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Actual problems of modern athletic preparation

THE FEATURES OF BASKETBALL MOVEMENTS AND THEIR IMPACT ON BEGINNER BASKETBALL PLAYERS' FOOT

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Introduction. Athletes' high performance is the result of a multi-year training routine since its achievements are closely related to increasing physical activity at all stages of multi-year preparation.

The development and improvement of the youth sport system provide a nation's health preservation and are the most essential reserves of high performance sport.

During preparation, selection and specialisation of the reserves the Youth Sports School is replenished with promising youngsters [4]. However, the modern sport often demands more physical activity at the preparatory stage of a multi-year training routine decreasing the age qualification for athletes. Thus, nowadays basketball clubs can enlist children at the age of four or six. It is known that during the sensitive body development, bone and muscle mass development children are vulnerable to destructive exogenous impacts. Therefore, physical activity, which is no longer optimal, will lead to further injuries.

The most common basketball players' health problems are musculoskeletal traumas and injuries, the foot arch dysfunctions and flatfoot [1,4]. The lack of prevention aimed at decreasing traumatism among youngsters could have negative lifelong outcomes.

The objective was to study the features of basketball movements and their impact on beginner basketball players' foot.

The methods of the research: analysis, generalisation of scientific and methodological reference literature; tensodynamometry and maths statistics methods.

The results of the research. Traumatism, which has been of most importance to scientists, is an ongoing critical problem in the modern sport. For instance, game sports are leaders among a great number of injuries [3,4]. They are clearly explained by players' positions on the court. Thus, basketball is characterised by abrupt changes in direction during a run, sudden stops, jumps and landings that increase an athlete's foot tension.

To define the quantitative parameters of young basketball players' foot arch locomotion, twenty-nine 8-/9-year-old athletes were selected and divided into two groups. The first group included young basketball players who did not have the foot arch locomotion dysfunctions, the other one included beginner athletes whose foot arch was 27mm lower, which corresponded to the average level for boys of that age. The evaluation of the biomechanical parameters of the foot contacting a basketball court was carried out by means of tensodynamometry on the tensoplatform Kisler [2]. With the previous research involving the experts and showing that the highest force influences the basketball player's foot arch during jumps and stops, much of attention was drawn to the parameters analysis. The following biomechanical parameters included the maximum jump and landing foot force, the foot force impulse, the foot force gradient, the amortisation phase duration, the active jump duration and the jump height.

Young basketball players performed four exercises: upward two-leg jumps, upward-forward one-leg spring jumps, sudden stops by steps and sudden stops by jumps.

It is obtained that the beginner basketball players with the foot arch locomotion dysfunctions have their average parameters of the maximum jump and landing foot force at the level of 896.81 H and 2106.67 H respectively, whereas the young basketball players with the right foot arch have their maximum jump foot force at the level of 971.25 H and landing foot force — at 2026.92 H. In addition, the jump height of the players with the right foot arch exceeds the parameters of the young players with the foot arch locomotion dysfunctions by 12.5%.

During the upward-forward one-leg spring jumps young athletes with the right foot arch appear to perform the jumps 25% higher and 18% longer, having their maximum foot force in both horizontal and vertical directions 1.05 time higher than the one of the athletes with the foot arch locomotion dysfunctions.

It is established that young athletes with the right foot arch performing sudden stops by steps and jumps have their maximum foot force in both horizontal and vertical directions 1.05 and 1.23 times higher than the one of the athletes with the foot locomotion dysfunctions.

Summary. Young basketball players' foot arch tension is high and tends to grow at further stages of a multi-year training routine.

The foot arch locomotion dysfunctions have a negative impact on young basketball players' techniques.

The obtained results indicate that a set of exercises aimed at strengthening the foot arch should be added to young basketball players' training routines.

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SPORTS PSYCHOLOGY IN THEORY AND PRACTICE

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Introduction. A comparison between different world-class athletes shows considerable differences in physical dimensions, between sports but also within the same sport. Psychomotor functions like coordination, flexibility and timing show many more similarities. The same is true with mental equipment. A good athlete will have more mental toughness and emotional stability than his more mediocre colleague. The insight that sport is much more than muscle strength, conditioning and technical skill is an old one. Today most coaches and athletes understand psychological traits and abilities play a significant role, especially in competitive sports. However, this insight is often combined with a passive view about mental skills. “Some athletes have what it takes, others have not”. Some athletes are regarded as ‘Björn Borgs types’ with success waiting around the corner, others have the same physical talent, but lack of the right mental equipment will be the decisive factor. This view represents a very pessimistic approach to human nature, looking at individuals as growth perspective and the language of learning and development. It starts with a question: “Into what type of person should I develop in order to use my resources and reach my goals?” This view looks at the borders and limitations in the light of ‘self-fulfilling prophecies’ and at mastery and self-control from the point of ‘alternative systems of control’. It emphasizes individual responsibilities as well as personal possibilities.

Purpose of research. This research is designed to provide with fundamental knowledge to psychological theories and techniques that could be used to enhance the performance and personal growth of athletes from youth sport to elite levels. The focus of this research is on theory, research and practices in sport and exercise psychology. The teams with this abstract will be introduced to the role of applied sport psychologist, the development and evaluation of basic mental skill training, and theories underpinning each mental skill. Both theoretical and practical dimensions of this article are based on research evidence. In addition, the development and evaluation of basic psychological skills training programmes will be introduced as it will help teams to increase their results.

Research methods The analysis of 152 soccer games showed, among other things, a very clear grouping of scoring. The probability for a goal within 5 minutes of another was significantly higher - for both teams. This change in quality of play after scoring may be attributed to:

a) Emotional reactions (positive or negative), which seem to disturb the flow and rhythm of the play.

b) Change in internal goal-programming due to the increased probability of winning or losing.

The effect of posthypnotic variations of task-difficulty, self-confidence, muscular tension and mental tension (calm, worried) was studied on maximal isometric strength, measured by left and right knee extension and elbow flexion. Compared with the base level (‘normal maximum’) there was a decrease of performance in six of the eight conditions.

The two conditions with increased strength were

a) optimal attitude towards the task (task-difficulty)

b) optimal attitude towards themselves (self-confidence).

Alternative Systems of Control (ASC-2). Most of the problems, inside and outside, sports, arise when the dominant system of control, ‘voluntary effort’, is non-effective or contraindicated. Trying to go to sleep, to concentrate, to relax or to master emotions often creates the opposite results with feelings helplessness as a result. The same is true for physical performance. A high of voluntary effort will activate the antagonistic of relaxing the antagonistic muscle. Thus, one of the main purposes with mental training is to introduce and train alternative systems of control like trigger-control or control by images. However, in order to become effective, the systems require an alternative. Alternative Systems of Cognition (ASC-3) - Alternative states of consciousness contain more of primary processes and another way of processing information. When I have ‘frozen’ top athletes in the middle of a movement and asked