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# **Сучасні технології в галузі фізичного виховання, спорту, фізичної терапії та ерготерапії**

**Збірник наукових праць**

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## **THE INFLUENCE OF STRETCHING ON THE HEALTH OF POWERLIFTING ATHLETES WITH MYOFASCIAL SYNDROME**

Due to their professional activities, athletes are often subject to various injuries and microtraumas, which are accompanied by manifestations of myofascial syndrome. A feature of the noted syndrome is the presence of functional changes mainly in the musculo-tendon structures, characterized by local and reflected pain. Long-term and regular power load, untimely and insufficient recovery, microtraumas that do not have a significant effect on the general condition of the body, nevertheless, are cumulative in nature and lead to the occurrence of myofascial syndrome. As a result, an athlete cannot concentrate on the main motor task, his physical activity is significantly reduced and the course of the training process is disrupted [1].

In the scientific and methodological literature, various means of treating myofascial syndrome are presented: drug treatment, physiotherapy, manual therapy, massage, and recently, athletes are often recommended taping and shock wave therapy [1, 2]. At the same time, there are no means and methods to combat the manifestations of myofascial syndrome during the training process. This contributes to the search and application of new approaches to the recovery of athletes to maintain the actual performance [4]. These activities should correspond to the individual characteristics of athletes, contribute to the most effective realization of their capabilities, and also have an applied nature - the possibility of using them during the training process. The search for means that help to get rid of athletes from the manifestations of myofascial syndrome [4], realized without interrupting the athlete from training activities, was the relevance of the study.

The aim of this study was to determine the maximum effect in the use of stretching as a means of recovery in the event of the appearance of myofascial pain syndrome in athletes doing powerlifting.

The study was conducted on the basis of a sports club for power sports in the city of Poltava. The study involved 16 athletes of mass categories aged 16-18 years old, involved in powerlifting, who were divided into 2 groups.

To study the functional state of the musculoskeletal system of athletes, tests reflecting strength endurance and flexibility were used. Decrease in muscle endurance, range of motion, soreness testified to muscle hypertonicity, their functional shortening, and also indirectly reflected a decrease in metabolic phenomena in muscles, which resulted in insufficient performance of the athlete.

**Discussions and Conclusions.** Before the start of the experiment, signs of myofascial syndrome were found in 78% of athletes in both groups, 69% of them had trigger zones. At the same time, all signs were labile and transient. 22% of athletes did not show such signs. For the recovery of athletes and the prevention of myofascial syndrome, a technique based on the use of stretching has been developed. It is known that stretching is often used to restore athletes after a training session, but the methods of dosing the load remain highly controversial.

The content and methods of application of stretching in the studied groups differed somewhat. Thus, in the main group, stretching was directed to the muscle groups involved in classical exercises (10 minutes after each load change), and in the control group, the traditional method of rehabilitation

was used - at the end of the training session, to all muscle groups (15 min). Physical activity was dosed by holding the positional position for a certain time (20 seconds). In total, 22 sessions were held in both groups.

As a result of the application of the studied methods in the studied groups of athletes, there were positive changes both in the indicators of the study of the functional state of the musculoskeletal system of athletes, and in the manifestations of myofascial pain syndrome.

As a result of the study of the functional state of the musculoskeletal system of athletes, high rates of increase in static endurance of the rectus abdominis muscle, paravertebral muscles and the middle spine, and trunk extensor muscles were established. So, in the control group, the growth rates were 5 and 7%, and in the main group - 12 and 22%, respectively. Similar data were established for all subsequent studied tests. Thus, the endurance of the muscles of the lumbar region, the extensor muscles, the growth rate in the control group was 7%, and in the main group - 18%; arm muscles - 10%, trunk and legs - 30%. In tests reflecting flexibility, positive changes were also noted: the flexor muscles of the hip of the right and left legs in the main group - 20%, in the control group - 9 and 6%, respectively; hip extensor muscles in the main group - 89%, in the control group - 86%; muscles of the upper shoulder girdle 12 and 5%, respectively. High indicators of flexibility and static endurance, in our opinion, are due to less pain in the indicated segments of the musculoskeletal system.

The results of the study allow us to conclude the following:

1. For effective recovery of the main muscle groups in myofascial syndrome in powerlifters, it is necessary to apply stretching after each classical exercise. This increases the static endurance of the muscles and improves the range of motion, contributing to their recovery during training.

2. The effectiveness of the use of rehabilitation means in myofascial syndrome among powerlifters is evidenced by the high rates of growth of indicators in the main group for all the tests under study, as well as the improvement of the athletes' working capacity.

3. An indirect sign of the effectiveness of stretching in myofascial syndrome is the absence of trigger zone phenomena, signs of negative changes in muscles in athletes of the main group.

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### **ДОСЛІДЖЕННЯ ФІЗИЧНОЇ ПІДГОТОВЛЕНОСТІ ДІТЕЙ СТАРШОГО ДОШКІЛЬНОГО ВІКУ**

**Актуальність дослідження** Рівень розвитку показників фізичного здоров'я та дотримання принципів здорового способу життя підростаючого покоління є нерозривною складовою формування іміджу нашої країни в Європі та світі. На жаль, на сьогодні ми змушені констатувати недостатнє усвідомлення пріоритетності проблеми здоров'я дітей на різних рівнях державного управління, що є недопустимим у розвиненій європейській державі. Реалії