ANALYSIS OF THE TAKE-OFF PHASE OF REVERSE DIVES FROM 3-M SPRINGBOARD: APPLICATION IN PRACTICAL TRAINING

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In recent years, the understanding of biomechanical factors contributing to the performance in springboard diving has increased. Besides the exact demonstration of the dive itself, which will be judged in the first place, the height of the flight is likewise known to be important for the final scoring procedure.

Requirements for a successful and exact dive are set during the take-off phase. From different investigations some influence factors in reverse dives are known, such as vertical/horizontal velocity of the divers C.G., angle relative to C.G. at take-off, rotational velocity of the arms, rotational velocity of the trunk,...

Members of the West German diving team were videotaped in training and competition. An Arial Performance Analysis System (APAS) was used to digitize the pictures and process the data. Together with athletes and coaches, resulting biomechanical parameters were discussed, strategies for following technical training were developed.

In professional coaching there is the problem of having "data on hand". Since new devices for analysis are available, which meet the demands of practice, the purpose of this paper is to give report of this application and the effect on the technical training.

BIOMECHANICAL DEVELOPMENT OF THE STEPPING EXERCISE MACHINE FOR TRAINING

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Today, the most popular training machine for cardiovascular development is the stepping machine, relatively new device for aerobic or anaerobic exercise. The purpose of this paper is to follow the development of the stepping machine from a biomechanical and physiological point of view. This paper discussed the research conducted in the development of the machine, the nature of training possible with the machine and the potential of the stepping machine for training purposes in sports events and for rehabilitation. The discussion looks at mechanical and physiological work comparisons and covers the question of local or general training effects.

THE EFFECT OF LOADING AND UNLOADING ON SELECTED INDOOR AND OUTDOOR PLAYING SURFACES

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The purpose of this study is to investigate the differences among selected indoor and outdoor playing surfaces concerned with shock absorption capacity, deformation, modulus of elasticity, compliance, and energy loss. Also, the homogeneity of each tested playing surface, at four locations, was investigated. Instron Testing