



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

The effects of supervised weight training on strength and power in senior male rowers

Ms Alex Horgan, **Dr Nick Mahony**, Mr Ross Hamilton, Dr Neil Fleming, Mr Bernard Donne

¹Human Performance Laboratory, Anatomy Dept., Watts Building Trinity College Dublin, Ireland

Introduction: Rowing although predominantly an aerobic sport, also requires strength and power for sprint elements within 2000m races. This study investigated the effects of supervised weight training on strength and power indices in senior male rowers. **Methods:** Senior male rowers (n=21); collegiate n=12; M±SD; age=21±1yr; height=1.9±0.1m; weight=81.9±5.6kg; body fat= 13.0±2.9% and; Club n=9; age= 26±3yr, height= 1.9±0.1m; weight=86.9±7.4kg; body fat= 15.9±3.0% were tested using clean pull (CP), vertical jump (VJ), power test on a rowing ergometer (CII) and a one repetition maximum back squat (SQ). Rowers then performed a six week resistance training programme; Collegiate supervised by a strength and conditioning coach and club unsupervised. All rowers were then retested and changes in outcome measures were analysed using two-way ANOVA with Bonferroni post-hoc tests and for effect size (EF). **Results:** There was a significant increase in supervised VJ explosive power (M±SEM; 1370±41W to 1413±40W, P<0.05, EF= 0.32); VJ height (60±3cm to 64±3cm, P<0.001, EF=0.14); CII (689±16W to 729±18W, P<0.001, EF=0.04); and SQ (140.0±7.0kg to 164.8±8.0kg, P<0.001, EF=0.9), but no significant change in CP peak power. In the unsupervised group VJ explosive power significantly decreased (P<0.05) and there was no other change in outcome measures (P>0.05). **Conclusion:** The changes in the supervised group highlight the importance of supervised group training of the endurance athlete in weight training sessions. However, although improvements occurred in VJ and SQ, it is not clear, given the low effect size of significant change in CII, whether supervised resistance training would improve rowing performance.