

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

Results Thirty-five patients (14M/21F; age 71 ± 9 y; FEV₁ 61 \pm 14% of predicted) completed the ET program; 30 patients (18M/12F; age 74 ± 6 y; FEV₁ 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'O₂ 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_{2peak}) at FU1. Unfortunately, both ET and EST worsened at FU2 vs FU1. However FU2 data were better than at baseline.

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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

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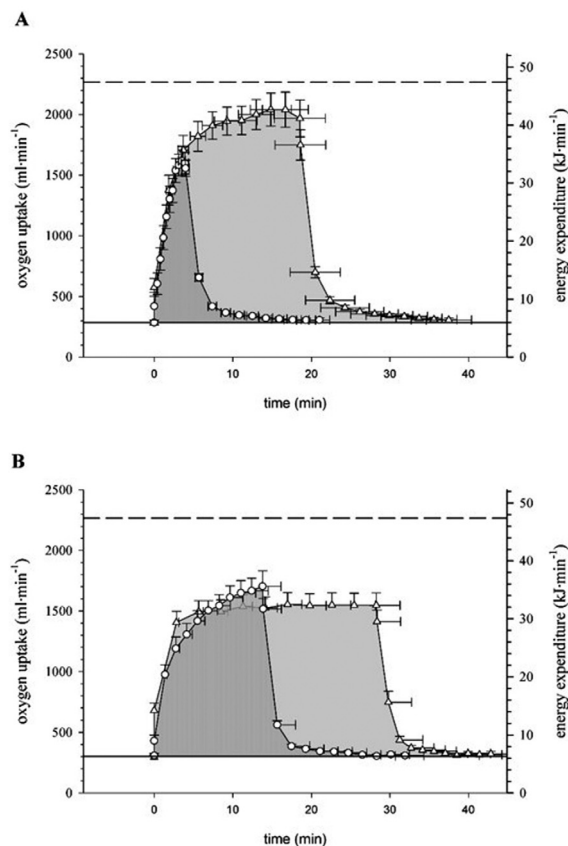
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Background Weight loss and improving cardiorespiratory fitness are key treatment outcomes for obese individuals with Obstructive Sleep Apnoea (OSA). We investigated the total energy expenditure and cardiorespiratory response to weight supported (cycling)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

Methods Individuals with treated OSA and a BMI >30 kg/m² 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_{2pk}). Participants completed two endurance tests on each modality matched at 80% and 60% of the highest VO_{2pk} determined by the incremental tests. The cardiorespiratory responses were measured and total energy expenditure was estimated from the VO₂.

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⁻². The VO_{2pk} on the ITM vs ICE was 2268[574] vs 1775[430] ml·min⁻¹, respectively. Participants endured treadmill walking at 80% and 60% VO_{2pk} 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_{2pk}, 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_{2pk}.

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

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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.

Abstract S126 Table 1 Selected items from the patient survey

Question	Answer/ percentage
Patient experience	
Have your daytime symptoms led you to stop or reduce any daily activities?	Yes: 51%
Does your current level of physical activity bother you?	Yes: 60%
Would you like to be fitter and less tired when doing your daily activities?	Yes: 91%
Have you received any advice about losing weight?	Yes: 69%
Have you received any advice about increasing your physical activity and/or your fitness?	Yes: 51%
Have you tried to lose weight?	Yes: 88%
Did you manage to lose weight?	Yes: 61%
	Average
- If yes, how much?	5% of weight
Have you tried to improve your fitness before?	Yes: 75%
Have you ever been a member of a club or gym before?	Yes: 44%
Would you be interested in participating in a healthy lifestyle intervention programme?	Yes: 55%
If yes, where would you prefer to do this programme?	
- Supervised programme	18 %
- Community leisure centre	24 %
- At home with a manual	24 %
- At home with a step counter	20 %
Internet usage	
Do you have access to a computer/ (or tablet) and broadband internet?	Yes: 75%
How often do you use your PC/laptop to access the internet per week?	
Not Applicable	25 %
-5	22 %
6-10	20 %
11-15	5%
>15	28%
How many hours per week do you use your PC/laptop to access the internet?	
Not Applicable	25 %
-10	43 %
11-15	13 %
16- 20	9%
>20	10 %
Would you be interested in taking part in an educational web-based healthy lifestyle programme?	Yes: 43%

Methods A questionnaire was developed to assess patients' experience with lifestyle changes, their preferences and willingness to take part in a healthy lifestyle intervention, and their internet and IT usage. This was administered to patients with treated OSAS attending a sleep clinic. The MRC dyspnoea scale grade and Veterans Specific Activity Questionnaire (VSAQ)(1) were measured. Current practice regarding lifestyle advice and interventions, and serial weights were assessed by a case-note review of sequential overweight patients with treated OSAS attending a sleep clinic.

Results 112 patients with treated OSAS completed the survey (results shown in Table 1): 80.5% male, 76% aged 50 to 79 years, mean estimated BMI 35 kg m⁻², median [IQR] MRC dyspnoea scale 3[2-3] and VSAQ score 5[3-7] indicating being unable to walk briskly. 75% of individuals had access to broadband internet (Table 1) and over 40% would be interested in a web-based healthy lifestyle intervention. 33 case-notes were reviewed with a mean follow up of 5 years. 27/33 individuals had been given healthy lifestyle advice of which 24/27 was to lose weight. Only two individuals had

been recommended to join a leisure programme. Weight remained unchanged over five years after diagnosis, ANOVA $p = 0.90$.

Conclusions Breathlessness causing reduced physical activity was commonly reported in overweight patients with OSAS. Weight loss is not currently achieved after simple advice from a healthcare professional, and advice or support regarding increasing physical activity is rarely provided. Further support with healthy lifestyle interventions should be explored, and attitudes and Internet access would favour development of a web-based intervention.

REFERENCE

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S127 CLINICAL IMPLEMENTATION OF EXERCISE THERAPY DURING CRITICAL ILLNESS: A LONGITUDINAL OBSERVATIONAL COHORT STUDY

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Introduction The practice of early exercise in the intensive care unit (ICU) is now receiving increasing clinical and research recognition. In order to determine the true effect of enhanced exercise therapy interventions, facilitate comparison across multiple datasets, and gain a better understanding of international practices, accurately defining 'usual care' is of vital importance.¹ The objective of this study was to benchmark current provision of exercise therapy within the ICU of a large, university teaching hospital, including 'dose' of exercise therapy provided, clinical factors influencing intervention delivery, and whether service provision met published national guidelines.

Method A single-centre, prospective longitudinal observational study was conducted. Eligible patients were adults (≥ 18 years) receiving mechanical ventilation for at least 48 h, with no additional exclusion criteria. Consecutive eligible patient admissions were included. Data collection occurred remotely and independently, over a three month period, and using two electronic hospital databases to collect clinical, therapy and administrative data.

Results One hundred and fourteen patients were included between February and April 2014 (median (IQR) age 61.5 (45.8-74.0)years, M:F 51:53, admission diagnosis 71% medical, mean (SD) APACHE II score 19.1 (4.8), ICU length of stay 16 (10-22)days). Complete data analysis is currently reported for 50 patients. Physiotherapy contact and milestone data are reported in Table 1. Nineteen patients did not receive exercise therapy during their admission. In those patients receiving exercise therapy, sitting over the edge of the bed was the highest level of physical activity achieved and the most frequently performed. Exercise therapy was most commonly delivered to those patients with either a tracheostomy or own airway, and once spontaneous modes of ventilation had been commenced.

Conclusion These data represent initial analysis from a detailed description of exercise therapy delivered in a large, university hospital ICU. Completion of data analysis for the whole cohort is required to fully conclude what constitutes typical practice in this ICU, characteristics of patients receiving exercise therapy, and the influence of airways status on delivery of exercise therapy activities.

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