



Thirteenth annual scientific conference “The Female Athlete”

Thursday 15th – Saturday 17th September 2016

Royal College of Surgeons in Ireland, 123 St Stephen's Green Dublin 2

Conference Paper

Profiles of aerobic training heart rate zones in senior male rowers

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Introduction: The use of heart rate zones (HRZ) to add quality to training is now common practice in endurance athletes. HRZ may be determined from heart rate (HR) blood lactate (BLa) relationships in laboratory based fitness tests. The aim of this study was to profile HRZ derived from laboratory based exercise testing in non-elite rowers throughout a winter training phase. **Methods:** 18 senior male rowers performed three incremental ergometer tests to volitional exhaustion in early (GXT1), middle (GXT2) and late (GXT 3) winter training phase. BLa and HR responses were plotted graphically, inputted into excel and using polynomial calculation, individual aerobic HRZ interpolated at BLa <1mM (A1); 1-1.5mM (A2), and 2-3mM (A3) for the purposes of easy active recovery, aerobic conditioning, and lactate threshold training respectively. **Results:** Mean ($\pm$ SD) HRZ for GXT1: <146 $\pm$ 18 (A1), 154 $\pm$ 13 (A2), and 168 $\pm$ 10 (A3); for GXT2: <158 $\pm$ 11 (A1), 162 $\pm$ 11 (A2), and 175 $\pm$ 9 (A3); and for GXT3: <153 $\pm$ 11 (A1), 157 $\pm$ 10 (A2), and 170 $\pm$ 11 (A3). Statistically significant differences were noted in both HRZ A2 and A3 between GXT1 vs. GXT2 and GXT2 vs. GXT3 (ANOVA; $P < 0.05$). There was no statistical difference in HRZ A1 between GXT1 vs. GXT3 and GXT2 vs. GXT3 (ANOVA; $P > 0.05$). **Conclusion:** Aerobic metabolism supplies 75–80% of the energy demands for a 2000-metre rowing race. Training should therefore emphasise aerobic intensities. HR monitoring is a preferred measure of exercise intensity in such sports. Participant's HRZ A2 and A3 differed significantly at GXT1, GXT2, and GXT3 suggesting the need for serial HRZ training prescriptions throughout a season.