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

1   Myers et al. Am Heart J 2001;14: 1041–1046

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

[1]KT Roberts, [2]B Connolly, [2]A Curtis, [2]C Whiteley, [2]N Hart. [1]King's College London, London, UK; [2]Guy's and St. Thomas' NHS Foundation Trust, London, UK

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.

REFERENCE
1   Parker A, Tehranchi K, Needham D. Critical care rehabilitation trials: the importance of 'usual care'. Critical Care 2013;17(5):183

Abstract S127 Table 1 Physiotherapy contact and rehabilitation milestone data

Parameter	
Physiotherapy contacts	
Total physiotherapy contacts	656 (100)
Contact only, assessment +/- advice provision	85 (12.9)
Respiratory treatments only	452 (68.9)
Combined respiratory treatment and exercise therapy	24 (3.7)
Exercise therapy only	95 (14.5)
Physiotherapy contacts/day	
Overall contacts	0.97 (0.83–1.9)
Contact only, assessment +/- advice provision	0.12 (0.0–0.22)
Respiratory treatments only	0.67 (0.5–0.87)
Combined respiratory treatment and exercise therapy	0.0 (0.0–0.05)
Exercise therapy only	0.1 (0.0–0.2)
Physiotherapy treatment time (mins)	
Respiratory treatments only	30 (30–40)
Combined respiratory treatment and exercise therapy	40 (30–60)
Exercise therapy only	60 (50–80)
Physiotherapy milestones	
Time to first contact (days)	2.0 (1.0–2.0)
Time to first exercise therapy activity (days)*#	8.0 (5.0–12.0)
Number of patients achieving SOEOB*	29 (58)
Time to achieve SOEOB (days)*	9.0 (5.5–12.0)
Highest exercise therapy activity level*	3 (0–4)

Data are reported as n (%) or median (interquartile range). n = 50. n = 19 did not receive exercise therapy during admission. *n = 31 received exercise therapy during admission. #Exercise therapy activities were categorised according to a standardised classification: 0. Passive Exercises, 1. Bed Exercises, 2. Passive sitting out of bed, 3. Sitting of edge of bed, 4. Standing, 5. Transfer to chair, 6. Marching on the spot, 7. Walking with assistance of 2, 8. Walking With assistance of 1, 9. Walking with gait aid, 10. Walking independently. *Abbreviations*: SOEOB = sitting over edge of bed.

Asthma – basic mechanisms

S128 DOES THE TIME OF DAY OF ALLERGEN CHALLENGE AFFECT THE DEGREE OF INFLAMMATORY RESPONSE IN THE MURINE LUNG?

[1]HJ Durrington, [2]SN Farrow, [1]DW Ray. [1]*University of Manchester, Manchester, UK*; [2]*GSK, Stevenage, UK*

Introduction Circadian variations in immune parameters such as lymphocyte proliferation, antigen presentation and cytokine gene expression have been described. Recently, an association between the molecular circadian clock, immunity and inflammation has been recognised. To date research in this area has focussed on the innate immune response. However, the time at which the lung is exposed to an allergen might significantly affect the ability of the lung to mount an adequate immune response. Furthermore, this line of investigation might provide valuable insight into asthma, a common disease with a strong circadian rhythm.

Method We used a well-defined mouse model of allergic lung inflammation, the ovalbumin challenge model. After initial intra-peritoneal sensitisation, 4 groups of C57Bl/6 mice received oval-bumin challenge at one of four time points, repeated at the same time for 3 consecutive days. The timepoints used were: 1 am, 6 am, 1 pm or 6 pm. Measurements of airway hyper-responsive-ness were recorded, bronchoalveolar lavage was performed and lungs were harvested for immunohistochemistry and for gene
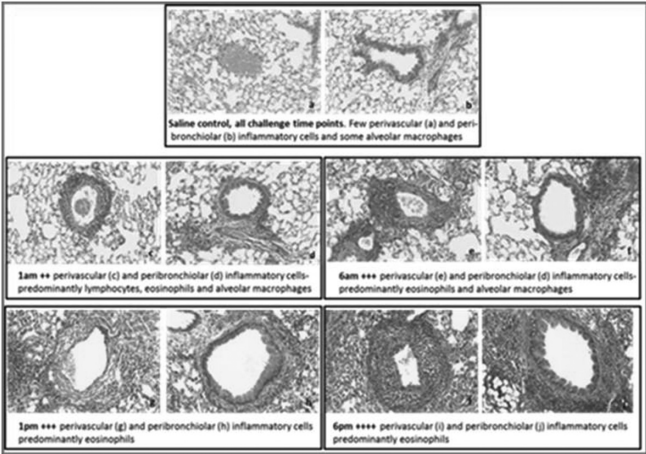
Abstract S128 Figure 1 Lung section from c57BL/6 mice challenged with ovalbumin at different time points

analysis by PCR. Experiments were repeated in clock gene knock-out mice, *rev-erbα* [-/-].

Results
- C57BL/6 mice challenged at 1 am develop increased AHR
- This suggests that allergic airway inflammation is under clock control
- Rev-erbα-/- mice show identical responses, suggesting that REV-ERBα is not critical to the development of airway inflammation in this model

- C57BL/6 mice challenged at 6 pm develop the most profound inflammatory response within the lung (Figure 1)
- This suggests that allergic inflammation within the lung is caused by a different mechanism to that within the airway, yet is also under clock control

Discussion Understanding the mechanism underlying clock control of allergic lung inflammation and its possible translation to asthma, provides a new therapeutic opportunity. Furthermore, targeting earlier stages in the circadian pathway might narrow the therapeutic window for timing of existing drug delivery, reducing drug dose and minimising side effects by giving shorter acting agents and the most efficacious time of day.

S129 INFLAMMATORY CYTOKINES INFLUENCE RESPIRATORY EPITHELIAL ANTI-VIRAL IMMUNE RESPONSES VIA INDUCIBLE EPIGENETIC CONTROL OF RIG1 EXPRESSION: A MODEL OF EARLY LIFE ORIGINS OF ASTHMA?

CM Spalluto, A Singhania, CH Woelk, T Sanchez-Elsner, KJ Staples, TMA Wilkinson. *Faculty of Medicine, University of Southampton, Southampton, UK*

The development of asthma is linked to early life environmental exposures and the occurrence of severe viral infections. Rapid maturation of adaptive immunity from a tolerant (Th2) to an anti-infective (Th1) state occurs in the neonatal period. We hypothesised that the airway inflammatory milieu, driven by the maturing immune response to environmental exposures may have important effects on the development of anti-viral innate immunity at the level of the epithelium. We studied whether the inflammatory environment of the airway epithelium modulates gene expression via epigenetic regulation of anti-viral genes as a model of the