

OXYGEN UPTAKE KINETICS IN ATHLETES AND SEDENTARY MEN.

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Abstract

The purpose of this study was to compare the oxygen uptake kinetics in athletes (ATHL) and sedentary (SED) men. We tested 17 males (9 athletes and 8 sedentary, age 26.65 ± 5.04 years old, height 174.91 ± 6.99 cm and weight 70.29 ± 11.08 kg). Both groups were submitted to 2 treadmill tests. In the first one we applied a maximal incremental test to measure maximal oxygen uptake (VO_2 max) and ventilatory anaerobic threshold (VAT) expressed in running speed (RS) (km/h) and in % VO_2 max (AT% VO_2 max). In another day we started measuring the resting VO_2 during 5 min and just after the sudden increase of VO_2 due to the beginning of ATRS run until 8 min long. (VACUMED VISTA CPX metabolic system).

Groups	VO_2 max (ml/kg/min)	ATRS (km/h)	AR% VO_2 max
ATH	63.57 ± 4.28	15.00 ± 1.12	80.07 ± 6.36
SED	$46.58 \pm 6.25^*$	$9.38 \pm 0.92^*$	$71.95 \pm 11.72^*$

* $p < 0.05$ (t test)

The kinetics was analyzed considering as a reference the 6 th. minute running VO_2 average as a steady state VO_2 (SS VO_2). Comparing the each minute measurement as a percent of SS VO_2 (Mann Whitney test) we noted a significant difference only in the third minute ($p = 0.0433$) of the ATRS run test, suggesting a oxygen uptake kinetics slow component faster in athletes than in sedentary men.