

On the Application of Core Strength Training in Swimming Training

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Abstract

Swimming requires a high level of physical quality and strength of athletes. As a typical water sports project, core strength training is particularly important in project training. In the process of training, some coaches do not grasp the key points of core strength training in place, so the training guidance effect is not ideal. To change this situation, we need to continue to study the core strength training methods of swimming events. This paper attempts to analyze the significance and methods of core strength training in swimming training, in order to improve the effect of core strength training in swimming.

Keywords

Core strength training; swimming training; application.

1. INTRODUCTION

In the international swimming events, the technical action level of the athletes is related to their performance, and the core strength plays a significant role in assisting the completion of technical action, so it is necessary to carry out the core strength training activities in the daily swimming training. In the traditional swimming training, the athletes don't pay attention to the role of the trunk, mainly focusing on the role of the limbs in swimming, which makes the core strength training ignored. As early as the 1990s, some scholars analyzed the role of trunk in swimming training, and gradually affirmed the role and value of core strength training, which gradually began to be applied in swimming training in China.

2. THE SIGNIFICANCE OF CORE STRENGTH TO SWIMMING TRAINING

2.1. It Has A Supporting Role In Swimming Technology

In swimming events, there are no external fixed measures for the athletes to leave the starting platform and enter the water. They need to maintain their body posture and adjust their movements with their own core strength, including completing the task of rapid progress in the water. This requires the support of their own core strength, so that the athletes can flexibly change their movements and improve their performance.

2.2. Play A Pivotal Role in the Swimming Process

In the process of movement, when the correlation between human muscles and joints is adjusted, the movement state of human body will reach a relatively ideal state, which is shown as the improvement of the speed of travel in swimming. In the process of swimming, swimmers use trunk strength to mobilize the strength of limbs, for example, the strength of legs can not be separated from waist and hip muscles. It can be seen that core strength training can support the swimming process.

2.3. Improve the Body Coordination Ability of Athletes

The body coordination ability of swimmers is related to their competition results. It is necessary for swimmers to keep correct swimming posture, master their own advantages and

keep body coordination when they are moving at high speed in water. In the usual training process, the athletes need to train the coordination of movements in the way of kicking practice. In fact, this process is the process of training the core strength, which can improve the coordination level of athletes' body movements.

2.4. Can Prevent Sports Injury

Improper action and skill application of swimmers in swimming are easy to cause sports injury. The main cause of injury is muscle group fatigue, which needs to be treated in time. If not handled in time, it is easy to form injuries, which will hinder the development of athletes' career. Core strength training can improve the body and limb muscle ability of athletes, and has a significant effect on the prevention of sports injury.

3. PRACTICAL APPLICATION OF CORE STRENGTH TRAINING IN SWIMMING TRAINING

3.1. Arrange Core Strength Training Reasonably

In the current swimming training, the athletes' training activities show the general characteristics of faster rhythm and shorter cycle. Combined with the above situation, in order to improve the training effect of swimming, it is necessary to grasp the exercise time reasonably and make a scientific training plan. In the process of core strength training, training plans are generally made according to the specific training needs of local muscles and overall muscles. In the process of local muscle training, athletes need to participate in warm-up exercise first, and then carry out stability training activities in succession. The best training time is 13-15min, improving the ground stability of athletes in the process of sports; overall muscle training In training activities, the warm-up time generally needs to be extended, and the stability training time also needs to be extended. The overall training process needs about 20-25min. In addition, the stability of athletes in swimming needs to be strengthened in combination with the water sports needs.

3.2. Targeted Training Combined With Swimming Style

The core strength training in water needs to be completed in combination with the swimming style. According to the types of swimming events, the swimming style can be divided into four types: backstroke, freestyle, breaststroke and butterfly. In the core strength training, the appropriate core strength training method should be selected based on the swimming style. The similarity between butterfly and breaststroke is great, which has high requirements for the core strength and posture change ability of the athletes. Therefore, when training the core strength, we should pay attention to the regular fluctuation of the athletes, and focus on the lower limb explosive force of the athletes [1]; the static characteristics of backstroke and freestyle are relatively obvious, and focus on the balance ability of the athletes during the core strength training, Grasp the power relationship. Generally speaking, the long muscle training and core strength maintenance of the athletes in freestyle and backstroke training are the focus of our attention.

3.3. Core Strength Training Should Be Taught According to Students' Aptitude

The physical and psychological quality of athletes are different, and the level of core strength is also different. In the process of training, we need to pay attention to the differences of athletes, and core strength training activities should be taught according to their aptitude. The same training method is not suitable for all athletes. The athletes with higher core strength can easily complete the training task without effective stimulation to their core muscle [2]; the athletes with lower core strength may not be easy to complete the task, and in serious cases, it will also cause sports injury, which will frustrate the self-confidence of athletes. Therefore, it is very

important to teach students according to their aptitude and choose training methods reasonably. In the training activities, it is beneficial to optimize the training effect to make the training plan according to the actual situation of the athletes themselves.

3.4. Training Difficulty Should Be Gradual

Core strength training, like other training projects, needs to follow the principle of gradual training. The training projects should be from difficult to easy, from stable to unstable, from static to dynamic, from unarmed to weight-bearing [3]. Core strength training is mainly aimed at the core muscle groups and deep small muscles of athletes, to improve their stability, control and balance, and improve the overall sports ability of athletes [4]. The focus of this type of training is not on weight-bearing and speed, but on the basis of the relevance and standardization of actions, such as prone static support exercise. At the beginning of the training, athletes can be required to use their hands and feet as the support points. When athletes complete this part of the task, they are relatively easy, and then they are required to place swiss balls in their feet to increase the training difficulty; for example, in dynamic core force In the measurement exercise, the abdominal muscle exercise starts with the static leg lifting. When the training reaches a certain stage, the athlete's legs are required to stretch forward at the same time, with the hip joint as the axis, and the legs are rotated clockwise at the same time and then restored anticlockwise, which makes the training more difficult. Only in the gradually increasing difficulty of training, the physical adaptability of athletes will gradually improve, optimize the training effect, not to cause too much psychological and physiological burden on athletes.

If the training difficulty and the exercise load do not change, the same training activities can not stimulate the athletes after they adapt to the fixed training plan, and the athletes' ability improvement will encounter a bottleneck period, resulting in the difficulty of ability improvement. Gradually increase the difficulty, after repeated training, the muscle control and regulation ability of the athletes will gradually be improved, effectively forming a nerve control system, so that the athletes have the ability of rapid and flexible transformation between the stability and instability of the core parts [5].

In addition, we should not only pay attention to the difficulty changes of core strength training, but also pay attention to the overall development of athletes. The combination of water and land-based special training, core strength training with other special training, to achieve the goal of balanced development.

4. CONCLUSION

In a word, the improvement of core strength is very important in the training of swimming events. The level of core strength is related to the physical strength and overall quality of swimmers. The selection of effective training methods of core strength has a positive impact on the improvement of athletes' athletic level.

Swimming in the world sports competition activities and in our daily life have begun to get attention, under the influence of the concept of national sports, swimming training skills research has become our current important task, in which core strength training is particularly important, which is related to the athletes' sports ability. In the process of training, athletes need to change the traditional training concept, integrate core strength training into daily training activities, make scientific training plan, reasonably arrange training time, gradually improve the difficulty, strengthen weak links, and promote the overall and balanced development of athletes. Only in this way can the effect of swimming training be improved, and the sports cause of our country can also obtain sustainable development. This paper attempts

to analyze the application significance and methods of core strength training in swimming training, hoping that the above suggestions have practical reference significance.

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