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BIOMECHANICAL ANALYSIS OF THE 10KM-RUN IN A TRIATHLON WORLD CUP EVENT: DIFFERENCES PRESENTED BY WOMEN GOLD MEDAL

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Abstract

In most of the triathlon races, the 10km-run is critical to win and, just a few seconds, may separate the gold and the silver medal. To our best knowledge, no study has analyzed the biomechanical differences among the first qualified triathletes during a top-level competition. The aims of the present study were: (1) to examine the different responses to the previous cycling between

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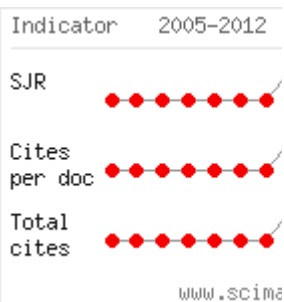
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the gold medal and the other participants, and (2) to compare the biomechanical profiles during the 10km-run presented by the top-ranked triathletes. 16 women, participants at Madrid 2008 Triathlon World Cup, were analyzed. The first qualified triathlete (gold medal) showed significant differences ($p < 0.05$) with the other participants in many of the analyzed variables. A higher stride length, a smaller stride frequency, a higher and more consistent horizontal distance hip- toe cap and a more extended knee angle of the support-leg at toe-off could explain the differences in 10km-run time between gold medal and the other participants.

Key words: triathlon; cycle-run transition; competition; kinematics

doi: 10.4100/jhse.2010.51.05

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J. Hum. Sport Exerc. ISSN 1988-5202. doi:10.4100/jhse. Faculty of Education. University of Alicante. C/ San Vicente del Raspeig s/n - 03690 San Vicente del Raspeig - Alicante - Spain jhse@ua.es