

Effect of Special Strength Resistance Training on Shooting Skills

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Abstract: Basketball is a fierce competition, skipping and shooting skills has become one of the most effective scoring means of basketball players. In the game, the skipping and shooting skills and other technical action combine together, and it has the advantage of sudden, not easy to defend. Traditional basketball strength training does not improve players' balance, flexibility and other physical fitness. Special strength resistance training can effectively improve the stability of basketball players' jump shot, improve the ability of jump shot effectively, and quicken the jumping speed, so as to improve the shooting percentage significantly. This paper discusses the influence of special strength resistance training on basketball shooting ability and technique, analyzes the principles that players should follow in strength training, and provides some guidance for promoting special basketball training.

Keywords: Basketball special strength training; Training method; Shooting effect

1. Introduction

With the development of modern basketball sports and competitive concepts, basketball games begin to emphasize more and more physical confrontation, explosive body and tactical use [1]. Special strength resistance training is closely related to basketball players' response to catch, hold the ball, jump height, jump speed and shot in sports competition. The characteristics of basketball rivalry require participants to complete fast running, continuous jumping and quick reaction skills in a short time. Speed and strength are the key to win basketball games, strength is an important factor in basketball training, and it is the basis of mastering sports functions. In basketball, completing the action under the strict defense of the other team not only requires cooperation between the teams, but also requires one's own physical quality. In passing and dribbling, the athlete completes a rapid contraction of the muscles in the legs in time to generate the power to drive the rapid movement of all parts of the body. The upper body strength determines the speed and accuracy of the pass, while abdominal strength determines the speed of the turn.

2. The Main Problems in Resistance Strength Training of Basketball Players

Resistance strength training is not given enough attention. Due to the influence of training time and individual ability basis, many basketball coaches do not have enough intensity of impedance strength training, especially when making basketball training plans, they seldom involve professional impedance strength training.

Even if they have arrangements, they usually interweave other training plans without systematic and professional training. This is not in line with the trend of basketball today [2].

Resistance strength training methods are too simple. In normal exercise training, strength training is almost always traditional method, such as barbells and squats. On the one hand, it reflects the single strength training method of basketball players. On the other hand, it also makes the athlete's strength training atmosphere too boring, so it is not conducive to mobilize the athlete's training interest and enthusiasm. In fact, when training basketball players' jumping ability, they can also use various methods, such as obstacle jump, multi-stage jump, one-foot jump, frog jump and so on, which is more conducive to improving the effectiveness of training.

Lack of specific strength training. Nowadays, when basketball coaches do strength training, they often use ladder extreme strength training method to develop absolute strength. This conflicts with the special strength training of basketball. At the same time, basketball focuses more on fast strength training and strength endurance training, which are obviously lagging behind.

3. The Important Role of Strength Resistance Training of Basketball Special Athletes

The movement of human body is almost all related to resistance strength, which lays a good foundation for excellent sports performance. Strength and other qualities have a very close relationship, and it is the basis of sports. Strength resistance training is specialized training based on the position of the athlete on the field. Attacking

defenders need to develop the strength and speed of shoulder girdle; an organic defender must have strong forearms and a flexible wrist; Breakthrough forwards need to be able to jump at high speeds; Fixed forwards should have maximum jumping endurance; The moving center should have breakthrough athletic qualities [3]. In the competition, under the opponent's tense defense and collision, to complete the effective offensive action, the athlete must have a good explosive force in the leg, and have the ability to make muscle fiber contraction quickly, and generate a lot of power flow, make the body move fast, coherent and effective movement. Strength is the key to the final minutes of the game, when physical energy is used up in the last few minutes.

4. Analysis of the Influence of Special Strength Resistance Training on Basketball Players' Skipping and Shooting Skills

Special strength resistance training can improve the coordination of basketball players' jump shot. Through effective special strength resistance training, it can improve the stability coordination of basketball players in the process of jump shooting. Special strength resistance training can help athletes control their personal connecting of the upper and lower limbs in jump shoot, thus reducing the basketball players the excessive consumption of physical strength and the instability of the body during the jumping shot, improves the effective control and transfer of the core strength of the athletes and promotes the coordination ability of the basketball players when they jump.

Special strength resistance training can effectively improve the jumping shot speed of basketball players. Basketball has a very fast offensive and defensive speed. It requires the player to maintain a relatively fast speed in a series of movements, such as catching, passing, dribbling and shooting. In order to maintain the intensity and pace of the game, the player must apply the effects of resistance properly. This provides a stronger guarantee for shooting percentage.

Special strength resistance training improves the stability of jump shot. Due to the strong antagonism of basketball, the requirement of physical quality and strength of players is relatively high. Especially when the game enters the increasing competition stage, the basketball players' physical quality will decline rapidly, which will affect the basketball players' shooting stability. Effective resistance training can provide more stable protection for basketball players' jump shot. On the one hand, resistance training can strengthen the core muscle of an athlete and ensure the coordination of body posture during the jump shot, finishing the limbs shooting more standardized, smooth and accurately. On the other hand, when basketball players suddenly jump, they need to keep the consistency of their body leaning forward and

shooting when catching and shooting, and have a strong control over their bodies.

Special strength resistance training can effectively prevent basketball players from sports injury when they jump shooting. High level basketball players with core strength advantage can use their strong core strength to ensure that their body moves in a normal position when moving fast. The stability of the deep muscle groups plays a key role in protecting the athletes, so resistance training can effectively prevent acute injuries such as backache, abdominal strain and pelvic tilt when basketball players jump shooting. At the same time, resistance training can help high-level basketball players to properly control their bodies and enhance their resistance to jump shots. Especially when jumping and landing, basketball players can use their core strength to increase the strength and speed of muscle contraction, reduce the load on joints, and ensure the stability and coordination of landing, so as to prevent injury.

Special strength resistance training increase air-holding ability. Air-holding ability is the ability to stay in the air for a period of time when an athlete jumps. The athlete changes the movement of each part of the body, so that the upper part of the hip joint maintains a certain height in the air for a certain period of time, thereby obtaining time in the air. When carrying out jump shoot, a longer time in the air helps players choose the best shooting time.

5. Principles to be Followed by Basketball Athletes in Resistance Strength Training

5.1. Principle of comprehensive development

As basketball players grow up, it is important to lay a strong physical foundation. Every muscle and joint of a basketball player must undergo comprehensive strength training to train the muscle memory and flexibility of each part of the body and it lays a good foundation for the training and use of special skills [4].

5.2. Principle of interaction

When basketball players are doing resistance strength training, it is necessary to make the movement process of primary motor, coordination muscle and antagonism muscle as consistent as possible with the special movement, so that the training can achieve the best effect.

5.3. Principle of mental control

The psychological state of basketball players in training has an important relationship with their own strength control and training. The emotional state of an athlete is closely related to the effective performance of his power. Athletes must maintain normal emotions and control their psychological factors to complete training tasks.

6. Basketball Special Resistance Strength Training Methods

6.1. Increase leg strength and bounce strength

Different from other sports, basketball players must take special targeted exercises for their jumping training, such as shouldering the barbell and lifting it quickly and slowly. The movement of the barbell requires complete or half squat, which must be repeated three or four times. Attention should be paid to protect the body and prevent physical injury. Conduct full squats and consecutive jumps and the training require a load of 6 to 10 kilograms. In addition, leg strength can be conducted weight training.

6.2. Lower and upper limbs strength training

In basketball training, lower limbs should be based on the biceps and quadriceps. Good jumping ability has great advantages in the course of playing basketball. The strength of the squat will determine the development of the bounce. In training, the half squat should be the main part of the training and properly training should match with the squat. The half squat should be trained on grass or on a blanket, and the speed should be fast, which is conducive to the coordinated development of power and speed. The upper limb training can use barbells for weight lifting exercises. Weight passing, shooting, three-point shooting, and fast dribbling also enhance the strength of upper limb. Basketball players bounce and other sports are very different, according to the characteristics of bounce, choose the right training methods.

6.3. Basketball strength load training

Load training can exercise withstand about 90 percent of the maximum load of their own, and this can comprehensively stimulate their own original strength, but also improve the intensity of exercise strength training in the motor nerve. Although small load training can make the muscle rapid contraction, but the intensity of stimulation is not up to the specified requirements. So in the training, it should do large intensity load exercise as much as possible, cooperate with small and medium load training.

6.4. Waist and arm strength development

Shooting, passing, dribbling, and other movements in basketball require the coordination of upper body strength of the fingers, wrists, and arm muscles. The combined power of an athlete is directly related to the use of these actions. Finger and arm strength exercises include exercises like horizontal lifting weights and push-ups. Core strength exercises include suspension knee lifts and turns, supine leg lifts, repeated abdominal in and holding exercises, arms hanging on horizontal bars, and raising and holding your legs for a period of time.

Exercises for abdominal muscles include sit-ups and abdominal leg lifts.

6.5. Improve physical confrontation training

Confrontation exercises can enhance the players' sense of real-time competition and high tension, master the sense of timing such as movement skills and shooting, and use correct methods to match the training intensity with the competition intensity. The specific training methods include shorthanded, arranging fights or more matches, setting up training obstacles and increasing the difficulty of fighting [5]. In various basic technical training, artificial resistance can be created and collision techniques can be improved.

The basketball special resistance training needs to carry out the load control reasonably and arrange the regular training according to the gradual principle, so that the physical strength is in the best condition. Strength training should prevent accidents and injuries. In weight-bearing exercises, we should fully prepare and concentrate on preventing training damage.

7. Conclusions

Special strength resistance training can improve upper limb strength, and special strength resistance training has a good effect on the performance of upper limb strength, which can not only increase its maximum strength, but also improve its speed. Therefore, it has the incomparable advantage of traditional resistance training. Through the research, we further study the effect of special strength resistance to athletes on the level of competitive sports, and it includes different effects on body shape, function, quality and specific technical movements. Because the specific effect of special strength resistance training has been the trouble of coach and athletes. Coaches must update their knowledge reserves in real time, master advanced knowledge and training skills, and carry out modern basic methods and theoretical guidance.

In short, special strength resistance training is a scientific, rigorous, meticulous and targeted training method. In view of important influence of the special power of resistance training on basketball players' skipping and shooting skills, the coaches need to develop the basketball sport specific training plan, improve the focus on resistance of special forces training, combined with the general training effectively, core strength training, basketball jump shot skill training, stick to the correct training methods, and promote the continuous progress and improvement of basketball players' skipping and shooting skills.

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