

Research Journal of Pharmaceutical, Biological and Chemical Sciences

The Functional State Of The Joints In Conditions Of Regular Ordered Muscle Activity.

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ABSTRACT

The current functional state of the organism depends on the mass of environmental influences on it. They can increase the vitality of the body, but sometimes they can weaken it, causing dysfunction and pathology. The joints are very vulnerable in the human body. Negative environmental effects in the presence of a certain hereditary predisposition can cause arthrosis and arthritis. Both diseases can occur and worsen due to the influence of weather conditions, in stressful situations, as a result of dietary disturbances, in violation of work and rest. However, they can be leveled with the help of regular sessions of therapeutic physical culture. Rational physical exercises for arthritis and arthrosis have anesthetic and trophic effect, help compensate for impaired motor functions. In addition, they provide improved blood circulation, eliminate venous congestion, help reduce tissue swelling and prevent the development of joint stiffness. To improve the effectiveness of health effects, physiotherapy exercises should be carried out regularly, taking into account the nature of joint damage, the stage of the pathological process and the general condition of the patient. In the course of the classes, the patient's condition should be dynamically monitored, adjusting, if necessary, the therapeutic physical therapy pattern.

Keywords: therapeutic physical culture, joints, recovery, arthritis, arthrosis.

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INTRODUCTION

The current functional state of the organism depends on the influence of the mass of environmental factors on it [1]. They can increase the vitality of the body and are able to weaken it, causing dysfunction, and sometimes pathology. The joints are very vulnerable in the human body [2]. Negative environmental effects in the presence of a certain hereditary predisposition can cause arthrosis and arthritis [3].

Both of these diseases can occur and worsen due to the influence of weather conditions, in stressful situations, as a result of dietary disturbances and under increased loads [4,5]. At the same time, these phenomena can be leveled with the help of regular sessions of therapeutic physical culture [6]. Rational physical exercises for arthritis and arthrosis have anesthetic and trophic effect, help compensate for impaired motor functions [7-9].

Patients with joint pathology exercise will help improve overall body tone and improving the regulatory functions of the Central nervous system [10-13]. In addition, they improve blood circulation, eliminate venous congestion; reduce oedema and prevent the development of stiffness in the joints [14-16]. Given the high health potential of regular exercise, in the work set purpose: to examine the functional state of the joints on the background of regular physical exercise [17].

Health Effect of Exercise

In diseases of the joints, physical exercises can improve the local blood circulation and metabolic processes in tissues, speed up the resorption of effusion and reverse the development of inflammatory changes, inhibit the severity of degenerative processes in the joints and ligaments [18,19]. In addition, with arthritis, physical exercise promotes the resorption of exudate that accumulates in the area of the inflamed joint and promotes the restoration of muscle strength [20].

Physiotherapy is generally regarded as the treatment by changing the position of the body in the morning hygienic gymnastics, therapeutic gymnastics, mechanotherapy and exercise in water [21].

Physiotherapy is carried out in the initial position lying, sitting, standing [22]. The choice of a starting position is determined by the location of the articular lesions, the degree of preparedness of the cardiovascular system and all the muscles of the patient to varying physical activity [23-25]. With the defeat of joints of the lower extremities should first do lying down, for maximum relaxation of the muscles of the whole body, including lower extremities. Without this it is impossible to relieve tension and increase range of motion in the joints [26].

Even with the defeat of the joints of the upper limbs, you should first carry out the load in the prone position and only later - sitting or standing. With the defeat of the lower limbs, walking is used only in the form of training walking, so as not to aggravate the existing shortcomings of the gait, but to eliminate them [27].

Apply active and passive exercises. Exercises for relaxation and breathing exercises are widely used. Use special exercises to strengthen different muscle groups [28].

When performing exercises in joint patients, the amplitude of movement should be gradually increased. The more pronounced the pain, the less should be the load on the joint. When passive movements should not exceed the physiological norms of movement in the joint. After increasing the amplitude with the help of passive exercises, this exercise should be repeated already actively [29].

In the course of physical exercises, exercises with objects (balls, gymnastic sticks, clubs, dumbbells, and medical facilities) and shells (gymnastics wall, gymnastics bench) are used. Classes are conducted individually or unite patients with homogeneous lesions in small groups (4-5 people), which allows you to adequately choose the starting position [30]. It is also easy in such a group to individualize exercises in amplitude, tempo, and number of repetitions. If the formation of homogeneous groups is impossible. It is necessary to strive for an individual approach. After classes, the group should train the patient in exercises for the affected joints, which he should perform independently 3-4 times a day for 5-7 minutes.

Exercises in the period of exacerbation

In the period of exacerbation, when pain appeared at rest, swelling, reddening of the joint, it is necessary to reduce physical activity. The volume of the daily load should be reduced independently, watching the well-being. Movement should not lead to severe fatigue. It is also impossible to perform movements that cause acute pain [31].

Exercises in remission

In the period of remission in the joint there is no pain at rest, but there may be discomfort during large-amplitude movements or slight pain during physical exertion. During this period, it is necessary to return the muscles to their strength, which they lost during the period of exacerbation. This can be done by performing the exercises slowly, gradually increasing the number of repetitions of the exercise. While performing the exercises, the patient should feel how the muscles are working hard, so some discomfort can be associated with the exercise. However, exercise should not cause severe joint pain or swelling of the joints after they are completed. If the exercise is easily performed once, it should be repeated two or three times, gradually increasing the number of repetitions [32].

In the chronic stage, if persistent contractures are observed, partial or complete ankylosis, a planned healing effect on the joints is carried out with the help of physiotherapy exercises.

In the presence of synovitis, medical gymnastics should be more gentle, the pace of exercise is medium and slow, the amplitude, movements to pain. The relaxation exercises in combination with stretching the muscles of the arms, legs and back should dominate. Preferred positions are supine, on the side, on the stomach, sitting [33].

In the absence of synovitis, but with marked pain syndrome, restriction of movements in the joint procedure are also gentle, the above provisions are observed. With regression of pain, the overall load increases [34]. At the same time, pauses for rest between exercises are reduced and the number of general strengthening exercises is increased. They seek to strengthen the muscles surrounding the affected joint by unloading it and acting on nearby joints to enhance their compensatory function [35].

Doing exercise in water

Therapeutic gymnastics for joint pathology are often carried out in a freshwater pool with deforming osteoarthritis, the water temperature being 30-32 ° C [36].

It is preferable to perform exercises from the position: sitting on a hanging chair, lying on your chest, on your stomach, on your side, imitating "pure vises"; the amount of total physical and special load during the procedure changes due to different depths of immersion of the patient in the water, the pace of exercise, changes in the proportion of exercises for small, medium and large muscle groups with varying degrees of effort [37].

They also change the ratio of active and passive exercises, with elements of muscle relief and relaxation, with inflatable, foam floating objects and shells, exercises on a suspended chair, with flippers-gloves and flippers for legs, with water dumbbells, exercises of a static nature, isometric stresses, respiratory exercises, pauses for rest, imitation of the elements of swimming sports styles, subject to the principle of load dissipation [38].

Passive exercises are performed with the help of an instructor or with the use of floating objects (rafts, inflatable circles), exercises without a support on the bottom of the pool. Active movements should prevail in the water. The range of motion at the beginning of the procedure is limited, with the appearance of pain, sudden jerky movements are excluded. During the procedure, no increase in pain, appearance of paresthesias or seizures can be allowed. The course of such exposure may consist of 10-17 procedures, with a duration of one procedure - 15-20 minutes.

Potentiating effect of therapeutic massage

Massage of the affected joint, with its disease, can significantly ease and improve the patient's condition [39]. With a combination of physical exercises and during massages, an improvement in blood circulation in the joints and muscles is achieved, which contributes to the rapid resorption of the residual effects of the inflammatory process and salt deposits [40]. Massage also improves the function of the ligamentous apparatus, accelerates the processes of regeneration, prevents the development of connective tissue adhesions, contractures and muscle atrophy. Even with the isolated application of the massage can act as an effective means of treating arthrosis of the joints. His sessions reduce pain, weaken stiffness, improve blood circulation and lymphatic circulation, and also prevent the appearance of joint stiffness [41].

CONCLUSION

Under the influence of unfavorable environmental factors, various pathological changes often occur in the joints of a person, which often take a chronic course. An effective approach to the rehabilitation of patients with joint pathology is lechkbnyaya physical culture. Individualized application of dosed physical exercises effectively reduces pain, increases the mobility of the problem joint, weakens muscle tension, increases the tone of the initially weakened muscles, if necessary, and activates trophic tissue of the joint. To improve the effectiveness of health effects, physiotherapy exercises should be carried out regularly, taking into account the nature of joint damage, the stage of the pathological process and the general condition of the patient. In the course of the classes, it is necessary to conduct dynamic monitoring of the patient's condition for correction, if necessary, of the scheme for applying therapeutic physical training.

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