



## Thirteenth annual scientific conference “The Female Athlete”

Thursday 15<sup>th</sup> – Saturday 17<sup>th</sup> September 2016

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

### Change in performance markers in senior male rowers through winter preparation phase training

Alice Fallon, **Nick Mahony** Ian Shakespeare, Dr Neil Fleming, Mr Bernard Donne,  
*Human Performance Laboratory, Anatomy Dept., Watts Building Trinity College Dublin, Ireland*

**Introduction:** Frequent assessment of rowing performance markers monitors effects of training and establishes methods of crew selection. This research investigated change in performance markers derived from graded incremental tests (GXT) and ergometer or on-water trials over typical Winter phase training. **Methods:** Senior male rowers (n=18); (M±SD); age = 22.9±3.6 years; height = 1.89±0.05m; body mass = 83.3±6.3kg; body fat = 13±3% performed GXTs at initiation of Winter training establishing power at lactate threshold (PLT) and maximum power achieved (Pmax).. Rowers followed prescribed training for six months. Monthly 5km rate-capped ergometer tests (ET) and on-water time-trials (WT) were suggested to coaches. GXTs were repeated at three monthly intervals. **Results:** Mean (±SEM) PLT and Pmax were 264±0.10W and 375±0.07W for GXT1, 290±0.09W and 382±0.07W for GXT2, and 287±0.13W and 386±0.08W for GXT3, respectively. ET were incomplete by ten rowers (n = 8). WT were incomplete by eleven rowers (n = 7). There was no statistical difference in LM at any stage (P>0.05). PLT improved significantly between GXT1 and GXT2 (F(2, 32) = 7.446, P<0.01). ET improved following early winter phase training (F(7,14) = 11.36; P<0.05). Rowers failed to maintain improvements in PLT or ET. WT deteriorated grossly in February due to environmental conditions (F(6, 24) = 9.208, P< 0.0001). **Discussion:** Early winter training emphasises low-intensity aerobic endurance in keeping with preliminary results indicating improvements in PLT and ET but no change in Pmax. Rowers failed to maintain progressions with later winter training aimed at furthering aerobic conditioning.