

# **Application of training and extra-training means during the process of prestart preparation of qualified athletes in fencing**

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**Introduction.** The continuous growth contention on sports arenas and increasing necessity of comprehensive and fully use of athletes' resources causes the importance of research aimed at finding a scientific basis of recovery and stimulation methods of special working capacity during the competitive activity.

The modern sports theory accentuates some points which permit to settle the problems owing to complex application of training and extra-training means of the common orientation [6].

To prepare an organism for realization of its potential under the influence of special means of athletes' preparation, special motion routines are used in sports practice, like warm-up and prestart exercises. Besides, special "setup" training classes are used [5].

A considerable number of researches aimed at finding out how the intensity of specially organized prestart activities affects the working capacity [1, 2, 3].

Duration and intensity of prestart activities depends on kind of sport, functional state of athletes, preparation stage and other different factors. Typically, the content of prestart work of qualified athletes is quite stereotyped. It is based on the application of proven workout regimes and more relies on the athlete's experience and his/her personality. This raises the problem of maintaining required stimulation functions to form the mobilization readiness of athletes.

It becomes evident in competitive activity when warm-up exercises of the same type reduce physiological reactivity, kinetics of the main reactions and the overall organism ability to respond adequately to repetitive loads [4]. This significantly increases the role of additional training resources and stimulating extra-training influences. Application of extra-training means seems to be promising for creation of adequate reaction to whole complex of prestart activities because of their universality, novelty and specifics. The implementation of this approach will increase the efficiency of prestart state management of qualified athletes.

**Hypothesis.** It is assumed that application of training and extra training means during prestart preparation will increase the effectiveness of competitive activity of qualified athletes in fencing.

**Aim of the research** – to show the efficiency of designed training and extra training means during the process of prestart preparation of qualified athletes in fencing.

**Methods of the research** – the analysis and generalization of special scientific and methodological literature; analysis of information on the Internet; pedagogical monitoring (analysis of competitive activity), pedagogical testing.

**Results of the research and discussion.** The theory of sports represents a period of training where additional effects may be used to stimulate functional abilities of athletes and consider the upcoming competitive activities (competitive microcycles). It was shown that application of such effects in this period increases the special working capacity of qualified athletes and, therefore, creates preconditions for achieving high sport performance [6].

During the investigation we have found out that there is a deficiency of scientific-based approaches aimed at stimulation of special working capacity of qualified athletes in fencing during the process of immediate prestart preparation.

In order to investigate this problem, a questionnaire of qualified specialists in fencing was conducted. Twelve Ukrainian coaches of highest category, as well as twelve foreign specialists (USA, Germany, Denmark, Hungary, Poland, Slovakia, Belarus) took part in this survey.

The analysis of questionnaire data shows that 30% of coaches believe that influence of the traditional warm-up means is not sufficient to stimulate special working capacity during the process of prestart preparation of qualified athletes in fencing. However, 67% of respondents are inclined to believe that changes or additions to the content of warm-up are necessary. 19% think that traditional warm-up means are enough for prestart stimulation of special working capacity.

66.5% of respondents believe that search for additional means for working capacity stimulation during the immediate prestart preparation of qualified fencers is required, and 33.5% suppose that such search is not required. We should note that 83% of respondents are inclined to consider that application of additional means for stimulation of special working capacity is appropriate, and only 7% believe that applying of additional means is not required.

Also we paid attention to the fact that 91% of respondents said that additional means for stimulation of special working capacity played a significant role during the process of prestart preparation of qualified fencers (Fig. 1).

As you can see from Fig. 2, 83% of experts consider that it is possible to use the additional means for stimulation of special working capacity such as: additional special exercises and exercises with a partner.

50% of coaches consider that implementation of sports massage techniques is quite effective, and 37.5% suggest that application of pharmacological means during the process of prestart preparation of qualified athletes in fencing is required.

Results of questionnaire analysis showed a positive attitude of specialist to application of additional means during the process of prestart preparation of qualified athletes in fencing.

It is shown that use of such means during prestart preparation can be significant reserve for increasing the mobilization potential of athletes.

In order to improve the efficiency of special working capacity of qualified athletes in fencing, a special set of prestart influences which includes short-term high-intensity exercise, as well as exercises with a partner was developed.

The prestart program includes training and extra-training influences which form delayed adaptation effects, as well as, complexes that provide realization of special working capacity potential during the competitive activity.

The content of training and extra-training influences is interrelated and combined with the traditional system of prestart preparation in fencing.

The implementation of the complex presupposes the presence of certain mental sets to settle mobilization problems of the prestart preparation of a sportsman, to form a quick ability for an efficient regulation of movements. Thus, we can solve the problem of consecutive pattern image of the competitive movements on the fencing peaste. Starting motions under the suggested initial positions give an athlete an impulse to form an integral image of the competitive activities during the forthcoming fight. These exercises activate sensory responses and simulate level of efforts which are necessary for an appearance of specific muscular feeling (touch, flick). These efforts can be checked and corrected during the exercises with a partner. In that way the model of competitive sense is formed and it is a peculiar step to an environment of a higher mental tension. The competitive sense helps an athlete to create an internal induce of his/her future motions by way of external means of activation of muscular power.

The developed complex of prestart impacts was evaluated during simulation of competitive activity. It was used instead of the main part of warm-up in fencing.

In order to determine the effectiveness of the developed complex, we carried out a sequential testing. During testing, athletes performed maximum number of shots into the target from close range in 10 seconds, after application of the traditional warm-up (first day) and after application of experimental complex (second day). Six qualified athletes took part in this testing. During the simulation of competitive activity the test was performed five times: before the warm-up, after warm-up (40 - 45 min. before the start), right before the competition starts, after qualifying stage of the competition, as well as after the second fight by direct elimination system.

As result of experimental series we obtained data that allowed comparing the influence of traditional warm-up and developed complex with the process of prestart preparation of qualified athletes in fencing.

Comparative analysis of the control and experimental testing during simulation of competitive activities is presented on this slide.

The figure shows that under the influence of prestart means complex, athletes could longer maintain the highest level of their special working capacity.

The implementation of the prestart effect of mobilization type calls forth a rapid warming up of an athlete's organism, activates proprioception and raises sportsmen's capability to carry out a number of complex coordination activities much more effectively.

Application of training and extra training means during prestart preparation allowed intensifying the functionality of athletes further than traditional means does, and on this basis, increase special working capacity of qualified fencers.

This gives us grounds to prove that application of proposed prestart impact creates the preconditions for increasing the efficiency of competitive activity in general.

### **Conclusions:**

1. There is a specified rehabilitation system in fencing, concerning peak and competitive mycrocycles. But an accessible scientific and methodological literature does not render any scientifically relevant approach to the permitted by WADA methods of fencers' stimulation availability. For the reinforcement of capability in fencing, special complexes should be elaborated.
2. The analysis found that there is a lack of scientifically based approaches aimed at the stimulation of special working capacity during the immediate prestart preparation of qualified athletes in fencing.
3. Based on the existing concept of integrated training and extra training actions aimed at stimulation of working capacity of qualified athletes, a special complex of training and extra training means was developed.

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