

Growth hormone responses to repeated bouts of aerobic exercise with different recovery intervals in cyclists

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To characterise the specific GH responses to repeated bouts of standardised aerobic exercise in amateur competitive cyclists, 6 volunteers (mean age \pm SE: 28.7 \pm 2.3 yr, range: 18-35 yr) performed two consecutive 30-min cycling sessions at 80% of individual maximal oxygen uptake on three occasions with different time interval between bouts: 2 h (EXP A), 4 h (EXP B) and 6 h (EXP C). Serum GH concentration was determined in blood samples collected at 15-min intervals during exercise and following 1 h of recovery. In EXP A and EXP B, peak GH concentration in response to the second bout was significantly lower ($p<0.01$) than that of the first bout, but in EXP C no difference was detected between bouts.

Similarly, the average integrated GH concentration (AUC), determined during the exercise period and in the following 1 h of recovery in the course of the second bout, was significantly lower than that observed during the first bout only in EXP A ($p<0.05$) and EXP B ($p<0.01$) and not in EXP C, so that the second bout AUC of EXP C was significantly higher than that of EXP A ($p<0.01$) and EXP B ($p<0.01$). It was concluded that GH responses to subsequent bouts of aerobic exercise are dependent on the time interval between the exercise sessions.

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