Análisis del rendimiento en competición entre corredores de 100 metros lisos de diferente nivel [

Ramón Cantó Alcaraz,
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text (article)

Analítica

In the literature there are studies that compare the technique and performance of athletes of very different level, but these studies are not relevant for elite athletes. The well-trained athlete with good records who do not win competitions, must know what needs to achieve to improve their record with respect to the champion. The purpose of this study was to conduct an analysis of well-trained athletes, finalists in the 100 metres of the national championship in order to obtain biomechanical criteria to compare faster athletes with slower athletes and thus determine in which section causes of disadvantage. Were analyzed 14 men, 100 m finalists in two Spanish championships. Using two-dimensional photogrammetric technique carried out a kinematic analysis on sections of ten meters along the race 100 m. The results indicated that the time spent in sections 0-10 m and 20-30 m, in the acceleration phase, was higher in slower athletes (2.04 vs. 1.93 s, P = 0.003, and 1.01 vs. 0.98 s, P = 0.031, respectively). Similarly, slower athletes spent more time to travel the 80-90 m section of the deceleration phase (0.97 vs. 0.92 s, P = 0.014). The maximum speeds were reached between 40-50 m and 50-60 m sections but no significant differences were found between athletes. These results support the hypothesis that to win in a 100 m, the acceleration should be increased in the first 10 meters of the race since the slower athletes run only 44.6% of their maximum speed, while the faster athletes do 47% of their maximum speed. In the section of 80-90 m slower athletes lost 5.6% of its maximum speed, while the fastest athletes lose only 2%. These data will make individual adjustments in training to improve the handicaps that occur in competition
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