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2-Dimensional Kinematic Analysis on Sprint Start with Sprinting Performance of Novice Athletes

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Abstract : The purpose of the study was to assess the effect of 2D kinematical selected variables on sprint start with sprinting performance of novice athletes. Six (3 National and 3 State level) athletes of sports authority of India, Guwahati has been selected for this study. The mean (M) and standard deviation (SD) of sprinters were age (17.44, 1.55), height (1.74m, .84m), weight (62.25 kg, 4.55), arm length (65.00 cm, 3.72) and leg length (96.35 cm, 2.71). Biokin-2D motion analysis system V4.5 can be used for acquiring two-dimensional kinematical data/variables on sprint start with Sprinting Performance. For the purpose of kinematic analysis a standard motion driven camera which frequency of the camera was 60 frame/ second i.e. handy camera of Sony Company were used. The sequence of photographic was taken under controlled condition. The distance of the camera from the athletes was 12 mts away and was fixed at 1.2-meter height. The result was found that National and State level athletes significant difference in there, trajectory knee, trajectory ankle, displacement knee, displacement ankle, linear velocity knee, linear velocity ankle, and linear acceleration ankle whereas insignificant difference was found between National and State level athletes in their linear acceleration knee joint on sprint start with sprinting performance. For all the Statistical test the level of significance was set at $p<0.05$.

Keywords : 2D kinematic analysis, sprinting performance, novice athletes, sprint start
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