Mid Atlantic Regional Chapter
of the
American College of Sports Medicine

Annual Scientific Meeting, November 2nd - 3rd, 2018
Conference Proceedings
International Journal of Exercise Science, Issue 9, Volume 7

Influence of Testing Sequence on an Adult's Ability to Achieve Maximal Aerobic and Anaerobic Power

Luke E. Stong, Luke Haile, Kyle S. Beyer, Jonathan M. Kollars, Cristina M. Alvine, Roslyn R. Pulcini, Joseph L. Andreacci. Bloomsburg University, Bloomsburg, PA

Due to the nature of maximal physical exertion tests, researchers and clinicians schedule maximal oxygen consumption (VO_{2max}) tests and Wingate Anaerobic Tests (WAnT) on separate days to ensure optimal results. **PURPOSE:** To examine how testing sequence affects an adult's ability to achieve maximal aerobic and anaerobic power during a single assessment visit. **METHODS:** Fifty-three adults (31 women, 22 men; 21.9 ± 1.6 years) participated in this investigation. All subjects were tested on three separate occasions. Participants completed two baseline visits (Visits 1 and 2) consisting of either a VO_{2max} or WAnT in a randomized counterbalanced order. Participants then completed an experimental visit (Visit 3) which consisted of both a VO_{2max} and WAnT in randomized order (Group A: VO_{2max}/WAnT; Group B: WAnT/VO_{2max}) with 20 minutes of rest between tests. Mixed model ANOVAs with Bonferroni post hoc analyses compared baseline (Visits 1 or 2) and experimental (Visit 3) exercise test performance between and within groups for both relative VO_{2max} and absolute peak power. **RESULTS:** No significant main or interaction effects were observed for relative VO_{2max} at baseline and experimental visits when comparing Group A (40.9 ± 8.6 ml/kg/min and 41.2 ± 8.2 ml/kg/min, respectively) and Group B (42.9 ± 7.2 ml/kg/min and 42.0 ± 8.0 ml/kg/min, respectively). Similarly, no significant main or interaction effects were observed for absolute peak power at baseline and experimental visits when comparing Group A (681.7 ± 209.0 W and 690.2 ± 197.6 W, respectively) and Group B (747.7 ± 229.4 W and 742.7 ± 221.3 W, respectively). **CONCLUSION:** Our findings indicate that testing sequence had no effect on achievement of maximal aerobic and anaerobic power. Researchers and clinicians can include VO_{2max} testing and a WAnT during the same visit with 20 minutes of rest without compromising maximal performance.