

Lactate tolerance training in football increases performance

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Abstract

Background. The football game is a mixed sport in terms of the energy systems' contribution to supporting exercise. Medium lactacidemia specific to football game varies between 8 and 12 mmol/l. A value of the blood lactate concentration above 6 mmol/l influences the exercise capacity.

Aims. This research wishes to argue in favor of the lactate tolerance training resulting in increased anaerobic exercise capacity.

Methods. The experiments lasted 8 weeks and have been performed with the participation of a number of 22 junior football players between the ages of 17 and 18. The 22 subjects were divided equally into two groups, the experiment group and the control group. The subjects of both groups were examined during an initial and a final test, both structured in a way that would simulate a football game specific effort, meaning a high-intensity exercise alternated with active recovery breaks. The experiment consisted of 8 weekly cycles, the first and last being dedicated to the initial and final test respectively, meanwhile cycles 2 to 7 consisted of actual exercise (5 trainings + 1 game). The training of both groups developed simultaneously and was identical, except for Tuesday, when the subjects of the experiment group performed a 30-40 minute set of lactic-anaerobic exercises.

Results. The analysis and interpretation of the results revealed a spectacular increase in performance for the subjects of the experiment group, who performed lactic-anaerobic exercises, amid a lactacidemia with no significant differences between the subjects of the two groups.

Conclusions. Lactate tolerance training enhanced performance and the capacity to tolerate increased blood lactate levels. A player who tolerates increased blood lactate levels performs better.

Keywords: blood lactate, lactate tolerance training, exercise capacity, football game.