



IMPROVEMENT OF THE METHOD OF TRAINING OF JUNIOR-ARCHERS

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Анотація

У статті розглянуто нові методи тренувань юніорів, які стають перспективними в сучасній спортивній стрільбі з лука. Визначено місце фізичної підготовки стрільців із лука під час планування тренувальних навантажень різної величини і спрямованості. Проаналізовано та вивчено пріоритетність нових методів тренувань юніорів, застосування їх у професійному спорті. Надано методичні вказівки щодо розробки тренувальних програм для стрільців із лука.

Ключові слова: стрільба із лука, юніори, методи тренування, майстерність, загальна фізична підготовка, спеціальна фізична підготовка.

Аннотация

В статье рассмотрены новые методы тренировок юниоров, которые становятся перспективными в современной спортивной стрельбе из лука. Определено место физической подготовки стрелков из лука во время планирования тренировочных нагрузок разной величины и направленности. Проанализирована и изучена приоритетность новых методов тренировок юниоров, применение их в профессиональном спорте. Предоставлены методические указания относительно разработки тренировочных программ для стрелков из лука.

Ключевые слова: стрельба из лука, юниоры, методы тренировки, мастерство, общая физическая подготовка, специальная физическая подготовка.

Formulation of the problem.

At the present stage of development of the Archery in Ukraine there is an urgent need of improving juniors training in the sport. The increasing of sportsmanship archers requires detailed attention. The high level of results in this sport and intense competition in the World arena form a necessity to make a scientific and methodological basis of training athletes at different stages of many years of preparation [1; 2]. The Academic sport (Global student competition, summer and winter Universiade etc.) in system of sports preparation at the highest level is also very important [3, p. 55–56]. Our archers won the highest title in the world and Europe. Such a considerable growth can be explained by the introduction into training of archer's modern theories and methods of sports training. From professionals of shooting sports industry is required improving of existing methods of training archers at the primary level, schools of higher sportsmanship and groups of students and pupils engaged in archery sports sections [4].

In preparation of shooters general and special exercise are underused. Trainers use methods mainly aimed at improving of technical and tactical skills. Therefore, the need for improving the training of highly qualified archers leads to finding new ways of improving their sports



skills that determines the relevance of the study.

Analysis of recent researches and publications. During the last years this issue actively interested the national scientists. Among them we should separately identify the work of Kostenets N. And Saenko V. in their books «Comparative analysis of curriculum load in archery specialized basic training groups» they discussed the load of juniors archers. Also methods of archers training were investigated in writings of B. Vinogradsky «Sports Archery: basics and improvement of special fitness» O. Luchkevych «Preparation of athletes in Olympic sports,» L. Tarasova «Problems of controlling technical training of athletes in archery» etc. Theoretical developments created by well-known trainers made it possible to build learning on objective basis. As they reviewed the training and education of more trained athletes, we reviewed and brought the warm-up scheme and further training for junior-archers.

The purpose of the article: To develop guidelines of improving training techniques junior-archers aimed to strengthen the teaching techniques of shooting.

The research objectives: 1. To analyze the literature of research theme. 2. To define the place of physical preparation in training system of shooters. 3. To investigate the effectiveness of junior archery sports training and attract the attention of the first year students to this kind of sport.

Basic results of research. Archery is one of the special sports because it is based on martial art that accompanied the development of man from ancient times. To prepare junior archers different trainings, such as mental, physical, psychological are used. We will focus just on physical trainings for junior archers.

Man's position when he is not moving, is provided mainly by static tension of many muscles, begin-

ning from the muscles of the foot and ending neck muscles. When a person goes, runs, jumps the forefront is contractile motor ability of muscles. Almost movements require dynamic and static muscle activity. If a beginner sportsman was not trained, the reminder expresses in pain, if the load was feasible, the muscles ask again to work, which is manifested in involuntary muscle contraction-pushment. Only regular general physical training, familiarity to physical activity, systematic combination of general physical exercises with training in shooting can prevent these unwanted effects of exercise.

The physical properties include: endurance, flexibility, agility. These skills are the basis of sports performance, manifested through the techniques and tactics of shooting. Physical training is carried out by basic and preparatory exercises. The first include shooting, and the second – special sports (swimming, running, table tennis, ski walking, etc.).

Endurance is closely linked with weariness. The presence of big amount of static work put high demands to the body of archer, because after static work weariness comes faster than after dynamic. In this way, juniors developed more endurance through athletics run:

1. With heart rate to 130 beats/min. – increases the number of existing blood vessels and improves blood circulation throughout the body;
2. 130-150 beats/ min. – supports good performance of the heart;
3. 150-180 beats / min. – develops maximum efficiency of the cardiovascular system [5].

The basic methods of training the static strength endurance of beginners are:

1. Keeping the stretched bow with resistance 60 % for 5-6sec. with rest intervals 2-3 seconds;
2. Keeping the stretched bow with resistance for 5-6sec. with rest intervals 10-15 seconds;

3. Aiming with stretched bow on different distances;

4. Aiming with stretched bow to a smaller target [6].

Exercises with the elements of aiming are carried out with changing the holding time of bow in stretched position, sometimes bringing holding time to the maximum.

The dynamic strength endurance is the archer's ability to a long and effective work directed on multiple tensioning of bow [7].

There are few exercises used for the development of endurance:

1. multiple simulation of tensioning the bow with resistance 25-50 % of maximum strength with average rate of 20 times per minute until exhaustion;

2. multiple simulation of tensioning the bow with resistance 60-70% of maximum strength with average rate of 20-25 times per minute; execute as approaches with 1min. interval.

During performing such exercises you should pay attention to the maintenance of posture and hands of archer, ensuring reliable focus of the handle bow.

The development of archer's ability to reproduce accurately and store for a long time efforts to keep the bow from shot to shot should be considered as the main specific direction of archer's strength training.

During the repeated execution of aiming shot the main task is to resist fatigue, which is caused by holding the bow in a stable position. Particular attention to this is pay while preparing the juniors.

The development of power is the most effective if during trainings are used pulling exercises and exercises at a slow pace.

Depending on the nature of the muscle there are two methods of power development:

1. dynamic exercises with pulling back and exercises using simulators;
2. static exercises using simple equipment or your own body weight [6].



To develop the power capacity can be used exercises with simulation of tensioning the bow (with a bow and without it). The exercise executed for 1-1.5 minutes. After each repetition you should relax the muscles and make a few deep breaths.

All technical steps of stretching the bow are divided into 3 phases:

1. The angle between the line of the shoulders and arms of the person performing a tensioning of bow 90-100 degrees, the angle at the elbow 80-90 degrees (starting position);

2. The angle between the line of the shoulders and arms of the person performing a tensioning of bow 120-130 degrees, the angle at the elbow 50-60 degrees (middle position);

3. The angle between the line of the shoulders and arms of the person performing a tensioning of bow 160-170 degrees, the angle at the elbow 30-40 degrees (final position) [1].

Doing exercises, be aware that growth and easing of tension is executed gradually for 2 seconds, the time of maximum effort – 5-6 seconds, and the whole exercise – 10 seconds. The rest time between stresses – 30-40 seconds, and the interval between exercises – 2-3 minutes.

Using a variety of exercises and special physical trainings, aimed to develop sufficient strength in combination with a special endurance, will increase the potential of archer.

The increasing of amplitude in different joints allows you to choose the most comfortable working posture, increase efficiency of movement. Flexibility is associated with muscle strength and you should remember that the intensive training exercises, aimed to develop strength, can lead to limited joint mobility. Flexibility means that with the optimal level of its development shooter has the ability to learn faster and better the rational technique of shooting and save their own strength.

The exercises intended to develop flexibility should be performed daily. It is recommended to include them in the warm-up and a set of morning exercises. After complex workout for the entire body and before training you should prepare arms and back separately. Professional trainers advise to use a rubber bandage of Martens. It is worth mentioning that training with rubber bandage of Martens is both warm-up and training, because the tape mostly reminds the bow string and enables you to train strength, endurance and coordination.

So, after analyzing said all above you can develop a complex workout scheme for junior archer.

1. First exercises are carried at a very slow pace with concentration on working muscles and developing small, medium and maximum voltage while performing each exercise. Exercises for a group of muscles used to implement the shot. You are given 6-7 minutes to do the exercises.

2. Then, the stretching exercises are carried during 1.5-2 minutes.

3. The reproduction and preservation for 3 minutes the «autogenous immersion» (the way of relaxation that enables fast relaxation, gives an opportunity to renew strength and efficiency. You should take a comfortable position, tune to the training, and get aside from extraneous thoughts. Calm the breath and say to yourself: «I am quite calm»).

4. For 4 minutes simulate the movements of the bow.

5. During the 10-15 minutes shoot at close distance (3-5 meters).

Is necessary to keep in mind that to combine optimally different types of training and change load can be strictly based on individual approach taking into account features psyche of the shooter. It is very important that each training should contain something new, a methodically significant element of novelty.

The training of shooters in our country is a system of continuous, all year round training in compli-

ance with certain periodization. During the training there are exercises basic and auxiliary exercises repeated many times that promote a high level of general and special physical, technical and other types of training. A rational method of training reflects patterns of functional shifts and features of recovery processes in athlete's body.

Conclusions

1. There is determined the structure of special physical training of junior archers and provided guidelines for improving physical fitness in training.

2. After analyzing the literature it is determined that physical training of archers is an integral part of preparation and one of the main parts of the system of training the archers in Olympic exercises.

3. There are some methodological recommendations for improving the training techniques of junior archers aimed at strengthening the learning techniques of archery.

Further studies are worthwhile because it is the hardest thing to train juniors. The prospects of further studies involve observation and comparing study of the organization quality of archery training process in European countries.

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