, nutrition is of paramount importance in improving the performance of athletes, accelerating recovery processes and preventing fatigue. Metabolism ensures growth and development, stability of morphological changes and functional levels of biological systems. In order to quickly restore the recovery process, during large loads and competitions, it is necessary to increase the caloric intake by 5-10% compared to the established norms, and the liquid by 0.5-1 liters. During the recovery period, great importance is attached to the consumption of protein in the diet. The protein content of the feed is 50-60% of meat, fish, liver, sesame, milk. Amino acids in the protein. in egg yolk, pea recovery is ensured. It is recommended to eat 3-4 times a day (1.5-2 hours after training and competitions). Vitamins also play a special role in recovery problems. Vitamin deficiencies can occur at large loads. In modern sports, complex vitamin preparations are used. Among them are widely used complex drugs (a combination of carbohydrates, mineral salts, trace elements and vitamins, or a combination of proteins). Our muscles are made up of proteins. Proteins promote immune development, transmission of nerve impulses, and cell growth, development, and regeneration. It also nourishes the stomach well. In general, it is impossible to live without them.

Proteins are biological polymers that are synthesized in the cells of a living organism. Protein is a vital product of a living organism, allowing it to live, develop, mature, and produce offspring similar to itself. All protein molecules are composed of carbon, hydrogen, nitrogen, oxygen, and small amounts of sulfur. The joints in a chain of protein molecules are made up of amino acids. More than 50% of the dry weight of the cell is protein. The role of protein in the life and activity of the organism is extremely diverse. A large group of proteins, called structural proteins, are involved in the formation of different structures in the body. The cell shell and their internal structures - organelles, as well as the shells of nerve poles - are composed of a separate insoluble protein that forms complex substances with polysaccharides and fats. The protein enters the vascular wall. Skin, tendons, ligaments, joints, bones contain collagen protein. Keratin is the main component of nail structures. Hormonal protein controls all vital processes, growth and reproduction of the body. Using a separate light-sensitive protein - rhodopsin - the image of objects is reflected in the retina. Due to the presence of the contractile protein myosin and actin in the muscles, they contract and are contracted. Because of this protein, all living things have the ability to walk. Enzymes form an important and diverse group of proteins. All chemical

processes in the body take place in the presence of enzymes. Digestion, assimilation of oxygen, the interaction of substances, the formation and excretion of metabolic products, energy accumulation, blood clotting and other enzymes do not take place. Some protein groups perform a transport function. For example, hemoglobin in erythrocytes transports oxygen from the lungs to various tissues in the body and carries carbon dioxide formed in the tissues to the lungs, allowing it to exit the lungs when exhaled. Protein also serves to protect the body. When disease-causing bacteria or their life-threatening products enter the bloodstream, the body produces antibodies - immunoglobulin protein. They are involved in neutralizing toxic proteins that are foreign to the body or products of the activity of disease-causing microorganisms. An example of the protein's protective function is blood clotting. Fibrinogen protein is soluble in blood plasma. It is colorless and invisible. However, at the site of vascular injury, the fibrinogen rapidly polymerizes into a white fibrin filament, which collapses and closes the wound site with a cotton swab. It is composed of the same amino acids that bind to all water-soluble, chemically inert proteins, water-soluble, biologically active, toxic protein peptide bonds. The presence of about 20 different amino acids in nature (a protein is made up of these amino acids) provides a practical opportunity to infinitely change their arrangement in a certain sequence in chains. The structure of the amino acids inherent in the polypeptide chain protein of each protein is the same or close to each other, but the properties of the two proteins, whose amino acid residues are in different sequences, are almost different not only chemically but also biologically. The replacement of a single amino acid residue in the amino acid chain of a protein molecule also causes a significant change in the properties of the same protein.

The number of amino acid residues that make up most proteins is no less than 100. They are arranged one after the other in a strict order in the protein structure, forming a polypeptide chain of the protein molecule, i.e. a stable primary structure. Due to the interconnection of different parts of a long polypeptide chain composed of many amino acids, highly organized forms of the protein molecule - secondary, tertiary and quaternary structures are formed. The formation of protein in a living organism is a complex process that takes place in the presence of nucleic acids and a large number of special enzymes.

Proteins vary in shape, texture, and individual properties. Any protein leads to the formation of antibodies when introduced into the body of warm-blooded animals, including humans, i.e. the protein has antigenic properties. When a foreign protein enters the body, it causes an allergic condition. Proteins and polypeptides that are not absorbed by the body are absorbed in the intestine, pass into the bloodstream, and act on the body as an allergen.

Disorders of protein digestion and absorption. Protein is a major component of the diet. The protein that enters the gastrointestinal tract with food is broken down (absorbed) by enzymes in the digestive juices. The protein in the food is broken down into amino acids and passed into the bloodstream through the intestines. Thus, the protein in the food loses its specific appearance, from the amino acids formed from it the body adapts itself - structural, enzymatic, etc. forms a protein. Incomplete breakdown of some protein in the gastrointestinal tract can lead to more serious diseases. Insufficient intake of protein in the body with food, poor digestion and poor absorption of nutrients (severe diarrhea, dyspepsia, dysentery, chills, dysfunction of the digestive glands). high need for it in cases of bone fractures, surgeries, infectious diseases, etc., in various diseases, such as nephrosis, blood loss, the transition of protein to exudates and

transudates, impaired protein synthesis in tissues, serum, in a number of diseases (gastritis, ulcerative colitis, ileitis, etc.) in the loss of protein through the intestinal epithelium.

Lack of protein leads to the breakdown of protein in the tissues of the body and the disruption of nitrogen balance. Initially, hypoproteinemia occurs when the amount of protein in the serum decreases. Hypoproteinemia causes fluid to pass from the blood to the tissues and cause swelling. After the blood, the amount of protein in the liver, muscles and skin begins to decrease in the second place, and finally in the heart muscle and brain protein. Impaired central nervous system function has a significant effect on protein metabolism. Protein breakdown is accelerated and re-formation is slowed. This causes atrophy, dystrophy and other defects. Hormones play a special role in protein metabolism. Thyroid hormones enhance the process of protein breakdown in the body and accelerate its formation. Under the influence of growth hormone produced in the pituitary gland, the formation and synthesis of protein is accelerated. This allows the amount of protein to increase and the body to grow. In the performance of vigorous exercise, especially more than 2-3 sessions, special nutrients are included in the diet to accelerate the recovery process.

A variety of pharmacological substances are used in modern sports to maintain the ability of athletes to work in moderation, after heavy loads, in cases of acute and chronic fatigue, extreme fatigue, illness. More attention is paid to plant pharmacological substances. In each case, the trainer and the physician should work together to resolve the issue of taking pharmacological substances.

Vitamins play a special role in restoring the ability of athletes to work. It is known that a lack of vitamins can lead to decreased ability to work, fatigue and various diseases. These pharmacological substances activate enzyme systems, help boost immunity, improve oxygen uptake in tissues, develop nerve and humoral regulation, accelerate the excretion of metabolic wastes from the body. Only a doctor has the right to prescribe medication. They are not allowed to be ordered by coaches or used by athletes. Children and adolescents should be especially careful when using medications.

During large physical loads, the need for nutrients, in part due to an increase in protein and vitamins, is observed, and the energy expenditure also increases with the increase in strength and power of the loads. The role of plant proteins in this need is also important. The advantage of plant proteins is that plants contain much less protein than meat and dairy products. However, the composition of plant proteins consists of a set of essential amino acids, which means that it can partially or fully meet the body's need for protein. The main goal of switching to plant proteins is that people who are trying to get rid of excess weight often give up animal proteins. Foods made from plants are low in calories and fat, so many choose exactly that. But in the long run, a lack of protein can occur due to eating only vegetables. Therefore, the consumption of plant proteins is a guarantee of weight loss without harm to health. Plant proteins can be obtained mainly from soybeans, legumes, nuts, cereals, fruits and vegetables. Soybeans are the inevitable leader among plants. Its 100 g of seeds contain 36 g of protein. People who consume a lot of soy have been proven to be less prone to cancer, cardiovascular disease and osteoporosis. Beans and lentils contain less protein, though. Peanuts are high in protein, but high in fat. Therefore, this nut is not recommended for those who want to lose weight. Almonds, pistachios, cashews and nuts are also not inferior to legumes in terms of

protein. But they also contain a lot of fat. Another important source of plant protein is oats, wheat, corn, and rice, which belong to the cereal group. Fruits and vegetables are certainly not the best sources of protein. But they also have their leaders. For example, it is advisable to consume more fruits and vegetables such as spinach, broccoli, sarsabil, avocado, banana and cherry. At the same time, the program of planning and control of training loads should be seriously developed, taking into account the individual characteristics of the international calendar MF, the adaptation of the organism to loads in different directions. Planning the training process is primarily about creating a structure of plans for different periods. During these periods, a set of interrelated goals must be achieved. From a separate session, the training day, which consists of a microcycle, the combination of several microcycles forms a new, relatively independent training session, the mesocycle. Depending on the division of the training into periods such as micro-meso and macrocycles, the size, volume, intensity, means and methods of training change. to develop, master the techniques and tactics of struggle, as well as to ensure a gradual transition to improvement. During this period, it is necessary to create a solid foundation for the successful operation of athletes during the upcoming competition. The main tasks of the training period are to increase the functional capacity of the body, to improve general physical fitness, to eliminate shortcomings in their implementation, to cultivate the will and spiritual qualities.

REFERENCES

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