

**P46** **PATIENT ACTIVITY LEVELS AND OXYGEN DEVICE PREFERENCE: AN RCT COMPARING REFILLABLE CYLINDERS (HOMEFILL™) WITH USUAL AMBULATORY DEVICE**

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**Introduction** The benefit of ambulatory oxygen (AO) in patients with hypoxaemia on exercise remains contentious. Often AO is not used in the way the prescribers envisage. Device suitability or poor understanding about the benefits of AO may mean patients remain hypoxic on activity and/or avoid exercise.

**Objective** To assess patients activity and preference using Homefill™ versus usual AO device in a mixed population of patients with exercise hypoxaemia and/or LTOT. Homefill™ allows patient refill of oxygen cylinders (1.9 L) as needed using a compressor.

**Methods** Inclusion criteria included current use of AO and stable physical condition. AO prescription was optimised for each device. Patients were randomised to usual AO then Homefill™ for 6 wks or vice versa. Tri-axial activity monitors were used during the last week. Patient preference was identified by questionnaire. Weekly calls encouraging activity and AO use were made. If patients suffered an inter-current illness, the trial arm was extended by 2 wks; those with >1 illness were withdrawn. Power calculation indicated a sample of 40 subjects was required to detect a difference of 1,000 domestic activity counts at a 5% significance level with 80% power.

**Results** 70 patients met the inclusion criteria and 40 enrolled. Mean age 66 yrs, 17 males, 70% had COPD with median FEV<sub>1</sub> 41% predicted (range 27–71%), restrictive median FVC 70% predicted. 29 complete data sets were collected. There were 9 episodes of AECOPD. Fifteen patients required the highest O<sub>2</sub> pulsed setting on Homefill™. There was no statistically significant difference in mean daily activity counts when using Homefill™ compared to usual AO. A decline in activity counts was observed in both cohorts during the second period. Eighteen patients elected to keep Homefill™ of whom 11 previously used LOX as their usual AO.

**Conclusions** Homefill was equivalent to usual provision of AO and was preferred by the majority. Disappointingly, regular phone encouragement failed to increase activity levels. Activity levels were very low and highly variable reflecting advanced disease/deconditioning.

**Implications for Practise** Patient use and preference of AO device includes non physiological aspects. AO maybe best targeted at patients before exercise tolerance is severely limited.

**P47** **POST-OPERATIVE OXYGEN SATURATION, PRESCRIBING & ADMINISTRATION IN PATIENTS UNDERGOING ELECTIVE ORTHOPAEDIC SURGERY**

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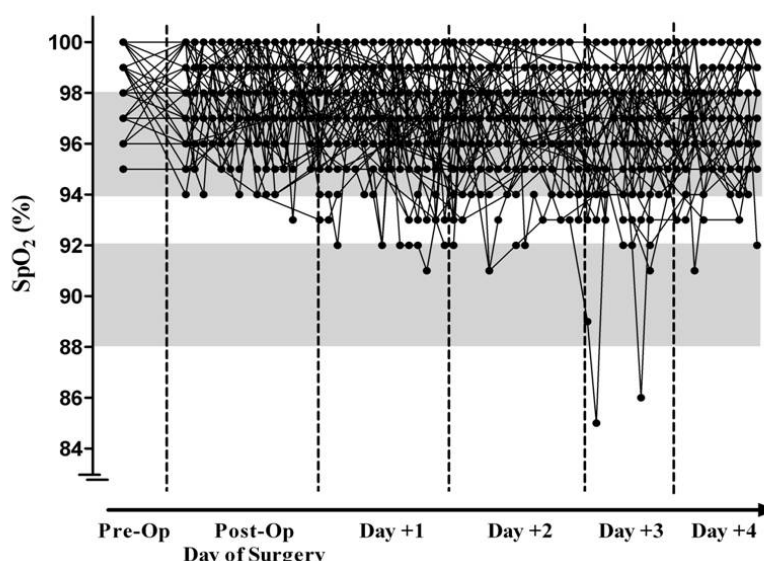
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**Introduction** There is increasing interest in maximising perioperative care of surgical patients, including response to oxygen desaturation which may occur in association with anaesthesia, analgesic/sedative drugs, and/or indicate pathology. There is thus potentially great importance in understanding the incidence and profile of oxygen desaturation in the post-operative patient, and documenting our response to it.

**Methods** We recorded sequential SpO<sub>2</sub> values and oxygen prescription/administration from the charts of 65 patients (mean age 56.5 years (SD 20.2), BMI 29.6 (10.5), 38 Females) admitted to University College London Hospital for elective orthopaedic surgery, starting at point of transfer from recovery room to ward. Nine were current smokers, one patient had COPD, and eight had possible sleep apnoea. None used home oxygen or CPAP and all were normoxic pre-operatively.

**Results** One-third (30.8%; 20/65) of patients experienced an isolated, minor desaturation event (Figure 1): mean minimum SpO<sub>2</sub> 91.9% (SD 2.2). 'Desaturators' were older ( $P=0.038$ ) but not 'sicker' compared to those who remained normoxic, determined by smoking status and ASA grade, and by post-operative rate of chest x-ray request, blood transfusion, and antibiotic requirement. Thus, the majority of desaturations were minor and of limited clinical

Figure 1. Individual profiles of sequential SpO<sub>2</sub> values. The grey shaded boxes represent target oxygen saturation ranges according to British Thoracic Society guidelines (94–98% SpO<sub>2</sub>; alternatively, 88–92% SpO<sub>2</sub> is preferable in some patients with respiratory disease). Each dot represents a SpO<sub>2</sub> value and connecting lines connect values in individual patients.



Abstract P47 Figure 1