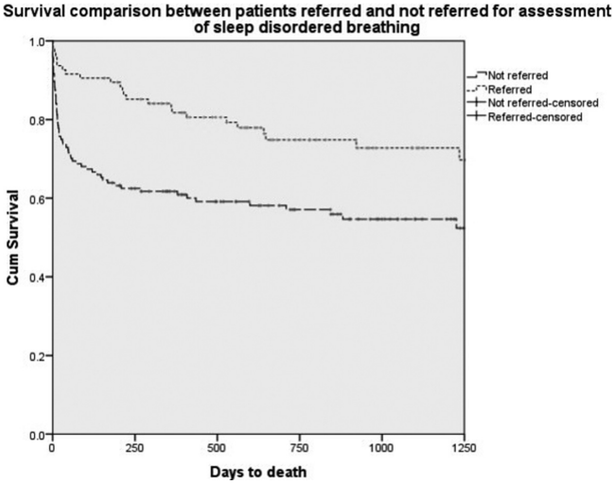

Abstract P110 Figure 1

Conclusions Rates of obesity and persistent hypercapnia are high in survivors of critical illness. However, patients are frequently not referred for specialist respiratory assessment. Survival is increased in patients referred for long-term management, although this data needs to be interpreted with caution as this could be the result of referral bias and a prospective study is now required.

P111 RESPIRATORY FLOW LIMITATION IN THE ABSENCE OF OBSTRUCTIVE SLEEP APNOEA RESPONDS TO CPAP THERAPY

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Background The Apnoea–Hypopnoea index (AHI) is regarded as a gold standard diagnostic marker of Obstructive Sleep Apnoea Syndrome (OSAS). However, a number of patients present with excessive daytime sleepiness (EDS), yet exhibit a raised Respiratory Disturbance Index (RDI), comprising of flow limited breaths in the presence of a normal AHI (<5 events/hr). We sought to evaluate the benefits of CPAP in this "Flow Limitation" cohort compared to a matched population of OSAS subjects.

Results 27 subjects (Mean age 47 (SD 8) years; ESS 17(4); 48% male; BMI 35.60 (8.12)) presented to our Sleep Service with EDS and undertook a cardio-respiratory polysomnograph, demonstrating an RDI >15 and AHI <5 (Mean RDI 16 (4); AHI 3 (2); ODI 5(3)) 25 subjects were subsequently treated with CPAP. At "6-week compliance" visits, 20 (80%) were deemed compliant with CPAP (mean nightly usage 6.03 (1.47) hrs; pre-CPAP ESS 18(3) falling to 9 (4) following CPAP. Within the Flow Limitation cohort, statistically significant associations were observed between CPAP compliance and Female gender (100 v 55%), higher BMI (36.61 v 31.56), higher pre-CPAP ESS (18 v13) and lower Pulse Transit Time PTT (300.90 v 316 ms).

This "Flow Limitation" cohort was compared with an age/gender matched "OSAS "cohort (ESS 15(5); BMI 38.33 (7.80) AHI 58.16 (25.79) ODI 48 (23)). 26 OSAS subjects were treated with CPAP with 19 (70%) deemed compliant (nightly usage 5.25 (3.55) hrs; pre-CPAP ESS 16 (5) falling to 10(5) following CPAP. Whilst the mean PTT of the OSAS cohort was lower than the "Flow Limitation" cohort, this did not reach statistical significance (298.85(15.04) v 306.44 (18.36) ms; ANOVA; p = 0.1) yet the PTT Deceleration Index (DI), a surrogate of physiological arousal, was significantly higher in the OSAS cohort (59.05 (29.33) v 36.32(23.69)/hour; ANOVA; p = 0.003).

Conclusion "Sleepy" subjects exhibiting an elevated Flow Limitation Index in the presence of a normal AHI appear to demonstrate a response to CPAP therapy comparable to that observed in OSAS. Female gender and a higher BMI appear to predict compliance with therapy, whilst the utility of Pulse Transit Time in guiding decision making in "sleepy" subjects with a normal AHI merits further study.

P112 CPAP ROLE ON THE PERIOPERATIVE OUTCOMES OF PATIENTS WITH OBSTRUCTIVE SLEEP APNOEA

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Background Obstructive sleep apnoea (OSA) has been previously reported as an independent risk factor for intra and post operative adverse events.[1]

Early diagnosis of sleep disordered breathing and initiation of CPAP treatment was suggestive to improve operative outcomes.[2]

Objectives To determine the prevalence of sleep apnoea in a surgical population and establish the role of CPAP on peri-operative outcomes in patients with OSA.

Methods A retrospective study was performed in a university hospital between 1st June 2013 and 1st June 2015 and included 160 surgical patients investigated for OSA. Sleep apnoea was defined as dip rate >10 events/hour associated with a desaturation of 4% below the baseline. Statistical analysis was performed with STATA v10 software.

Results From 160 surgical patients included, 33.1% (53) were females and average age was 54 years. Prevalence of OSA was 44.3% (71/160) and 12.5% (20/160) had severe OSA defined as a dip rate >30 events/hour.

Following sleep investigations, 68 patients had surgical interventions: 48.5% (33/68) trauma and orthopaedics, 17.6% (12/68) general surgery, 10.2% (7/68) urology, 8.8% (6/68) gynaecology, 7.3% (5/68) colorectal, 4.4% (3/68) ENT. From 68 patients undergoing surgical procedures, 44.1% (30/68) were diagnosed with OSA and started on CPAP prior to surgery.

Peri-operative adverse events were not significantly related to OSA when compared to non OSA patients: intra operative desaturations (23.3% vs 26.3%) and prolonged recovery stay (53.3% vs 55.2%).

OSA patients had a lower hospital stay compared to non OSA group (1.7 vs 3.1 days).

Conclusions We have identified a high prevalence of sleep apnoea of 44% in surgical population. CPAP treatment was found effective in improving operative outcomes of patients with OSA, further studies being needed to confirm these results. Routine pre-assessment screening for OSA followed by sleep investigations for initiation of CPAP prior to surgery is recommended.

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P113 CLINICAL USE OF ADAPTIVE SERVO-VENTILATION ACROSS THE UK: RESULTS OF A POSTAL SURVEY

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Introduction Adaptive Servo-Ventilation (ASV) is used to treat central sleep apnoea (CSA), but evidence for its use is limited. A large trial, SERVE-HF, randomised patients with CSA and left ventricular heart failure to ASV or control. Their results led to a field safety notice in May 2015, advising ASV is contraindicated in patients with symptomatic chronic heart failure and reduced ejection fraction. Sleep Centres therefore reviewed ASV in clinical practice; we sought information about ASV use in the UK.
Methods A survey was sent to 187 UK sleep centres, asking about the use of ASV.
Results Seventy-five surveys were returned (40% response rate). ASV was not used in 53% of centres.

Of the 47% (n = 35) of sleep centres using ASV, the average number of patients on ASV per centre was 13 (range 1–69). For comparison, the average number on CPAP was 3368 (range 100–12000).

Of the 454 patients using ASV, the reasons are shown in Table 1.

Abstract P113 Table 1

N (total 454)	%	
149	33	CSA with Cheyne Stokes Respiration (CSR)
126	28	"Central"
61	13	Mixed sleep apnoea
61	13	Reasons not stated/unclear
23	5	Complex sleep apnoea
22	5	Due to opioid/narcotic use
12	3	"Idiopathic"/other causes

Following the field safety notice, 66% of centres reviewed patients in clinic. Others contacted patients by phone (45%) or in writing (31%), or used a combination of these. Five centres did not contact their patients and five centres had to run between one and two additional clinics to review their ASV patients. Some repeated echocardiography.

Seventy-two (48%) CSA-CSR patients were advised to stop using ASV. Fifteen chose to continue, 32 changed to CPAP/NIV, 14 stopped ASV, 11 were not specified.

Clinicians rated ASV as *very useful* (26%), *quite useful* (23%) and *occasionally useful* (49%).
Conclusions There is a wide range of clinical ASV use in sleep centres across the UK; many do not use it. Apart from SERVE-HF, there are few randomised clinical trials to inform who would benefit from ASV. Use may be determined by case series, expert opinion and individual response. This highlights the need for further research in this area.

P114 CAN A DEDICATED 'FAST TRACK' SLEEP SERVICE SUCCESSFULLY ESTABLISH VOCATIONAL DRIVERS ON CPAP WITHIN FOUR WEEKS OF REFERRAL?

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Introduction and objectives Sleepiness due to Obstructive Sleep Apnoea (OSA) can impair driving, and OSA has been implicated in road traffic accidents. DVLA guidelines state that those with "sleepiness sufficient to impair driving" should cease driving until they have been investigated and treated. This may have a significant effect on the ability of vocational drivers to earn a living. Fear of lengthy investigations and licence regulations may deter these patients from seeking treatment. We developed a dedicated service that aimed to diagnose OSA and successfully establish vocational drivers on CPAP within 4 weeks of referral.
Methods The service was advertised to local GPs, encouraging identification of vocational drivers at point of referral. Patients were seen by a nurse specialist and underwent domiciliary sleep studies, returning the following day for results and CPAP therapy. Those who were not identified via GP referral were fast-tracked from first clinic appointment. Compliance and Epworth Sleepiness Score (ESS) were evaluated after one week of treatment on CPAP, or as soon as the patient could attend thereafter.
Results Between September 2014 and July 2015, 29 drivers were referred; one failed to attend. Fifteen held a type 1 drivers' licence and 13 a type 2 licence. At presentation, the mean age was 48 years (range 25–61), mean BMI was 34 (27–51) and mean ESS was 10 (0–21). Sleep studies showed a mean ODI of 30 (0–93), with moderate or severe OSA in 18 (64%). Twenty two patients were commenced on CPAP (79%). Seventeen patients attended for review on CPAP, a mean of 16 days after initiation. Mean ESS was 5.4 and mean CPAP usage was 5.3 h/night. Of these, six people were reviewed between six and eight days after CPAP initiation; their mean compliance was 6.2 h/night (4.1–8.3). Mean time from referral (or first clinic visit) to review on CPAP was 33 days.
Conclusion A fast track service is practical and effective at diagnosing OSA and establishing vocational drivers on CPAP. There were some delays due to patient non-attendance or re-scheduling. It is vital that GPs are aware of the service and refer patients as vocational drivers.

P115 OUTCOMES OF SLEEP STUDIES AND TARGETED THERAPIES IN PATIENTS WITH MYOTONIC DYSTROPHY: A COHORT STUDY

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Patients with myotonic dystrophy (DM) have complex respiratory and neurological disease. Sleepiness is common. We describe a prospective cohort study of patients with DM and response to sleep treatments.