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The Physiological Response Of The Body To Regular Ordered Muscle Activity.

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ABSTRACT

To maintain physical and mental health, the human body needs regular feasible activity. Regular muscle contractions have a pronounced stimulating effect on the body. They enhance oxygen consumption, stimulate the excretion of toxic products, activate the metabolism of nutrients and the synthesis of adenosine triphosphate. Regular feasible physical exercise delays the age-related involution of the nervous system and all the internal organs of the body. Rational physical exercise has a great health effect on the musculoskeletal system and stimulate the work of the endocrine glands. Against the background of regular exercise, the arterial and venous blood circulation in the tissues is improved, and the functions of the lymphatic system are enhanced. Exercise has a great positive effect on the humoral regulation of the body. At the same time, the greatest effect can be achieved with a physiologically sound combination of various exercises. This causes the activation of regulatory mechanisms in the vascular bed and tissues. Systematic use of physical exercises on the background of compliance with hygienic standards of nutrition and sleep, alternation of work processes and rest contribute to the long-term maintenance of high physiological activity of all organs and systems.

Keywords: muscular activity, physical exercise, physiological reaction, functional activity, health.

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INTRODUCTION

Frequent lack of motor activity in modern society [1-6] is beginning to be perceived more acutely [7-12]. It becomes clear that to maintain health, it is necessary to overcome the “muscle starvation” that most people have [13–16]. It has long been observed that hypodynamia dramatically shortens the life of experimental animals - they develop signs of accelerated, premature aging and an accelerated increase in biological age [17,18]. Prolonged restriction of motor activity leads to disruption of energy processes, reduction of heart contractility, development of congestion in the liver, lungs, disruption of hormone synthesis, shifts in excitability of nerve centers, and decrease in body resistance to all adverse environmental factors [19-25].

Regular muscle contractions have a rather strong stimulating effect on the body [26]. They enhance oxygen consumption, excretion of toxic products, activate the metabolism of various substances and the synthesis of macroergs [27,28]. At any age you need to exercise [29,30]. From childhood to old age, a person must perform metered exercises that can have a healing effect on his organs [31,32].

To achieve a health effect, physical activity should be rationally administered. It is necessary to take into account the initial fitness and the current functional state of the body and the presence of any pathology in it. In this regard, the goal is set in the work: to consider the peculiarities of the body's response to regular exercise.

Regular feasible motor activity leads to a number of positive effects: economizing heart activity, improving blood supply to tissues, pulmonary ventilation, reducing tissue demand for oxygen, increasing the efficiency of nerve and hormonal regulatory mechanisms, activating protein synthesis [33,34].

Regular physical exercise can prevent the development of their diseases, increase the high-density lipoprotein cholesterol in the blood and reduce the amount of low-density lipoprotein cholesterol and triglycerides [35]. This reduces the risk of atherosclerosis and its most dangerous complications, increases the elasticity of blood vessels [36]. These effects can be considered as prevention of cardiovascular pathology, stimulation of excretion of metabolic products from the body, activation of immunity [37]. In addition, regular physical exertion prevents constipation, increases joint flexibility, strengthens bones, inhibits osteoporosis, prevents fractures, softens social isolation and loneliness in the company of like-minded athletes [38,39].

Increasing the level of fitness in the course of regular physical training is accompanied by a positive restructuring of metabolic processes [40]. Especially functionally important is the development of positive changes in fat metabolism [41]. High cholesterol, a significant risk factor for diseases of the cardiovascular system, characteristic of many middle-aged people, is almost always less pronounced under the influence of systematic exercise [42].

Another important indicator of the improvement of metabolic processes in the body under the influence of physical activity is the normalization of body weight. The decrease in excess weight due to excessively developed fatty tissue, contributes to the improvement of efficiency and overall improvement of the body [43].

The active motor mode has a pronounced positive effect on the central nervous system [44,45]. At the same time, the efficiency of the motor nerve centers increases, and impaired coordination of movements is eliminated. Favorable changes also occur in the subjective state of a person: their state of health, sleep, mood improves, the feeling of fatigue decreases in the second half of the working day, mental performance and mood increase [46,47].

An extremely important aspect of the influence of physical exercises on the body of middle-aged people is the improvement of the activity of the cardiovascular system [48]. Under their influence, the activity of the circulatory systems is economized, and their recovery period is shortened. Regular training leads to the development of additional vessels in the heart muscle, which improves blood flow to the heart [49]. This reduces blood clotting, which reduces the possibility of blood clots [50].

During exercise, the body's need for oxygen increases dramatically, so the more the muscular system works, the more vigorously the heart functions [51]. In this case, the heart of a person engaged in physical exercise, works more economically. Its contractions become more powerful, which ensures that a significant amount of blood is supplied to the aorta with each contraction. In addition, a trained heart during high physical stress can greatly increase its contractions without consequences and quickly recover [52].

Exercise for the respiratory organs is of great importance. Under their influence, the vital capacity of the lungs increases rapidly, the rib cartilages become more elastic, the respiratory muscles become stronger and their tone increases [53]. At the same time running, swimming, skiing to the greatest extent contribute to improving the vital capacity of the lungs [54,55].

Against the background of regular exercise, the arterial and venous blood flow in the tissues improves, the lymphatic system is activated [56]. In this regard, the activation of the motor mode, replenishing the existing motor insufficiency and developing the state of fitness is the most effective means of preventing diseases and premature aging [57]. This is due to the fact that regular active muscular activity significantly delays atrophy and involution in all tissues. Active muscle activity retards the age-related decrease in muscle mass, which is one of the significant factors in the age-related decrease in metabolic rate. Physical exercise is particularly effective in this respect, retarding the deterioration of metabolic processes occurring with age and some prevalence of anaerobic reactions during muscle activity [58].

Active physical activity has a great positive effect on the gastrointestinal tract and the digestive processes. Regular physical activity stimulates the digestive glands and the absorption of nutrients from the intestines. Against this background, peristalsis of the stomach and intestines improves, which is accompanied by strengthening of the musculature of the anterior abdominal wall and pelvis [59].

Dosed muscular work activates the activity of the excretory organs: kidneys and sweat glands [60]. They activate the function, which provides enhanced removal of toxins from the body. In addition, under the influence of physical exercises through the nervous system, the work of the endocrine glands, especially the sex glands, the thyroid and the adrenal glands, is stimulated [61].

CONCLUSION

Regular muscle contractions have a pronounced stimulating effect on the body. They enhance oxygen consumption, excretion of toxic products, activate the metabolism of nutrients and the synthesis of adenosine triphosphate. Regular exercise has a full effect on the human body. Regular feasible physical activity delays the age-related involution of the motor and autonomic functions of the body. Exercise exercises have a great health effects on the nervous system and stimulate the function of the endocrine glands. Against the background of regular exercise, the arterial and venous blood circulation in the tissues is improved, and the functions of the lymphatic system are enhanced. Exercise has a great positive effect on the humoral regulation of the body. The greatest effect can be achieved with the right combination of various exercises, which causes the activation of regulatory mechanisms in the bloodstream. The systematic use of physical exercises against the backdrop of compliance with hygienic standards of nutrition and sleep, alternation of work processes and rest contribute to the long-term maintenance of the physiological activity of all organs and systems.

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