

Citation:

Witty, K and Branney, P and Evans, J and Bullen, K and White, A and Eardley, I (2012) THE IMPACT OF PENILE CANCER TREATMENT ON SEXUAL RELATIONSHIPS: A QUALITATIVE ENQUIRY. In: The World Meeting on Sexual Medicine, 26-30 August, 2012, Chicago, USA.

Link to Leeds Beckett Repository record: https://eprints.leedsbeckett.ac.uk/id/eprint/813/

Document Version: Conference or Workshop Item (Other)

The aim of the Leeds Beckett Repository is to provide open access to our research, as required by funder policies and permitted by publishers and copyright law.

The Leeds Beckett repository holds a wide range of publications, each of which has been checked for copyright and the relevant embargo period has been applied by the Research Services team.

We operate on a standard take-down policy. If you are the author or publisher of an output and you would like it removed from the repository, please contact us and we will investigate on a case-by-case basis.

Each thesis in the repository has been cleared where necessary by the author for third party copyright. If you would like a thesis to be removed from the repository or believe there is an issue with copyright, please contact us on openaccess@leedsbeckett.ac.uk and we will investigate on a case-by-case basis.

Inspiratory muscle training and its effect on indices of physiological and perceived stress during incremental walking exercise in normobaric hypoxia Amanda L. Seims, John P. O'Hara, Roderick, F.G.J. King and Carlton B. Cooke.



Centre for **Sports Performance**

AIM: To evaluate the effects of inspiratory muscle training (IMT) on inspiratory muscle fatigue (IMF), blood lactate concentration (BLa), rating of perceived exertion (RPE) and rating of breathlessness (RB) during trekking specific exercise completed in moderate hypoxia (3000 m)

Introduction

The elevated ventilation and reduced O₂ supply in hypoxia increases RB, RPE and BLa during exercise and exacerbates IMF, shown as a reduction in force output of the inspiratory muscles (1). IMF triggers the inspiratory metaboreflex which reduces limb blood flow (2) and may further increase BLa and intensify RPE (1). Reducing IMF can prolong exercise time to exhaustion in hypoxia and reduce RB and RPE (1). Increased inspiratory muscle strength (MIP) following IMT has been shown to attenuate IMF and the metaboreflex (3). Four weeks of IMT significantly increased MIP by ~25% and reduced IMF by 10% and RPE and RB by 13% during high-intensity running to fatigue in normobaric hypoxia [FIO₂] = 14%, 3200 m (4)]. IMT may benefit trekking expeditions at moderate altitude, but this has not been evaluated in controlled conditions of hypoxia using trekking specific exercise

Methods

Participants: 21 males (age 32.4 ± 9.61 years, VO_{2peak} 58.8 ± 6.75 ml·kg⁻¹·min⁻¹)

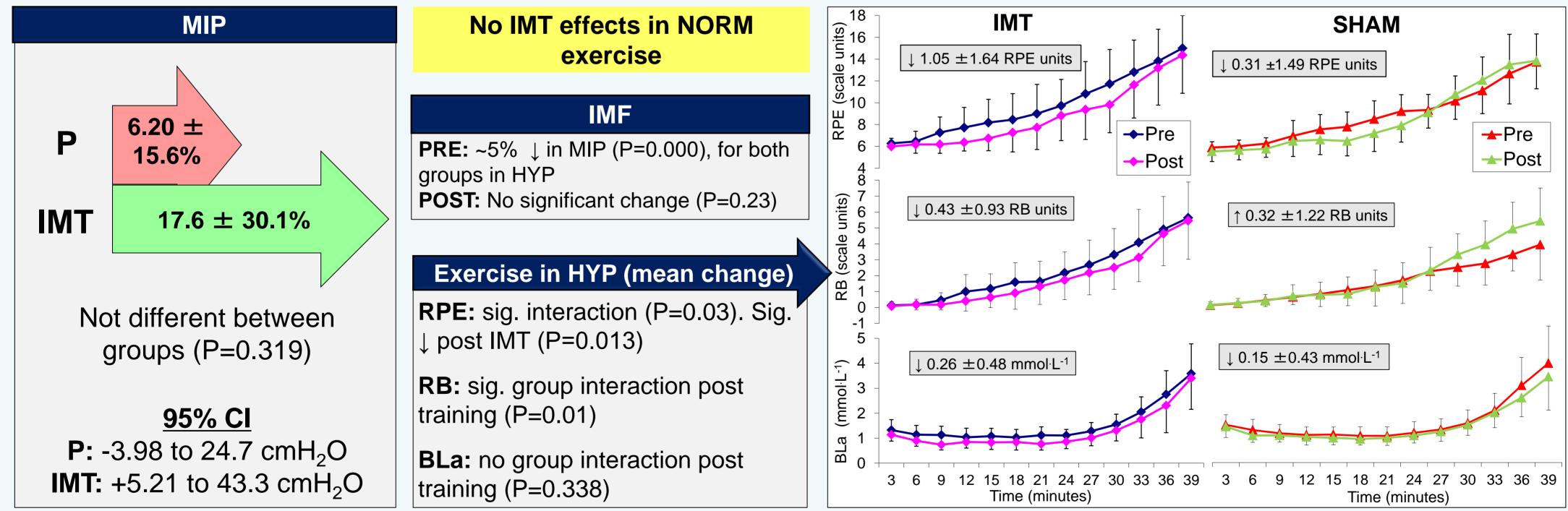
Exercise Protocol: 39-min incremental walking exercise (3-min stages), starting at 3 km⁻hr⁻¹ (1% gradient), increasing to finish on 5 km hr⁻¹ (16%) gradient). Performed in normoxia (NORM) and hypoxia [HYP, ($FIO_2 \sim 14.5\%$, 3000 m altitude)]. BLa, RPE and RB measured every 3 min.

IMF = pre to post exercise decrease in MIP

Matched on baseline MIP, randomised to IMT (n=11) or placebo (P, n=9)



Findings



Conclusions

IMT may attenuate increased RPE during walking exercise in moderate hypoxia. This may benefit expeditions completed at moderate altitude (~3000 m). The effect of IMT on BLa and RB may be enhanced with severe hypoxia and/or sustained moderate intensity walking exercise where inspiratory fatigue is likely greater.

References

- (1) Amman et al. (2007) Inspiratory muscle work in acute hypoxia influences locomotor muscle fatigue and exercise performance of healthy humans. Am. J. Physiol. Regul. Integr. Comp. Physiol., 293, R2036-R2045
- (2) Harms et al. (1997) Respiratory muscle work compromises leg blood flow during maximal exercise. Respiratory muscle work compromises leg blood flow during maximal exercise. J. Appl. Physiol., 82, 1573 - 1583
- (3) McConnell and Lomax (2006) The influence of inspiratory muscle work history and specific inspiratory muscle training upon human limb muscle fatigue. J. of Physiol., 577.1, 445-457.
- (4) Downey et al. (2007) Effects of inspiratory muscle training on exercise responses in normoxia and hypoxia. Respir. Physiol .Neurobiol., 2, 137-146.



From 22 September 2014 Leeds Metropolitan University will become Leeds Beckett University