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NEW APPROACHES IN HUMAN MOVEMENT ANALYSIS – ENHANCING DATA GENERATION, STANDARDISATION, ACQUISITION AND ANALYSIS SYSTEMS APPLYED IN SPORT

BY

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Abstract. At the present time, different methods in approaching and evaluation of movement are presented in the literature, but the choices are unilateral, without a common approach based on interdisciplinary researches which would help in obtaining of better and quicker results. For this reason, the present paper intends to present a new and complex system of acquisition and analysis of motion data with direct applications in sport and rehabilitation. The research focus on determination of mechanical stress in the shoulder for the strike attack in volleyball, aiming to determinate the determinant-facilitating factors involved in overuse trauma mechanism, to elaborate and implement a prophylactic programme included in the training session, finally leading to prevention of rotator cuff tendinitis and impingement syndrome in volleyball. Improvement of the investigated parameters show the practical efficiency of the proposed programme leading to improvement of muscular and joint imbalance.

Key words: prophylaxis, trauma risk, overuse, shoulder joint.