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## O19. Can the summer break affect critical and maximal instantaneous velocity of young swimmers?

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### INTRODUCTION

Young swimmers take a summer break of several weeks and most of them engage in non-oriented swimming sessions over that period. Nevertheless, it still remains unclear if such break affects their energetic profile. The aim of this study was to analyse the changes in critical velocity and maximal instantaneous velocity of young swimmers after a summer break.

### METHODS

Twenty-one young swimmers ( $13.38 \pm 1.02$  yo) undertook several in-water maximal bouts at the end of season #1 (pre-test) and ten weeks later, at the beginning of season #2 (post-test). No specific swim training was conducted during such period. The aerobic critical velocity (AerCV) as a measure of aerobic capacity was computed using the 50m and 400m front-crawl performances (Toubekis and Tokmakidis, 2013). The anaerobic critical velocity (AnCV) as a measure of anaerobic capacity was computed based on three trials (Neiva et al., 2011) selecting the 15m, 20m and 25m performances. The maximal instantaneous velocity (Vmax) as a measure of anaerobic power was retrieved from the 15m bout (Dekerle et al., 2002). Within-subjects mean differences were analysed with Repeated Measures ANOVA ( $p \leq 0.05$ ) and concurrent analysis of standardised effect sizes.

### RESULTS

After the 10 weeks of detraining the AerCV decreased from  $1.21 \pm 0.09$  m/s at pre-test to  $1.15 \pm 0.08$  m/s at post-test ( $\Delta = 4.62\%$ ,  $p < 0.01$ ,  $\eta^2 = 0.10$ , 95CI of the change: 1.92-4.74%). The AnCV remained unchanged being  $1.42 \pm 0.16$  m/s at the end of the season and  $1.41 \pm 0.18$  m/s at the beginning of the following season ( $\Delta = 0.37\%$ ,  $p < 0.77$ ,  $\eta^2 = 0.10$ , 95CI of the change: -2.77-4.05%). The Vmax also decreased from  $1.68 \pm 0.16$  m/s at pre-test to  $1.58 \pm 0.16$  m/s at post-test ( $\Delta = 5.58\%$ ,  $p < 0.01$ ,  $\eta^2 = 0.09$ , 95CI of the change: 4.38-9.12).

### CONCLUSIONS

The results show that a 10-weeks detraining period lead young swimmers to experience an impairment of their aerobic capacity and anaerobic power but not in their anaerobic capacity, maintaining AnCV.

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