

Requirements of Physical Coordination for Basketball

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Abstract: This work mainly focused on requirements of physical coordination for basketball, with an exploration of road for Chinese basketball development. Started with factors of physical coordination of basketball players, key elements and basic requirements of training were analyzed to enhance players' physical coordination. In conclusion, more excellent physical coordination is required for short-time physical adjustment and reaction in basketball. The innovation lies in Factor Analysis Approach (FAA) for physical coordination function, with analysis on physical coordination requirements for basketball from perspective of multi-factor.

1 INTRODUCTION

Basketball is a fierce sport with confrontation and intense rapid exercise, demanding better physical performance. As a combination of mentality and muscle, basketball needs stricter requirements on strategic awareness of basketball team, comprehensive physical coordination of players, etc. Basketball requires more outstanding physical coordination of players— physical flexibility and controlling scope on the pitch. Moreover, damage and fatigue on players decrease with enhancement of physical coordination.

Basketball clubs in China have recognized enhancement of players' physical coordination. However, specific training operation and requirements are rarely valued in these clubs. Thus, physical coordination of basketball players cannot obtain actual improvement in daily training.

2 OVERVIEW OF PHYSICAL COORDINATION FUNCTION OF BASKETBALL PLAYERS

Coordination function is a comprehensive and basic exercise accomplishment in human body. Good exercise coordination function contributes to more accurate and faster master of basketball-related skills. Many researches on exercise organism science have verified the importance of athletic skills and tactical applications of basketball players. Increasingly fierce competition of modern basketball

calls for more powerful competitive strengths of basketball players.

However, current basketball training on physical coordination is still relatively weak. Past training of basketball players focuses on strengthening athletic tactical. Some value statistical data of past games as guidance. Such training methods are not very reasonable. With the development of exercise physiology and sports health, training on players' bodies can achieve great enhancement, especially development of comprehensive potency of players.

2.1 Connotation of Physical Coordination Function

Physical coordination refers to coordination and cooperation to environment when human is in plight, thus completing technical actions in the environment. Application of basic basketball skills reflects comprehensive coordination ability of players. Long-term basketball training injects reflection condition into the body, which will be revealed in the game. With excellent physical coordination, basketball player shows superior skills by using his body reasonably. Since comprehensive exercise skills exist in cerebral cortex, player with better physical coordination can call and then apply basketball-related skills more quickly. Basketball skills rely on space and time of actions, especially action rhythm. Player with excellent physical coordination can well control rhythm for better performance in basketball games. Thus, real basketball superior should possess good physical

coordination function, more than basketball talent and hand feeling.

2.2 Physical Coordination Function for Different Position on Pitch

For striker, physical coordinating function is of great significance. Offensive and defensive confrontation has come to a higher level in current international basketball. Basketball competitions tend to be fiercer with gradually diversified forms. Striker should be more strengthened on integrated and coordinated function. Only with excellent physical coordination, striker can successfully get rid double team, move to catch ball and break through line of defense as fast as he can. These actions require full play of striker's physical coordination, which is also an important basis for competitive process.

Shouldered with rebounds, center is a key position in basketball team for rebounds determine win or failure in a large extent. Center should control rebounds with good position. It requires comprehensive cooperation of well moving speed, box out ability and basketball skills. Thus, armed with good physical coordination, center can fight for a positive position in competitive resistance, contributing more to team in games.

Guard still requires flexible physical coordination function for he plays a critical tactical role in basketball team. Usually, once guard put forward the ball on front court, defender will occur with quickly close follow-up. Therefore, for better control of basketball and fluent actions, guard should own more sophisticated in-game adjustments and balanced physical function. Above all, guard also requires superior physical coordination function.

3 IMPACT FACTORS OF PHYSICAL COORDINATION OF BASKETBALL PLAYERS

Congenital factor should be firstly concerned. Not all human beings are able to coordinate their own bodies for more complex coherent actions. Such can be completed by only a few people, including basketball players. They can coordinate various functions in campaign with assistance of congenital central nervous system. Level of coordination function, in fact, is largely related to congenital genetic factor. And level of coordination development also varies among players. Therefore,

in view of congenital differences, basketball should receive individualized training.

Proficiency of basketball skills also has influence on physical coordination of basketball player. Opportunities for score and pass are transient on basketball court. Players often react to situation timely with heavy dependence on conditioned reflex in most conditions. They should combine basketball skills with their own actions in long-term training. Thus, basketball players can make technical reactions with fastest judgment in various tensions. Such comprehensive training also promotes physical coordination of basketball players.

Physical coordination of basketball player is also affected by development of basis qualities, which contains burst strength, physical flexibility, movement speed, jumping ability and so on. These basis qualities of basketball players have intimate relation with relaxation and contraction ability of muscle. Flexibility, strength, rhythm and physical coordination are all established on basis qualities, during accomplishment of basketball skills. Therefore, basis qualities should be strengthened to improve overall physical coordination of basketball players.

4 TRAINING ELEMENTS AND BASIC REQUIREMENTS OF PHYSICAL COORDINATION FUNCTION

4.1 Training Elements of Physical Coordination Function

Physical coordination can be developed on foundation of basis qualities, and be improved in different training ways. For example, as an important element of physical coordination, physical flexibility training includes equipment physical training, unarmed physical training, etc. Through comprehensive physical training, different sizes of muscle groups can achieve coordination in exercise. Furthermore, feeling of limb orientation can also be enhanced. Sensitivity of individual muscles can be increased, forming shortest judgment to relax or tighten muscles. Thus, exercise coordination reflection can be developed.

Training continuity is another important factor affecting coordination function of players. Due potency of human physical coordination can be inspired with an earlier period of training. In other words, physical coordination should be consciously

developed from childhood. Actually, accomplishment of various actions is affected by combination of various organs of body. Different actions and muscle groups subjects to human neurological function. Childhood is an important period for gradual development and improvement of nervous system. Since bones and physical endocrine system has not been completed, some training is beneficial for forming better physical coordination function.

4.2 Basic Training Requirements of Physical Coordination Function

Physical core stability should be firstly trained for basketball players. Core stability is a controlling ability of human trunk in the process of intense exercise. Divided with pelvis, main trunk can be distinguished of up torso and down torso. The trunk can exercise with pivot of muscles of pelvis and trunk. Therefore, comprehensive coordination of basketball players is closely related to core stability. Basketball player should strengthen physical stability, endowing power transmission and controlling with more regularity. To training content, static muscle groups should be more concerned. Some muscles are in a stationary tension situation when player is ready to shoot basketball. Furthermore, it is a multi-dimensional action more than one dimension. Therefore, power formation and posture balance should be valued in physical coordination training of basketball players.

A variety of patterns can be used in training, such as turn-back running and vertical push-up. The major requirements of training are to enhance basketball players' attention on basketball court, and to form relaxed body. Thus, they can adapt to different competitive occasions, particularly sudden changes in direction and speed. In a wide range of trainings, turn-in-air exercise is one of important requirements. Because of certain gap between human physical height and basketball stands, player has to jump highly and turn his body for dunk. However, turn-in-air is most likely cause losing balance for basketball player. Thus, it should be strengthened in usual training, so as to meet actual requirements of basketball games.

5 CONCLUSIONS

Modern basketball games require higher comprehensive athletic performance of basketball players, especially reaction speed and

comprehensive coordination function. Therefore, basketball players should consolidate physical qualities in usual time, and receive effective training on coordination function. Training of basketball players and construction of basketball team in China, are behind of European and American teams not only in tactics. Gap of players' comprehensive qualities is still worrisome. It is caused by congenital factors, as well as acquired training with certain misunderstanding. In particular, Chinese basketball players have weak links in body stability and balance coordination. Thus, they are hard to perform well and show their advantaged skills in competitive basketball games. In conclusion, physical coordination function of Chinese basketball players should be developed, together with emphasis on expand of usual training. Thus, Chinese basketball can really obtain development, fully stimulating real strength of Chinese basketball players.

REFERENCES

- Zhang Fan, Qin Guohui. Analysis on basketball break through skills (Journal of Xinxiang University (Natural Science Edition), China, 2012).
- Meng Jie. Current situation and development of Chinese men's basketball from view of London Olympic Games (Journal of Xinxiang University (Natural Science Edition), China, 2013).
- Huang Jizhen, Zhao Siqing. Essence of core strength training and practice of competitive sports in China (Journal of Physical Education), China, 2010).