

Biomechanical principles in badminton

Gladchenko O. R.,
Serik A. E.

Human psychophysiology forms mutually agreed unity where targeted development of one of the components can ensure the development of the other. Mass character and attractiveness of physical culture and sports as leisure components make urgent the task to develop intellectual abilities.

The results of scientific research show that the support of the processes of development of movements with the help of the reflection allows to complement kinematic process of human development with the improvement of his intellectual capabilities and memory function.

Badminton is a kind of university for human body movement , the learning tool of diverse motor skills . The higher the level of these skills and the richer their stock is, the more successful a person copes with unfamiliar motor tasks. The high culture of motor skills can quickly bring the desired traffic to automatism and thereby liberate the mind for other tasks . In modern conditions, a growing number of professions requires subtle muscular sense of the hand , barely perceptible movement of the fingers , on the basis of which the quality of motor activity improves.

Perhaps no other sport does not have such a rich palette of the hand, micro-movements of fingers, like badminton. It should be noted that the small finger movements is a fairly complex activity that requires much greater coordination of the nervous system than the simple powerful movements of the hand. The hand of a badminton player is compared with the hand of a top violinist for the sophistication of small movements of fingers. It is known that the development of fine motor of a hand is positively correlated with the development of intellectual mnemonic functions of a human brain.

It is very essential to understand the basic biomechanical principles in badminton.

Badminton involves sharp eyesight, quick analysis of opponent's shot, preparing your stance, adjusting your hand, changing the face of your racket to the incoming shuttle and generating force as well when you plan to smash it. All of these movements involve understanding of basic biomechanical principles without which there is every chance of sustaining a badminton injury by slipping, falling or overuse.

You must have some idea of the "center of gravity" to understand the main biomechanical principles of badminton. The centre of gravity is a point in the body, which is important in balancing the entire body. At that

point, your body will be in perfect balance without any need to change posture or rotate to keep it in balance.

The center of gravity is approximately located in the terminal portion of the spinal cord called the sacrum; especially in its upper one-third portion. The center of gravity in a female is at a comparatively lower level than a male because they tend to have wider pelvis with more fat deposit around their buttocks and thighs.

Almost every movement should be "smart" both during competition and training if you want your badminton play be successful. There is a saying in badminton: "Play first with your head, then with your legs and only then with your hand ." Operational thinking manifests itself in solving complex unpredictable game situations that requires rapid calculation of various variants of motor actions . The opportunities of a badminton player to make and implement creative solutions as soon as possible determine his creativity and sociability that is primarily manifested in the doubles and mixed doubles matches. Badminton players must exhibit a high intensity of concentration in the extreme situations. In addition , it is believed that the movement of the hand at a contact with the racket handle activates the cerebral cortex activity . All mentioned above determines the significant intellectual potential of badminton.

Thus, it can be stated that badminton is a means of effective development of human intellect. The modern young people tend to more "intelligent" kinds of sports, which harmoniously combine physical and mental perfection. Playing badminton requires special physical and psychological qualities: physical endurance, agility and coordination, operational and analytical thinking, creativity, persistence of attention, quick reaction rate and high level of health.

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