

# The Discussion on the Function and Application of Core Strength Training in Basketball Training

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**ABSTRACT.** Core strength training is an important training method in basketball training, which has strong practical value and which can quickly improve the comprehensive physical fitness and basketball players' competitive sports level. Therefore, it has been widely concerned in the field of physical education in China. The author combined with the training practice, analyzed the connotation of core strength training and the role of core strength training in basketball training, and then put forward some application strategies of core strength training in basketball training, for reference only.

**KEYWORDS:** Core strength training, Basketball training, Role, Application

## 1. Introduction

In recent years, the continuous innovation of basketball training methods in China has greatly promoted the improvement of training efficiency, and it has also significantly improved the comprehensive physical fitness and basketball players' competitive level. In the current basketball training, core strength training is a widely-regarded and recognized training method, which is based on a targeted training method and scientific body mechanism research, and which can significantly improve the basketball players' physical flexibility, sensitivity balance and comprehensive strength, thus providing effective protection for the sports exercise potential [1]. However, at present, many coaches and basketball players still do not fully understand the essence of core strength training, and there are problems with unclear focus and poor results in training. For this reason, the author attempts to apply knowledge and application of core strength training to an analysis, hoping to promote the development of China's basketball career.

## 2. The Connotation Analysis of Core Strength Training

The torso is an important part of the human body. The core of an athlete's body is naturally the torso. In basketball, the athletes' torso athletic ability directly determines the athletes' body acuity and physical control, which also determines the quality of action completion and ability to achieve action goals [2]. At the same time, in basketball, the form of the human body is very complicated. On the one hand, it is necessary for athletes to control the stability of the waist, pelvis, hip and other parts, so as to form a strong anti-impact and anti-inertial ability to ensure the body's balance. On the other hand, athletes need to fully mobilize muscle strength to better complete professional technical actions such as jumping, dribbling, and stagnation [3]. Therefore, the targeted strength training for the torso and body muscle groups of basketball players is called core strength training. In the past sports training practice, we found that it is very feasible to introduce core strength training into basketball, and it can also show its outstanding advantages in all aspects.

## 3. The Role of Core Strength Training in Basketball Training

### 3.1 Enhancing The athletes' Physical Fitness and Improving The athletes' Physical Endurance

In basketball games, athletes need to adapt to the duration of the entire game, and sometimes they need to ensure that their physical fitness can keep up with the overtime needs. Therefore, physical endurance is the first physical quality that a good basketball player must have. In basketball, the most prone to fatigue is the core muscle groups and deep small muscle groups. The core strength training method is used to systematically train the strength and endurance of these muscle groups, which can help basketball players reserve more physical energy, so as to calmly respond to the rapid reaction and rapid running in the game. At the same time, good core

strength training can also improve the speed of physical recovery of basketball players, so that players can quickly recover physical fitness during short game breaks, so they can devote themselves to subsequent games with a full spirit.

### ***3.2 Improving the Flexibility and Stability of Athletes' Bodies and Reducing Sports Injuries***

In basketball, sprains caused by unfavorable body control commonly occurred, and in the fierce competition process, physical injuries caused by sports collisions were inevitable, which will greatly affected the sports ability of basketball players, and which even had a devastating effect on their sports career. The core strength training method can significantly improved the athletes' physical flexibility and stability, fully improve the athletes' muscle strength and bone toughness, which enable the athlete to be better protected during flying, running, and sports impact, so as that it can effectively avoid sports injuries, and it can ensure the players' level [4].

### ***3.3 Improving the Quality of Athletes' Movement Completion and Improving the Overall Level of Sports***

Basketball tests the athletes' comprehensive physical fitness and athletic competition level, which has high requirements for athletes' physical coordination, physical flexibility, coordination, agility, balance, endurance and explosiveness in sports. Through the core strength training, they can ensure the coordination of muscle strength and the stability of the body's bones, which is of great benefit to improve the athlete's overall quality and individual sports efficiency. It can enable the athletes to continue to exert force in a stable state and can ensure the standard of technical movements, so as to ensure the realization of action goals and competitive strategies.

## **4. The Application of Core Strength Training in Basketball Training**

### ***4.1 Innovating Training Methods and Improving Training Results***

#### ***4.1.1 Basic Strength Training***

Basic strength training is the first step of core strength training which is an important means to comprehensively improve athletes' basic physical fitness. In the training process, you can make a variety of training methods according to the athletes' physical foundation, such as two-handed rotation for one-handed push-ups, two-handed push-ups, side-lifting legs, squats, etc.. With the athletes' basic strength increasing, you can gradually join some equipment training, mainly for the purpose of improving the athletes' body balance ability, such as fitness ball training, Swiss ball training, etc., in order to improve the athletes' body balance ability and control of muscle strength, so as to promote the steady improvement of overall physical fitness by basic training ways step by step.

#### ***4.1.2 Specialized Training***

Starting from the actual requirements of basketball, doing special training is an important idea for the application of core strength training in basketball training. Specific equipment training should be conducted for a certain part of the athletes' body, so as to form muscle memory, to improve the stability of the body part, and to ensure the standard of basketball movements. In the training process, the coach should summarize the previous training work, analyze the training process of each basketball player, and then identify the weak links, formulate a special training plan, and target the leg strength and arm strength to ensure the stability of athletes in the development of strength. On this basis, combined with basketball special skills, stimulating muscle strengthening with action to continuously improve athletes' ability to dribble, shoot, steal, and defend movement.

### ***4.2 Strengthening Training Management and Making Good Distinction between Objects***

The performance of core strength training depends on the professionalism in training, and this professionalism is largely reflected in the "people-oriented" principle of training. That is to say, it is necessary to pay attention to the management of core strength training. Athletes' physical fitness development account book makes a distinction between objects and arranging training methods. First of all, it is necessary to make a distinction between basic strength training and professional training, to better reflect the planning in training and to prevent the two from being conflated. It is necessary to clarify the training objectives, not to be too high, to

firmly solidify the training foundation, not to pursue physical fitness blind breakthroughs, which will eventually bring athletes irreparable injuries. Secondly, the training method should be used flexibly, in order to reduce the dullness and fatigue in core strength training. The coaches should consciously adopt the training method of combining equipment training and non-device training to make timely adjustments to the training intensity and training parts. For example, in a training process, you can use dumbbells to perform arm strength training in a sitting position. You can also use a barbell bench press to exercise the pectoralis strength in a prone position, and you can use a semicircular balancer to improve the athletes' body balance and coordination ability to keep the center of gravity stable in sports at any time. You can use a combination of aerobic training and anaerobic training, such as jogging and speed running to improve students' instant explosive power<sup>[5]</sup>. In addition, different sports have different sports foundations and physical fitness foundations. Therefore, when performing core strength training, the "one size fits all" training method should not be adopted, but the principle of combining group training and individual training should be adopted. On the one hand, according to the characteristics of individual athletes, targeted training should be improved. On the other hand, allowing athletes to participate more in group training can not only help them find their own weaknesses in the series of training, but also cultivate team understanding and improve the team's ability to coordinate operations providing guarantee for the improvement of the basketball team's overall competitive level.

## 5. Conclusion

To sum up, core strength training is an ideal way in basketball training, but the best training results need to rely on scientific training methods and training concepts. For this reason, basketball coaches and trainers should fully understand the connotation of core strength training, actively explore ways to optimize the training mode, so as to play the advantages of core strength training fully and promote the greatest improvement of training effectiveness [6].

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