LETTERS TO THE EDITOR

Guidelines for care during bronchoscopy

We read with interest the British Thoracic Society's guidelines for patient care during bronchoscopy (May 1993;**48**:584) and would like to offer some further relevant comments from the anaesthetist's point of view.

Pulse oximetry is important, but we would suggest that ECG and blood pressure monitoring should be included in all patients to assist in the early detection of cardiovascular complications. Diagnostic bronchoscopy has a mortality rate of 0·01–0·5% which is comparable to total anaesthetic and surgical mortality (0·042–0·63%) for which basic minimal monitoring requirements have already been recommended. This generally includes pulse oximetry, ECG, and blood pressure monitoring, and the Association of Anaesthetists of Great Britain and Ireland recommend that the same standards should be applied for sedation techniques and that additional monitoring is required when there is pre-existing medical disease.[1] It is logistically difficult to demonstrate the value of monitoring devices,[2] but to rely solely on one form of monitoring that may fail or give misleading information could be hazardous.

The BTS guidelines recommend that patients receiving drugs with potential respiratory depressant effects must have antidotes immediately available. Recently there has been interest in using the anaesthetic induction agent propofol to achieve sedation. Propofol may have advantages over opioid and benzodiazepine sedation in that recovery times are shorter.[3] It is, however, a powerful cardiorespiratory depressant and requires the presence of personnel experienced in airway control.

In our view joint bronchoscopy lists with anaesthetic personnel may be the best compromise. The patient will be more closely monitored and may receive better oxygenation and sedation, including the safer use of propofol; the physician gains exposure to airway management and resuscitation techniques and can concentrate on the procedure itself during difficult cases, and the trainee anaesthetist can become more familiar with awake techniques and with bronchial anatomy.

J BRIMACOMBE
Department of Anaesthesia, Cairns Base Hospital, Cairns 4870, Australia

A BERRY
Royal Berkshire Hospital, Reading, Berkshire, UK

1 Adams AP, Baird WLM, Sykes MK, Charlton JE. *Recommendations for standards of monitoring during anaesthesia and recovery*. London: The Association of Anaesthetists of Great Britain and Ireland, 1989.
2 Eichhorn JH. Pulse oximetry as a standard of practice in anesthesia. *Anesthesiology* 1993;**78**:423–5.
3 Crawford M, Pollock J, Anderson K, Glavin RJ, Macintyre D, Vernon D. Comparison of midazolam with propofol for sedation in outpatient bronchoscopy. *Br J Anaesth* 1993;**70**:419–22.

AUTHORS' REPLY We thank Drs Brimacombe and Berry for their interest in our guidelines for care during bronchoscopy. We agree that patients undergoing fibreoptic bronchoscopy should be monitored by pulse oximetry which allows for the detection of tachycardias, bradycardias, and pulse irregularity. Since we also emphasise the importance of having monitoring equipment readily available in the bronchoscopy suite and also of monitoring any patient with known cardiac problems or a history of dysrhythmias, we do not feel that ECG monitoring is necessary for every patient.

Blood pressure should be measured both before the procedure and during the recovery period, but we do not see a need for this to be undertaken in all patients whilst actually undergoing a bronchoscopy.

Respiratory physicians who wish to use intravenous sedation should use drugs with which they are familiar and to which an effective antidote is readily available. Propofol, an anaesthetic induction agent with powerful cardiorespiratory depressant effects, falls outside our guidelines and we agree that, if used, might necessitate the presence of extra personnel experienced in airway control.

JOHN HARVEY
on behalf of Standards of Care Committee, British Thoracic Society, 1 St Andrews Place, London NW1 4LB, UK

Computerised polysomnography

I read with great interest the paper by Drs H Biernacka and NJ Douglas evaluating a computerised polysomnography system (March 1993;**48**:280–3). The authors found that the CNS Sleep Lab is sufficiently accurate for use in clinical sleep studies in patients with mild sleep disordered breathing. This agrees with other studies evaluating computer aided sleep scoring.[1,2] It would be of interest to know the age and diagnosis of the patients investigated by the authors as automatic scoring results in higher agreement in subjects who are young or show a normal sleep pattern.[1,2] We have validated the CNS Sleep Lab in a faster but less interactive configuration in patients suspected of having obstructive sleep apnoea[3] and found a lower agreement for sleep stages and apnoea index in patients who were elderly (age 57 (7) years) and overweight (BMI 30 (4·3)). The agreement for sleep stages awake, IV, and REM was not significantly different, while the agreement for sleep stages I, II, and III was significantly better in 13 patients with BMI <30 compared with 14 patients with BMI ≥ 30. This is due to the poor signal quality in these obese patients. The mean (SE) apnoea + hypopnoea index was 29 (25) h for visual scoring and 21 (19) h ($p<0·05$) for computer scoring in all patients. The agreement for the apnoea + hypopnoea index was significantly correlated with the apnoea + hypopnoea index ($r=0·64$, $p<0·01$). Visual scoring took 186 (76) minutes and computer scoring took 53 (27) minutes ($p<0·05$). Thus care should be taken over extrapolating the results of Biernacka and Douglas to sleep studies in other patients and to sleep studies performed with a less interactive configuration of the CNS Sleep Lab. However, I fully agree that automated apnoea and sleep stage scoring at present is of only limited value.

S ANDREAS
Department of Cardiology and Pneumology, University of Göttingen, Robert Koch Straße 40, 37075 Göttingen, Germany

1 Stanus EL, Lacroix BP, Kerkhofs M, Mendlewicz J. Computer-aided sleep staging in clinical environment. *Neuropsychobiology* 1988;**20**:178–86.
2 Smith JR, Karacan I, Yang M. Automated analysis of the human sleep EEG. *Waking Sleeping* 1978;**2**:75–82.
3 Andreas S, v Breska B, Magnusson K, Kreuzer H. Validation of automated sleep stage and apnea analysis in suspected obstructive sleep apnea. *Eur Respir J* 1993;**6**:48–52.

AUTHOR'S REPLY I noted the study by Andreas *et al* published two months before ours and performed on a smaller number of patients (27 *v* 43). Our patient mix was similar to theirs. I suspect the disparity in the apnoea indices between the two studies mainly relates to differences in the definition of what is an apnoea and what is a hypopnoea. Our criteria have been published and validated elsewhere and are referenced in our article.

NJ DOUGLAS
Respiratory Medicine Unit, University of Edinburgh, City Hospital, Edinburgh EH10 5SB, UK

Chronic obstructive airways disease: terminology

Those of us who still have hypersensitivity reactions to terms such as "chronic obstructive airways disease" are now having to contend with a new phenomenon, "obstructive airways disease" (for example, the paper by Larsson *et al*, January 1994;**49**:41). What is this disease? If *Thorax* is prepared to publish papers about it, I feel you should define it for your readership. If, on the other hand, the authors simply mean airflow obstruction, why not say so?

CLIVE McGAVIN
Department of Respiratory Medicine, Plymouth Chest Clinic, Freedom Fields Hospital, Plymouth PL4 7JJ, UK

Endobronchial valves

We recently described a case of recurrent bronchopneumonia in a 12 year old child, caused by diverticulosis of the left main bronchus, demonstrated bronchographically (March 1993;**48**:187–8). The patient was seen again two years later because of another left lower lobe pneumonia. In fact, over the previous two years the patient had been admitted to another hospital four times for recurrent pneumonia in the left lung. Endoscopic examination showed a clockwise rotation of the left upper lobe bronchus and an inflamed stenosis of the left lower lobe bronchus, and bronchography showed a complete occlusion of the left lower lobe bronchus and bronchiectasis.