

The Acute Hormonal Response to the Kettlebell Swing Exercise

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Abstract

The purpose of this investigation was to examine the acute hormonal response to the kettlebell swing exercise. Ten recreationally resistance trained men (age, 24 ± 4 years; height, 175 ± 6 cm; body mass, 78.7 ± 9.9 kg) performed 12 rounds of 30 seconds of 16 kg kettlebell swings alternated with 30 seconds of rest. Blood samples were collected before (PRE), immediately after (IP), and 15 (P15) and 30 minutes after exercise (P30) and analyzed for testosterone (T), immunoreactive growth hormone, cortisol (C), and lactate concentrations. Heart rate and rating of perceived exertion were measured at the end of each round. Testosterone was significantly higher ($p \leq 0.05$) at IP than at PRE, P15, or P30 (PRE: 28 ± 3 ; IP: 32 ± 4 ; P15: 29 ± 3 ; P30: 27 ± 3 nmol·L⁻¹). Growth hormone was higher at IP, P15, and P30 than at PRE (PRE: 0.1 ± 0.1 ; IP: 1.8 ± 1.2 ; P15: 2.1 ± 1.1 ; P30: 1.6 ± 1.3 µg·L⁻¹). Cortisol was higher at IP and P15 than at PRE and P30 (PRE: 617 ± 266 ; IP: 894 ± 354 ; P15: 875 ± 243 ; P30: 645 ± 285 nmol·L⁻¹). Lactate was higher at IP, P15, and P30 than at PRE (PRE: 1.1 ± 0.5 ; IP: 7.0 ± 3.0 ; P15: 4.0 ± 2.7 ; P30: 2.5 ± 1.8 mmol·L⁻¹). Heart rate increased progressively from 57 ± 12 at PRE to 170 ± 10 at IP. The exercise protocol produced an acute increase in hormones involved in muscle adaptations. Thus, the kettlebell swing exercise might provide a good supplement to resistance training programs.