

Research on the Principles and Methods of Basketball Physical Fitness Training

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ABSTRACT. *Basketball is a competitive antagonistic sport, and it also requires relatively high athletes' overall quality. There are many conditions that can affect the outcome of a basketball game, such as the athlete's physical fitness, psychological quality, and team cooperation. However, the most critical and most direct condition is physical fitness. Therefore, scientific physical training for basketball players is an important means to improve the overall entity of the team.*

KEYWORDS: *Basketball, Physical training, Principles and methods*

1. Introduction

At present, the basketball game process is getting more and more fierce, and higher requirements have been generated for the skills and physical abilities of basketball remote mobilization. The traditional training methods in the past can no longer meet the current schedule. Therefore, if you want to achieve excellent results in a basketball game, you must fully demonstrate your physical advantage. This is also an important issue commonly faced by basketball coaches. Physical fitness is the most basic athletic ability of an athlete, and it also affects the athlete's ability to compete. Therefore, physical training plays a vital role in basketball.

2. The Meaning of Physical Training

In a broad sense, physical training is mainly to improve the professional skills of athletes through certain training, and to enhance the physical functions of athletes. In this way, the physical condition of the athlete can reach the competitive standard on the sports field and successfully complete the tactics in the game. The physical training in basketball is mainly set up in accordance with the characteristics of basketball, which is used to improve the level of physical and skill required by basketball players in the arena. Therefore, coaches need to make targeted training methods, and at the same time teach students in accordance with their individual characteristics. At present, the physical training of basketball still needs to be improved, and coaches and athletes need to continuously discover and innovate in practice, so that physical training can achieve better results, thereby enhancing the

overall combat capability of the team.^[1]

3. Principles of Physical Training in Basketball

3.1 Adaptation to the Stimulus Principle

The functional adaptation to stimulation is an effective mechanism to improve the effect of physical training. Athlete's physical function system should strive to adapt to the requirements of the sport they engage in. Therefore, the stronger the body's functional system can adapt to stimulation, the higher the athlete's physical level. Regular long-term and unremitting training can achieve this effect. Adaptation training means that athletes have undergone some changes in various organs and systems under long-term external stimuli, such as training or competition, and these changes are developing in a good direction. Moreover, the athlete's physical fitness can be repeatedly improved through continuous stimulation, adaptation, improvement, and re-stimulation.

3.2 The Basic Principle of Physical Fitness

In a basketball game, physical strength is an indispensable factor in order to win. Physical fitness is the cornerstone of success in the game. According to a large number of sports practices, it is proved that if the athlete's strength level is not up to the standard, it is impossible to carry out heavy training, let alone improve the physical level and master combat skills. The strength level of an athlete determines the quality of his skills. Therefore, physical strength training is the basic principle of the athlete's physical training, and it must run through the entire training cycle.

3.3 Speed Training is the Core Principle

For basketball players' physical training, there are many methods, but no matter which method, speed training must be the core content. Only by increasing the speed can the offensive, defensive and scoring goals on the field be accomplished. Correctly recognize that the most important content of improving physical fitness is to improve the speed of athletes. In the physical training of basketball, each training should be aimed at improving speed, specializing in speed improvement, and speed training as the core content of physical training to make arrangements.

3.4 Planning and Systematic Principles

In modern sports training, the planned and systematic training for many years is brought to a highly valued position. Generally, training will take one year as a cycle, and then the training tasks and content of each stage will be reasonably planned during this cycle. The physical training should be strictly performed in accordance

with the planned training system model, so that a good training effect can be finally achieved and the athlete's physical level can be improved.^[2]

3.5 The Principle of Unity of Training Volume and Intensity

When doing physical training, you should also pay attention to the uniformity of training volume and training intensity. In the traditional basketball training in the past, the training intensity and the training volume were always confronted. If the training volume is increased, the training intensity will be reduced; if the training intensity is increased, the training volume will be reduced. However, long-term practice shows that this training method has not significantly improved the athlete's physical level. Therefore, the modern new type of physical training should unify the training intensity and the training volume, and increase the training volume while strengthening the intensity, so that there will be obvious training effects.

4. Methods of Physical Training in Basketball

4.1 Physical Training on the Court

In addition to basic physical training, basketball players also need to practice physical fitness on the court. The specific physical training methods on the court are: (1) Five half court method: the athletes run at the fastest speed for the length of five and a half basketball courts; After each run, the rest time of the athletes is 2-2.5 times the running time. This running time plus the rest time is the time to complete a training session. (2) Quick round trip method: At the beginning, the athlete is at the bottom line, then runs to the nearest free throw line, then runs back to the bottom line, then runs to the center line, then returns to the bottom line, and then runs from the bottom line to the opposite free throw line, and then again return to the bottom line, and then run to the opposite bottom line and return. After running, the rest time is 2-2.5 times the running time. (3) Movement of corners and jump shots of free throws. After completing a jump shot in a free throw circle, the athlete quickly run to one of the four corners of the field, and then run to another free throw circle to make a jump shot. The athlete has to run to different corners and then make a return jump shot. This training can use a fixed period of time as the unit of measurement, or the number of throws as the training rule.

4.2 Isodynamic Training

Jumping training is a very good waiting movement exercise, which can exercise the athlete's ability to take off vertically. Specific methods are as follows: (1) Box jumping method: The athlete gently jumps to the box, as high as possible when jumping, and then falls gently, repeating the jump ten times as a set of training. (2) Twice consecutive jump practice method: At the beginning, the athlete stands on a short box, and then jumps off from the box. As soon as you land, you must jump to

another tall box as quickly as possible. Then the athlete jumps from the high box and returns to the starting point. A set of training also repeats the above process ten times. (3) One-leg jump exercise: the athlete jumps on the small box with one foot and stabilizes for one to two seconds, then jumps off the box with the same leg, and stabilizes one or two sides on the ground, repeating ten times, and changing one leg to the other after practicing.

4.3 Bounce Training

For basketball players, jumping ability is also one of the very important skills. The coach should arrange a reasonable training plan when training the jumping ability. Athletes should not be anxious when doing bounce training, so that the body can get a certain recovery time, and it should be carried out in strict accordance with the requirements of the regulations.

4.4 Endurance Training

The schedule of basketball games is often relatively long, so this puts a strong test on the endurance of athletes. In daily physical training, long-distance running can be used to train athletes' physical endurance. Long-distance running can reduce the athlete's heart rate and increase the heart's stroke volume per stroke. At the same time, it can also enhance the muscle's response and tolerance, and help remote mobilization to accelerate the metabolism of lactic acid in the body, thereby providing self-recovery ability.^[3]

4.5 Flexibility Training

In the physical training of basketball, flexibility should also be taken seriously. Flexibility training is mainly to strengthen the adjustment ability of the movement axis and the movement ability of the joints. Flexibility determines the athlete's explosive power and range of action. It can usually be improved by physical stretching training.

5. Conclusion

Physical fitness training has occupied an absolutely important position in modern sports training. When coaches perform physical fitness training for athletes, they should pay attention to the reasonable arrangement of training time, and carefully summarize in practice, pay attention to details, and adjust in time. Athletes can improve their physical functions before they can successfully carry out other training and can adapt to the high-load competition faster. Only by scientifically, systematically and intensively the physical training of basketball, can the effectiveness of physical training be brought into full play. This allows basketball players to adapt to the high-intensity and high-load fierce competition environment

in a real game, and give full play to their advantages steadily and finally win.

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