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Volume 21, 2004

Volume 20, 2003

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Newsletter

Authors Pathway

Information for Authors





Journal Abstract

Effect of soccer training on the running speed and the blood lactate concentration at the lactate minimum test ASR Silva, AL Bonette, V Santhiago, CA Gobatto

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Tegtbur et al. [23] devised a new method able to estimate the intensity at maximal lactate steady state termed "lactate minimum test. According to Billat et al. [7], no studies have yet been published on the affect of training on highest blood lactate concentration that can be maintained over time without continual blood lactate accumulation. Therefore, the aim of the present study was to verify the effect of soccer training on the running speed and the blood lactate concentration (BLC) at the lactate minimum test (Lacmin). Thirteen Brazilian male professional soccer players, all members of the same team playing at National level, volunteered for this study. Measurements were carried out before (pre) and after (post) eight weeks of soccer training. The Lacmin test was adapted to the procedures reported by Tegtbur et al. [23]. The running speed at the Lacmin test was taken when the gradient of the line was zero. Differences in running speed and blood lactate concentration at the Lacmin test before (pre) and after (post) the training program were evaluated by Student's paired t-test. The training program increased the running speed at the Lacmin test (14.94±0.21 vs. 15.44±0.42* km•h-1) and the blood lactate concentration (5.11±2.31 vs. 6.93±1.33* mmol*L-1). The enhance in the blood lactate concentration may be explained by an increase in the lactate/H+ transport capacity of human skeletal muscle verified by other authors.

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