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Journal Abstract

Physiological and biochemical responses to graded exercise in youths with diplegic cerebral palsy

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The aim of the study was to assess the physiological and biochemical responses to graded leg cycle ergometer exercise performed, until exhaustion, by boys aged about 16 years with diplegic cerebral palsy, as compared with their healthy mates. The following variables were recorded: exercise duration, work output, relative pulmonary ventilation (VE) and oxygen uptake (VO2), carbon dioxide elimination (VCO2), ventilatory equivalent (VE . VO2-1), oxygen pulse (VO2 .HR-1), heart rate (HR), lactate concentration (La) and base excess (BA). Aerobic capacity was determined from relative VO2max, which in spastic boys amounted to 45.0 ml•min-1•kg-1 at maximum load equal to 2.11 W•kg-1, and mean HRmax amounted to 180±7 bpm. Maximum load applied to boys from control group amounted to 3.23 W•kg-1, which required VO2 equal to 46.2 ml•min-1•kg-1 at HR equal to 199±6 bpm.

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