

NEUROREHABILITATION OF THE MUSCULOSKELETAL SYSTEM OF ATHLETES USING THE STRESS EFFECT OF NATURAL FACTORS

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Introduction. Recovery of athletes after injuries and injuries of the musculoskeletal system has a number of features determined by the specifics of their professional activities. During the rehabilitation of athletes, not only the musculoskeletal system, but also the neurovascular structures need to be restored. That is, an athlete after injuries and injuries needs complex neurorehabilitation. Modern research has shown that therapeutic physical culture (physical therapy) for athletes, it is most effective when it is based on the use of the principles of physical training [1, 2]. In other words, the recovered athlete must receive physical activity that leads to overcoming the existing barrier of adaptation. Without overcoming the barrier without adaptation, the athlete will not restore his physical fitness to a level that allows him to perform sports training loads.

In sports practice, the training effect is achieved due to the purposeful loading effect on certain parts of the musculoskeletal system and the indirect loading effect on the entire athlete's body as a whole. But as part of the recovery, the training load on the neuromuscular apparatus of the damaged area cannot be given in full. Therefore, in order to overcome the existing barrier of adaptation, it is necessary to put a load on the entire athlete's body as a whole.

To do this, you can use natural factors, which include well-known forces of nature in rehabilitation (solar radiation, exposure to air and water temperatures, changes in atmospheric pressure at sea level and altitude, movement and ionization of air, etc.), as well as geographical features of the landscape of the venue (features of microclimate, terrain, nature coastal zone, etc.).

The purpose of this study is to test the load method of neurorehabilitation using natural factors in the restoration of damage to the musculoskeletal system of athletes.

Materials and methods. The study involved 120 male and female athletes who are representatives of complex coordination sports (gymnastics, acrobatics, rhythmic gymnastics, synchronized swimming) aged 10 to 18 years old, who have some kind of damage to the musculoskeletal system and need restorative measures.

All recovered athletes were randomly divided into two subgroups, approximately equal in number, age and nature of the injuries sustained. Athletes of the first (control) subgroup received traditional restorative treatment using physical therapy and physiotherapy. The second (experimental) subgroup of athletes received similar restorative treatment, but with the use of stress effects in the form of natural factors. The recovery of athletes of the experimental subgroup was carried out in the form of sports recovery camps.

Results and their discussion

The practical implementation of neurorehabilitation of both subgroups was carried out as follows. For each recovered athlete, an individual set of physical exercises was developed

that carries out a therapeutic and restorative load on the restored links of the musculoskeletal system. Within the framework of such a complex, both conventional means of physical therapy were used, as well as adapted exercises of general physical training (GPT) and special physical training (SPT), well

known to the athlete undergoing the recovery process. This set of exercises, with the addition of standard physiotherapy treatment (magnetotherapy, hydrotherapy, electrotherapy, UV irradiation, etc.) was received by a control subgroup of recovered athletes. The experimental subgroup received restorative treatment in the form of a similarly developed set of physical exercises, but performed against the background of the stress effects of natural factors. When using natural factors, adaptive stress was achieved by redistributing the load with the regenerated area affects the entire body as a whole. Thus, the local load on the restored area was reduced.

In the course of the performed study, a significant difference was noted in the quality of rehabilitation measures carried out in control and experimental subgroups (a reduction in the time of complete recovery of athletes by 34%).

The magnitude of the stress load was determined by the initial state of the recovered athlete's body at a given time and his reaction to a strictly defined type of load. The results of dynamic studies of the athlete's well-being and heart rate were used as criteria for the athlete's stress load, blood pressure, thermometry, as well as clinical trauma and orthopedic tests to assess the condition of the athlete's musculoskeletal system, the volume of movement in the joints, etc. When restoring athletes of the experimental group using factors at childbirth physiotherapy treatment was not used. It should be noted that the recovery of athletes using this method is possible only at the final stages of their rehabilitation. The use of this method in the early post-traumatic or postoperative period can aggravate the rehabilitation process.

Conclusion

The long-term experience of rehabilitation activity has shown the high efficiency of the load method of neurorehabilitation using natural factors in the restoration of damage to the musculoskeletal system of athletes. This type of recovery is recommended to be carried out in the form of sports recovery fees. The leading role in carrying out such recovery is played by a sports medicine doctor, who, in addition to rehabilitation, must have the necessary knowledge in the theory of sports training and sports practiced by the athletes being restored.

The stress method of neurorehabilitation using natural factors can be recommended to sports doctors of teams when planning and implementing rehabilitation measures with athletes who have damage to the musculoskeletal system.

Literature:

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