

Abstract P207 Table 1 Correlations between sleep-study measurements and clinical, demographic and anthropometric variables

	Age	Weight	BMI	Collar	Hip Circ.	Waist Circ.	Waist/hip ratio	ESS	STOP BANG
Total	r 0.32	0.22	0.23	0.30	0.02	0.20	0.01	-0.41	0.35
AHI	p 0.004*	0.02*	0.02	0.11	0.94	0.41	0.97	0.68	0.002*
	n 114	114	114	29	17	19	17	104	72
ODI	r 0.22	0.30	0.28	0.41	0.12	0.37	0.11	0.02	0.31
	p 0.02*	0.02*	0.003*	0.04*	0.66	0.12	0.68	0.87	0.01*
	n 106	106	106	27	17	19	17	97	67
Mean	r -0.36	-0.24	-0.24	-0.46	-0.11	-0.18	-0.02	-0.10	-0.297
SpO <sub>2</sub>	p <0.001*	0.01*	0.01*	0.02*	0.68	0.46	0.93	0.32	0.02*
	n 106	106	106	27	17	19	17	97	67

\*Denotes statistical significance at p<0.05.  
r, Spearman coefficient. Circ., circumference; ESS, Epworth Sleepiness Score; AHI, Apnoea Hypopnea Index; ODI, Oxygen Desaturation Index.

**Conclusions** Referral rates for sleep studies pre-bariatric surgery have risen exponentially over the past 20 months, and 37% of patients studied had at least moderate OSA, presenting a burden for sleep services and CPAP provision. 35% of patients studied had no evidence of OSA. Although a sensitive test, STOP BANG alone did not reliably identify these lower-risk patients.

**P208 A PROSPECTIVE OBSERVATIONAL STUDY TO EVALUATE THE EFFECT OF SOCIAL AND PERSONALITY FACTORS ON CPAP COMPLIANCE IN OSA**

doi:10.1136/thx.2010.151068.9

A Gulati, K Jordan, M Ali, R Chadwick, I E Smith. *Papworth Hospital, Papworth Everard Cambridge, UK*

**Introduction** Continuous positive airway pressure (CPAP) treatment for Obstructive sleep apnoea (OSA) is associated with variable initial acceptance and subsequent compliance with no consistent association with the severity of symptoms or physiological variables. There are very few data on the role of socioeconomic status, level of education and personality type. A recent retrospective study showed type D personality to be associated with poor compliance.<sup>1</sup>

**Methods** All patients with a confirmed diagnosis of OSA, recommended CPAP were considered. Baseline questionnaires were completed to assess employment and socio-economic status and type D personality. Compliance was measured at 6–10 weeks and 6 months.

**Results** 265 patients participated in the study. Seven switched to Bi-level PA, 2 were excluded and four withdrew their consent; 224 were still using CPAP at 6 months. At baseline mean age was 52.1 (SD 11.0)/y; M:F 205:60 (3.4:1), Epworth sleepiness score (ESS) 14 (SD 4.4), BMI 37.1 (SD 7.8), 4% Desaturation index (DI) 27.9 (SD 20.6)/h and AHI 28.0 (SD 18.6)/h. Mean compliance at 6–10 weeks and 6 months was 5.68 (SD 2.3) h and 5.31 (SD 2.3) h, respectively. 20.5% were using CPAP <4h/night at 6 weeks and 25.9% at 6 months. In comparison to individuals who were working (or retired from work), those who were long term unemployed (n=17) had a lower average CPAP usage at 6–10 weeks (4.08 h; SD 2.3) and 6 months (3.2 h; SD 2.6). This group was also more likely to use CPAP <4h/night at 6–10 weeks and 6 months (OR 5.06, p=0.001 and OR 3.62, p=0.01 respectively). No association was found between different Socio-economic classes for people in work, type D personality, education level, sex, age, baseline ESS, DI and AHI with 6–10 weeks or 6 month compliance. Compliance at 6–10 weeks correlated strongly with 6 months compliance (rs=0.82).

**Conclusion** In our practice there is no significant association between CPAP compliance with socio-economic status, education

level or the personality type. People who are long term unemployed may need more intensive support to get optimal benefit from CPAP.

**REFERENCE**

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**P209 WHAT MIGHT PATIENTS MEAN BY “SLEEPINESS”?**

doi:10.1136/thx.2010.151068.10

R Ghiassi, L O’Byrne, A R Cummin, M R Partridge. *NHLI division, Imperial College, London, UK*

**Introduction** Patients describe the symptoms of obstructive sleep apnoea syndrome (OSAS) in diverse ways. Clinicians and scientists may have difficulty in differentiating sleepiness from tiredness and tools to measure subjective or objective sleepiness do not always match clinician assessment of sleepiness. To better understand how patients’ view ‘sleepiness’ we asked those under investigation for OSAS to describe in their own words what sleepiness means to them.

**Methods** 24 patients (20 male and 4 female) participated in the study. ESS scores were recorded the morning after sleep study when patients were also asked to record in their own words what sleepiness means to them. Three independent scorers, (nurse, scientist and physician) and an independent academic referee, themed answers. Participants also underwent on Oxford Sleep Resistant Test (OSLER) to quantify objective daytime sleepiness as a comparator.

**Results** ESS scores were grouped into the following ranges: ≤10, 11–15, 16–24 and mean OSLER scores calculated for each group, table 1. Individually, OSLER scores did not correlate well with ESS scores and there was great variability in levels of objective daytime sleepiness. On average each patient gave 6 descriptors relating to sleepiness. Descriptors of sleepiness fell into three main categories: *mental function* (eg, “mugginess”), *physical sensation* (eg, “even moving about is exhausting”) and *related to sleep or actual sleep* (eg, “I always fall asleep in the cinema”). Patients with an ESS: ≤10 gave more descriptors relating to *physical sensations* of sleepiness. Conversely patients with an ESS ≥11 gave more descriptors *related to sleep or actual sleep*.

Abstract P209 Table 1

ESS ranges	N (m:f)	Mean		Median		No. sleepiness descriptors			
		ESS	SD	OSLER	SE	IQR	M	p	S
≤10	9 (7:2)	8.9	1.0	22.5	4.7	23.2	7	23	9
11–15	7 (5:2)	13.6	1.0	16.3	6.1	9.7	16	13	23
16–24	8 (8:0)	18.5	2.1	17.6	6.2	15.1	10	12	22

M, mental function; P, physical sensation; S, related to sleep or actual sleep.

**Conclusion** This study has begun to assess how patients using their own words, describe the symptom of ‘sleepiness’. Answers fell broadly into one of three categories: *mental function*, *physical sensation* and *related to or actual sleep*. Further understanding the construct of sleepiness to the patient may have importance in determining who is likely to benefit from therapy with CPAP.

**Developments in the delivery of lung cancer care**

**P210 THE NATIONAL LUNG CANCER AUDIT—YEAR 5 COMPLETENESS AND OUTCOMES**

doi:10.1136/thx.2010.151068.11

<sup>1</sup>P Beckett, <sup>1</sup>J Woolhouse, <sup>2</sup>R Stanley, <sup>1</sup>M D Peake. <sup>1</sup>Royal College of Physicians, London, UK; <sup>2</sup>The Information Centre for Health and Social Care, Leeds, England

**Introduction** The National Lung Cancer Audit aims to record outcomes in lung cancer on a large scale and through case-mix

adjustment, start to explain the wide variations noted. Although Wales and Scotland also submit data to the audit, this abstract presents results for England only.

**Results** In Year 5, participation has again increased and the number of cases submitted has risen from 10 920 cases in 2005, to 16 922 in 2006, to 20 639 in 2007 to 25 757 in 2008, and to 30 155 in 2009. Completeness of data on individual cases has also improved—recording of PS has risen to 88%, stage to 80% and treatment to 89% of cases. Results suggest that the quality of care is improving, with annual increases in the proportion of patients being discussed in an MDT, proportion of patients receiving anti-cancer treatment, and in the surgical resection rate (see Abstract P210 Table 1). Data also show that the degree of variation across organisation is reducing year-on-year.

Abstract P210 Table 1 Process and outcomes

	2005	2006	2007	2008	2009
Confirmed histological diagnosis	68%	66%	65%	67%	70%
Discussed at MDT?	79%	84%	87%	89%	93%
Any anti-cancer treatment?	45%	50%	52%	54%	59%
Overall surgical resection rate	9%	9%	10%	11%	14%
NSCLC resection rate	14%	14%	15%	16%	19%
SCLC chemotherapy rate	58%	62%	65%	63%	66%

**Conclusions** These results once again highlight the considerable achievement of the National Lung Cancer Audit in collecting data and are a testament to the hard work of lung cancer teams across the country in achieving such high quality data on such a large scale. The results suggest that care for lung cancer patients is slowly improving, although some of the apparent improvement is likely to reflect the rise in data quality. However, wide variations in outcomes still persist between organisations, which need to be the focus of ongoing service improvement work.

**P211 ASSESSMENT OF OPERABILITY IN EARLY STAGE LUNG CANCER: RESULTS FROM THE NATIONAL LUNG CANCER AUDIT**

doi:10.1136/thx.2010.151068.12

<sup>1</sup>I Woolhouse, <sup>2</sup>R Stanley, <sup>1</sup>P Beckett, <sup>1</sup>M D Peake. <sup>1</sup>Royal College of Physicians, London, UK; <sup>2</sup>NHS Information Centre, London, UK

**Background** NICE guidelines recommend that patients who are staged as candidates for curative treatment on CT should undergo further evaluation with PET scan, mediastinal sampling (where appropriate) and lung function tests to confirm stage and to assess fitness for surgery. Under-use and/or variability in the interpretation of these investigations as well as the frequency of comorbidities may contribute to the relatively low surgical resection rates seen within England. These data are collected by the national lung cancer audit but have not previously been reported at a national level.

**Methods** Data are presented for patients submitted to the national lung cancer audit with histologically confirmed non-small lung cancer (NSCLC) first seen in England in 2008. It is anticipated that data for 2009 will be available for presentation at the meeting.

**Results** 13 488 patients (53%) had histologically confirmed NSCLC of which staging data were available for 11 661 patients. 2071 (18%) had stage I or II disease. Investigations and treatment for these patients are shown in the Abstract P211 Table 1 42% of patients with stage I disease who did not undergo surgery had good performance status (WHO 0-1) and adequate FEV1 for lobectomy (>1.5L). 23% of patients with stage II disease who did not undergo

surgery had good performance status and adequate FEV1 for pneumonectomy (>2.0L).

Abstract P211 Table 1

PET scan field completed	1711 (83%)
PET scan performed	1228 (72%)
Staging procedure performed	509 (26%)
Lung function recorded	1184 (57%)
FEV <sub>1</sub> (L)	1.7 (1.30–2.23)*
FEV <sub>1</sub> (% predicted)	74 (58–90)*
Surgery performed	1140 (55%)
Radiotherapy given	340 (16%)

\*Median (IQR).

**Conclusion** PET scanning is generally being performed as recommended in national guidelines. The low level of recording of lung function may represent poor data completeness for this field or, more worryingly, under use of this test. The available spirometric data suggest that lung function is relatively well preserved in this group of patients. In particular, approximately one third of those patients who did not undergo surgery appeared to have adequate respiratory reserve and performance status to tolerate resection. The reasons why these patients did not undergo surgery require further evaluation at a local level.

**P212 SCREENING FOR LUNG CANCER: A QUALITATIVE STUDY OF THE ACCEPTABILITY OF SCREENING AND PARTICIPATION IN THE LUNG-SEARCH TRIAL**

doi:10.1136/thx.2010.151068.13

<sup>1</sup>A Akporobaro, <sup>1</sup>D Patel, <sup>2</sup>N Chinyanganya, <sup>2</sup>R Butawan, <sup>2</sup>A Hackshaw, <sup>1</sup>C Seale, <sup>2</sup>S Spiro, <sup>1</sup>C Griffiths. <sup>1</sup>Centre for Health Sciences, Barts and The London School of Medicine and Dentistry, London, UK; <sup>2</sup>Cancer Research UK & UCL Cancer Trials Centre, London, UK

**Introduction** Lung cancer has the highest mortality of all cancers in the UK and, as such, constitutes a major public health problem. Lung-SEARCH is a UK multi-centre randomised control trial to determine whether screening (annual sputum cytology and if positive, followed by annual CT scanning and bronchoscopy) of smokers with mild COPD improves the detection of lung cancer at early stages when curative treatment is feasible. Acceptability is an ethical requirement of any screening programme. In addition, maximising participation of at-risk groups is key to any successful screening programme. We conducted a qualitative study to answer two questions:

1. Are the screening methods of the Lung Search trial acceptable to patients
2. Why do some people take part and others decline?

**Methodology** A qualitative study using semi-structured face-to-face and telephone interviews involving three groups of respondents a) those giving an annual sputum sample; b) those undergoing annual bronchoscopy and CT scanning, and c) those who declined participation in the trial. We used the Framework technique to carry out a thematic analysis. Respondent validation was used to strengthen the research findings.

**Results** 50 interviews were completed (group a: 16, group b: 11; group c: 23). Respondents felt sputum analysis and CT scanning was acceptable. Some recalled a negative experience of bronchoscopy but would not object to future bronchoscopies. The main reasons for declining the trial include travelling for CT scanning and bronchoscopy, negative experiences/perceptions of screening tests, and low perceived susceptibility of lung cancer. There were four main typological behaviours recognised within the declining group: ‘too