

was adopted to assess parameters' variations. Statistical significance was set for  $p < 0.05$ .

**Results** Thirty-five patients (14M/21F; age  $71 \pm 9$  y; FEV<sub>1</sub> 61  $\pm$  14% of predicted) completed the ET program; 30 patients (18M/12F; age  $74 \pm 6$  y; FEV<sub>1</sub> 59  $\pm$  18% of predicted) completed the EST program. In both ET and EST, respiratory parameters did not change. ET FVC%, FEV1%, FEV1/FVC% values at FU1 were 76  $\pm$  14, 61  $\pm$  16, 64  $\pm$  12 respectively; at FU2 76  $\pm$  16, 59  $\pm$  16, 61  $\pm$  12. For EST FVC%, FEV1%, FEV1/FVC% values at FU1 were 79  $\pm$  14, 59  $\pm$  16, 58  $\pm$  13 respectively; at FU2 83  $\pm$  12, 64  $\pm$  16, 60  $\pm$  13. In ET V'O<sub>2</sub> peak showed significant variations: 17.7  $\pm$  3.1, 18.8  $\pm$  3.4, 16.3  $\pm$  3.3, before training, at FU1 and at FU2 respectively ( $p < 0.0001$ ). In EST: 19.1  $\pm$  4.9, 20.3  $\pm$  5.9, 18.2  $\pm$  5.5, before training, at FU1 and at FU2 respectively ( $p < 0.008$ ).

**Conclusion** Both ET and EST produced a significant improvement in exercise capacity (V'O<sub>2peak</sub>) at FU1. Unfortunately, both ET and EST worsened at FU2 vs FU1. However FU2 data were better than at baseline.

## REFERENCES

- 1 Vogiatzis I. *Eur Respir J*. 2002 Jul;20:12–9
- 2 ACSM's Guidelines for Exercise Testing and Prescription. (2006) 7th Edition

### S125 A COMPARISON BETWEEN WEIGHT SUPPORTED AND UNSUPPORTED EXERCISE ON ENERGY EXPENDITURE AND CARDIORESPIRATORY RESPONSE DURING EXERCISE IN OBESE ADULTS WITH TREATED OBSTRUCTIVE SLEEP APNOEA

<sup>1</sup>RA Evans, <sup>2</sup>TE Dolmage, <sup>2</sup>PG Robles, <sup>2</sup>D Brooks, <sup>2</sup>RS Goldstein. <sup>1</sup>Glenfield Hospital, Leicester, UK; <sup>2</sup>West Park Healthcare Centre, Toronto, Canada

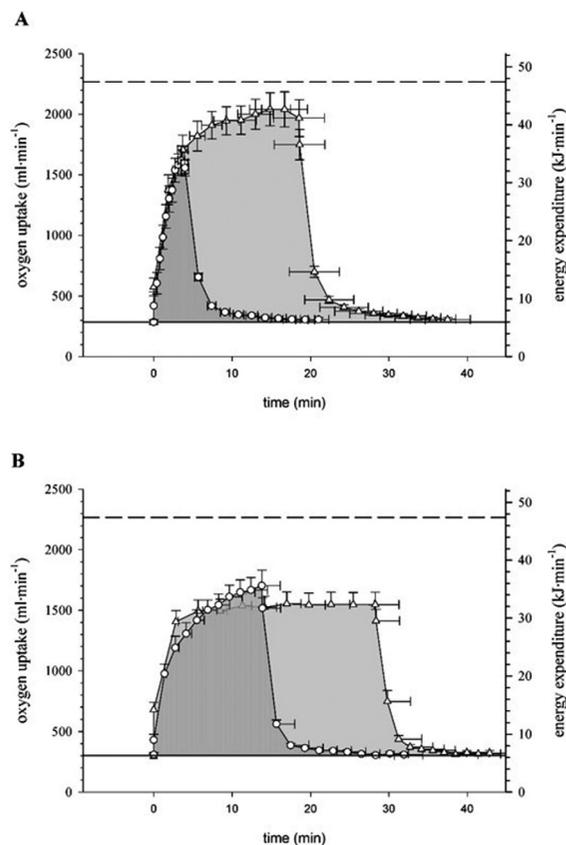
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**Background** Weight loss and improving cardiorespiratory fitness are key treatment outcomes for obese individuals with Obstructive Sleep Apnoea (OSA). We investigated the total energy expenditure and cardiorespiratory response to weight supported (cycling) and unsupported (walking) at two different intensities.

**Methods** Individuals with treated OSA and a BMI  $>30$  kg/m<sup>2</sup> performed an incremental cardiopulmonary exercise test on a cycle ergometer (ICE) and a treadmill (ITM) with expired gas analysis to determine the peak oxygen uptake (VO<sub>2pk</sub>). Participants completed two endurance tests on each modality matched at 80% and 60% of the highest VO<sub>2pk</sub> determined by the incremental tests. The cardiorespiratory responses were measured and total energy expenditure was estimated from the VO<sub>2</sub>.

**Results** 16 participants (8 male) completed all six tests: mean [SD] age 57[13]y and median [IQ range] BMI 33.3[30.8 to 35.3]kg·m<sup>-2</sup>. The VO<sub>2pk</sub> on the ITM vs ICE was 2268[574] vs 1775[430] ml·min<sup>-1</sup>, respectively. Participants endured treadmill walking at 80% and 60% VO<sub>2pk</sub> for four and nearly three times as long, respectively, compared to cycling with similar cardiovascular responses. The pattern of energy expenditure during rest, exercise and recovery at matched intensities (Figure 1) was similar between modalities at matched intensities.

Total energy expenditure during treadmill walking was greater than cycling at both high (158[101] versus 29[15]kcal) and moderate (178[100] versus 85[59]kcal) intensities. For a thrice weekly exercise regimen of at least moderate intensity, treadmill exercise would typically result in a total of 388 and 277 kcal/week greater energy expenditure than cycle exercise at 80% and 60% VO<sub>2pk</sub>, respectively.



Treadmill (triangles) and cycling (circles) at high (A) and moderate (B) intensity exercise. The shaded area under the curve represents total energy expenditure, i.e. work, above rest including recovery. Dashed line --- represents VO<sub>2pk</sub>.

**Abstract S125 Figure 1** A comparison of the energy expenditure between weight-unsupported (treadmill) and -supported (cycling) exercise in obese adults with OSA

**Conclusion** Contrary to current guidelines, walking might be the preferred training modality for achieving the combination of weight loss and increased cardiorespiratory fitness in obese adults with OSA.

### S126 DEVELOPING HEALTHY LIFESTYLE INTERVENTIONS FOR OVERWEIGHT PATIENTS WITH OBSTRUCTIVE SLEEP APNOEA (OSA): A SURVEY OF PATIENT ATTITUDES AND CURRENT PRACTICE

I Valero Sanchez, S Wimpress, C Brough, SJ Singh, RA Evans. Glenfield Hospital, Leicester, UK

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**Background** Current BTS/SIGN guidelines suggest the inclusion of behavioural interventions as part of the management for overweight patients with Obstructive Sleep Apnoea Syndrome (OSAS). Healthy lifestyle interventions are widely available in a variety of settings for other chronic diseases.

Our aims were to assess:

1. patients' views and their experience with weight loss and lifestyle changes.
2. Internet and Information Technology (IT) access to investigate if a web-based lifestyle intervention would be feasible.
3. current clinical practice regarding healthy lifestyle advice.