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PRINT: ISSN 0972-0073 ONLINE: ISSN 2456-6802

Anthropologist, 13(3): 211-216 (2011)

DOI: 10.31901/24566802.2011/13.03.06

Kinematic Analysis of Arm Movements in 3000m Running: Before and After a Conditioning Programme

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KEYWORDS High Speed-Movie Camera. Running Economy. Performance Time

ABSTRACT The present study was conducted on 50 adult males aged between 18-24 years to see the effect of a 90 days conditioning programme on their shoulder swing time during different laps of 3000 meter running and on performance time of 3000m run. A video film in the sagittal plane of right side of the body of the subject while performing 3000m run distance was recorded with a sophisticated video movie camera (in built time device) operating at 60 frames per second. It was observed that the right and left shoulder swing time, ratio of right and left shoulder swing time during different laps of 3000m running are statistically significantly improved ($p < 0.05$) and the performance time of 3000m run also significantly decreased. No significant F- statistic was given by the order of variables entered in multiple regression analysis during pre test, post test-1 and post test-2, but the left shoulder swing time in the 15th lap of 3000m run indicate its importance in performance time of 3000 m run. It is concluded that the conditioning programme has caused a process of self-optimization of biomechanical aspects of running style to develop such a movement patterns which act as a fine tuning device to improve 3000m running time.