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IDEOMOTOR TRAINING AS A WAY TO IMPROVE THE EFFECTIVENESS IN CLAY PIGEON SHOOTING

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Abstract. The ideomotor training definition in sport is given. A scheme of exercises allowing to assess the athlete's ideomotor connection is presented. A training structure according to visualization is given. Basic principles of visualization are formulated. The technique of ideomotor training in clay pigeon shooting is described. The efficiency criteria of the visual-mental shot rehearsal are presented.

ИДЕОМОТОРНАЯ ТРЕНИРОВКА КАК СПОСОБ ПОВЫШЕНИЯ РЕЗУЛЬТАТИВНОСТИ В СТЕНДОВОЙ СТРЕЛЬБЕ

Ключевые слова: *стендовая стрельба, стрельба на круглом стенде, мишень, визуализация, идеомоторная тренировка, зрительно-мысленная репетиция выстрела, тренировка без патрона, спусковой крючок, одиночная мишень, дуплет.*

Аннотация. Дано определение идеомоторной тренировки в спорте. Представлена схема упражнений, позволяющая оценить идеомоторную связь у спортсмена. Предложена структура тренировки с учетом визуализации. Сформулированы базовые принципы визуализации. Описана техника идеомоторной тренировки в стендовой стрельбе. Приведены критерии эффективности зрительно-мысленной репетиции выстрела.

Topicality. A success in modern professional sport is increasingly depends on psychological components of the training process: motivation, psychoregulation and visualization. Psychology of the SKEET shooting – is a science of interaction of thought, mind and movement. At the present time according to the rules of competitions issued by the International Shooting Sport Federation, psychological aspects of improving the effectiveness in clay pigeon shooting are getting dominant in training athletes. It is necessary to develop methods of training clay pigeon shooters taking a visualization shot into account.

The aim. To consider a level of the athlete's ability to visualize. As well as to consider the principles and criteria of the ideomotor training. To describe a technique of visual-mental rehearsal of target shots. To identify the most significant stage of visualization in clay pigeon shooting.

Discussion of results. Visualization in sport – it is a complex of psychological techniques aimed to recreation and control visual images in internal space. An athlete clearly imagines in his mind a sequence of movements, trying to achieve the «ideal image» while exercising. Construction of mental images helps to optimize and improve motor skills, to focus, to organize rational sequence of activities. Visualization technique is also called as guided imagery, mental rehearsal or ideomotor training.

Before including ideomotor component into your training process, you should determine individual abilities to visualize. You can use the following exercise, which allows identifying a link level between brain and muscles of our athlete [1].

1-meter length string in one end is tied to the 5–15 grams weight load, and another part is wounded on the index finger of the dominant hand (right-handed person – right, left-handers – left) so that the distance between the finger and the load has to be 70-80 cm. By standing an athlete, holds out his hand with the load forward the shoulder level and balances the load. After that an athlete has to imagine any pendulum motion, having concentrated on it movement, and as if the hand is quiet, the pendulum will start making expected movements (left right, forward back) [3]. The athlete has to hold the end of the string quietly, without helping fingers to this direction.

When the load starts to wobble, you should imagine that the wobbling amplitude began to increase. The link between brain and muscles can be determined exactly by the wobbles amplitude. You can assess this connection by using a five-point system (table 1).

The higher developed the athlete's ideomotor feedback, the easier to use this kind of training and the faster a quality performance of motor actions will be achieved.

Ideomotor feedback can be trained every day by doing an exercise mentioned above.

Visualization will start to produce results unless the level of ideomotor feedback is 3 points and more. Under these conditions, the training should include a mental rehearsal.

According to visualization, a training structure consists of the following steps [1]:

1. Internal actualization:

1.1. Exposure phase (programming of autogenously training);

1.2. Observing phase (visual observation of the performance of motor cycle with a special focus on the main points of the exercise);

1.3. Ideomotor phase (3–5-fold repetition of the «internal» imagination in accordance to a written assignment).

2. External realization:

2.1. Simulation phase (performance of elements of ideomotor control in a clear temporal sequence in general);

2.2. Practical training phase (exercise trained by an ideomotor method, performs in practice).

Visualization when shot at moving targets – is a visual-mental plan of the target attack based on: the target velocity, its flight nature, distance to the target, shooting angle and weather conditions. This is a mental plan of actions without movements and physical efforts. This is an internal approach to yourself to achieve maximum concentration, in order to complete successful activities at each position and series of the shots in accordance to the program, which set by a coach or competitions conditions. In other words visualization – is an eye-muscle preparation for shooting to become a leader in 25 targets series and in the set program.

Both beginners and professional athletes need visualization, because it helps not only to improve effectiveness, but also to save professional skills.

Table 1

Assessment of the athlete's ideomotor connection level

Amplitude, cm	Assessment, in points	Interpretation
5	1	No communication
10–25	2	Low communication
30–40	3	Feedback is developed enough in order to be successful in ideomotor training
50–70	4	
80–100	5	Feedback is developed maximum

The following basic principles of visualization contribute to achieving maximum results, they are:

1. The most precision of the mental image of motion: image brightness, controllability, minuteness and rhythm;

2. Consistency between a programming organ (brain) and executing unit (muscles and joints) during visualization. It must be clearly understood that simply «visual» imaginations, not related to the «commands» for muscles and joints, have a very short training effect. Therefore, the ideomotor training should involve a maximum number of sensor elements: sense organs, emotions, and other psychophysical analyzers. In other words, visualization should be sensual;

3. Exact wordings while doing mental exercises. You should not only imagine the movements, but also pronounce its sense simultaneously. In some cases, the words should be pronounced in parallel to the movement, and in others – directly before it. The better will be determined in practice [2];

4. The principle of slow motion pictures while learning new elements of techniques to optimize and to improve motor skills [2]. Minuteness and timing of an exercise – is important method of visualization;

5. During the classes of ideomotor training the adoption of body pose closest to its real position in practical realization [1]. In this case, there are more pulses transmitted into the brain that matches to the actual movement pattern. To fix the muscles memory it is advisable to use simulators, making possible to simulate weightlessness, and to train the technique elements of movement after taking off support points;

6. Complete «immersion» to the mental image of movement until the beginning of real movement after ideomotor imaginations, that indicates the strength of the feedback between the programming and runtime systems;

7. Multiple repetitions of mental rehearsal for creating stable neural links between the brain and muscles that provide automatism in performing an optimal variant of movement.

Many shooters of different qualifications cannot achieve maximum results at clay pigeon shooting, because they were initially trained wrong. It is much harder to relearn than to teach proper technique initially. As a rule, a highly qualified coach, former shooter, master of sports with specialized education, in teaching shooting technique shows it on a Skeet and Trap. It is necessary to see it from the side, how you have to perform an action and then it will be made successfully.

A trained shooter visualizes and follows the movement of the shot. He fixes the successfully completed exercise, mentally repeating the movement, which has been done for several times on the shooting site and stores the whole scheme of making a shot. It involves a go to the shooting site, shot preparation including visualization, command and shot.

The fact that ideomotor feedbacks are presented in the right quality, we can learn from the micromovements in muscles. They are well noticeable when an athlete pass submitted motions as if «through itself.» At these moments, his muscles are accompanied with contractions and relaxations that can be seen quite clearly. If there are no micromovements observed in muscles, and the athlete thinks that he passes a mental images "through himself" it means, that his training is only «visual». When the motion imagined properly, it is necessary to achieve its movement imagination to match with the actual time for its physical realization.

Now you need to start to transmitting mental impulses to muscles. At first, it is done slowly and carefully, and after appearing micromovements, confirming a feedback between brain and muscles, the procedure can be slightly accelerated. By increasing the speed gradually, it is necessary to achieve that the time of movement imagination will match with the actual time for its physical realization. This is the most complicated stage in the ideomotor training.

While imaging in clay pigeon shooting, first it is necessary to determine the spatial target location at the moment of a shot, which may vary in dependence on wind speed, visibility and other weather conditions.

An athlete, using visualization, definitely imagines a flying target, including its color, trajectory and distance. Shooters who do not use ideomotor training are confuse in space, they do not sense a target trajectory and press the trigger not being confident to hit a target.

Training without cartridges by using visualization of each shot is very useful. This kind of rehearsal can be held at home, work, in transport and at any other conditions. Such kind of training helps to improve ready position, fixes feet, hands, body positions, as well as creates an internal readiness system for the target appearance. This kind of training improves the results, helps to develop a dynamic stereotype and develops automatism at the beginning of the leash to a target.

Visualization in skeet shooting is one of the methods of training the eye muscles. Visually accompanying by eyes an imaginary target, at the right moment

a shooter receives a signal to the brain about making a shot. Body muscles transmit the response brain signal and a mechanism of pulling the trigger is triggered.

A shot procedure including visualization is to be as follows: an athlete moves to the shooting site and get a ready position; by using inner vision, he checks the feet, hands ,body and head positions, transmits a «glance» into the destruction of the target area and is going to give a command. You have to wait for a little (1,5–2 seconds) and make the effort of mental concentration before giving a command. You are confident that you have done everything correctly. It means that you are ready – you give a command to a shot. The command is given, the target is appeared, visualize the direction of the target, its speed, size and colour. You follow its flight trajectory about 0,15–0.25 seconds, a mental picture is fixed and you feel that you have done everything you need. Your vision gives a command you can press the trigger – the target is destroyed. Then, analyze what you have done at a single target. While preparing to take a doublet, revise the first shot again, as if you are shooting at a single target. The result of the second shot depends only on your mental-visual perception of two targets. After the first shot make a smooth transition to the second one, check it trajectory out through the strap, catch it up, make an advance and press the trigger. When a gun is in front of the target, shooting does not occur exactly in the target, but with an advance, the target will be certainly destroyed.

You should avoid common mistakes. It is wrong to think about the result directly before performing the exercise. When thoughts about the result dominate in consciousness, they displace the main idea how to achieve this result. If a shooter only thinks that he must hit a target, he does not focus on the main idea of performing the technique elements without which the target cannot be hit. Therefore, he misses the target. In other words, to achieve a desirable result you should not think only about it, you ought to use mental images of the actions, which lead to achievement of these results.

An athlete should master his visualization skills every day. While practical training at the shooting range (while other sportsmen are making shots, surely, if it is possible) and when he is outside of it. The appearance of panoramic view, when the target seems bigger and appeared to be flying slower is a criterion of effectiveness these exercises. This is the first sign that an athlete has mastered a method of visualization and is ready for effective shooting.

The more visualization exercises with target is done by a shooter, the easier he see it (a target). The more he practices in spatial orientation, the faster he achieves a success in shooting.

When an athlete will learn to visualize, he must perform a several continuous shots on a target without using visualization – it is necessary to fix a shooting stereotype taking the training into account, which is mentioned above.

TRAP and SKEET visualizations are different. In the SKEET, a target flies is almost constant, the ideomotor training is more accessible as compared to the TRAP. While using visualization in the SKEET shooting, it is useful to shoot 2-3 series simultaneously with the aim of fixing shots successfully or to correct it in the case of miss.

Thus, a skeet shooting visualization making it possible to teach a right eyes movement, a stand including of the feet, hands, head, body and gun positions. This kind of training will wean to "jump for the target", do extrafast motions, and to learn analyzing errors.

Conclusion. A success in skeet shooting – is a result of a combination of psychophysical methods in the training process. Training with a technique shots as well as without cartridges, strengthening a musculoskeletal system including physical exercises and massage, as well as ideomotor shot rehearsals including mental exercises allow to achieve a maximum result in competitions. Visualization in shooting sports – is a necessary component, which can increase efficiency, by approximately 6–18%.

The fact of having a panoramic view is a criterion of shooter's mastery in visualization method.

The most complicated stage in the ideomotor training – is a synchronization of visual-mental rehearsal and actual performance of the action.

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