mobility. A reduction in dependence is a notable feature to aim for to decrease the level of disability. Even though patients who are able to walk after amputation may become wheelchair dependent within five years, they have a good quality of life for up to five years and may maintain this from a wheelchair.

The suggestion that it is best to forgo prosthetic rehabilitation and issue a wheelchair to elderly patients who have had a lower limb amputated is incorrect. Minerva is right, however, to say that the home environment needs to be adapted for wheelchair independence.

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1 Minerva. *BMJ* 1995;311:578. (26 August.)

2 Collin C, Collin J. Mobility after lower-limb amputation. *Br J Surg* 1995;82:1010-1.

Scientific and letter fraud in the Victorian era

EDITOR,—The issues of scientific and letter fraud^{1,2} were closely linked in the Victorian era, as is exemplified by the actions of Sir Edwin Chadwick and Sir John Simon. These two men dominated public health and were known for their unusual approaches.

Chadwick was influential in government circles. He packed committees with people sharing his views and altered the results of investigations.³ Simon, the chief medical officer and an opponent of Chadwick, refrained from airing his differences with the government in public.⁴ Nevertheless, he believed strongly that the political issues needed to be debated openly. By sending anonymous letters to the *Times* he ensured a balanced public debate of crucial issues, such as the registration of medical practitioners, without undue bias from the influence of his position.⁵

Whereas Chadwick might be chastised for scientific fraud, Simon should not be associated with letter fraud. Unsigned contributions still have a place in peer reviewed professional journals, whether as letters to the editor, viewpoints, or editorials.

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1 Lock S. Lessons from the Pearce affair: handling scientific fraud. *BMJ* 1995;310:1547-8. (17 June.)

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4 Simon J. *English sanitary institutions, reviewed in their course of development, and in some of their political and social relations*. 2nd ed. London: John Murray, 1897;230-4, 272, 465.

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A living will is not euthanasia

EDITOR,—We were concerned to read Ian Robertson's description of living wills.¹ He states that they are "quasilegal," but this is untrue. In the landmark Canadian case of *Malette v Shulman* Dr Shulman was found liable in battery for ignoring Mrs Shulman's advance refusal of treatment.² In the more recent English case of *Airedale NHS Trust v Bland* three judges in the House of Lords confirmed the legal effect of advance statements.³

Robertson states that "the whole concept of the living will is...based on the very naive notion of the basis of motivation, emotion, and intent in the human mind." In fact, the basis of the living

will is the principle that any adult has the right to refuse medical treatment for reasons that may be "rational, irrational or for no reason"⁴ and that "the same principle applies where the patient's refusal has been expressed at an earlier date."⁵ If this is what Robertson means by "motivation, emotion, and intent" then we would take issue with his description that such factors are "very naive."

Robertson confuses living wills with euthanasia. Euthanasia is illegal in Britain, and a living will cannot demand an illegal act. An adult of sound mind can, however, legally refuse any medical treatment, including nutritional support and hydration. A living will that refuses life supporting treatment under certain circumstances does no more than allow a mentally competent person to extend his or her present rights to a future period when he or she no longer has the mental capacity to make decisions.

To argue that injury to the brain changes one person into another is to strike at the heart of individual autonomy. It leaves the fate of the mentally incapacitated adult entirely in the hands of his or her doctor, whose judgment about treatment might be far from what the person would have desired.

No adult is obliged to complete a living will. But it is surely right that a legal mechanism exists to allow mentally competent adults to make advance refusals about medical care that will be respected if they later lose the capacity to make those decisions themselves.

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1 Robertson I. A will to live. *BMJ* 1995;311:457. (12 August.)

2 *Malette v Shulman* (1991) Med LR 162 (Ont CA).

3 Per Lord Keith, Lord Goff, and Lord Mustill. *Airedale NHS Trust v Bland* (1993) 1 All ER 821.

4 Per Lord Templeman in *Sidaway v Board of Governors of the Bethlem Royal Hospital* (1985) AC 871.

5 Per Lord Goff. *Airedale NHS Trust v Bland* (1993) 1 All ER 821.

Accident and emergency doctors lack proper training in trauma

EDITOR,—Since the Royal College of Surgeons reported on 1000 deaths from trauma in 1988¹ the upgrading of trauma care in Britain has been widely debated. Training in advanced trauma life support (ATLS) is seen by many people as a vital part of this upgrading process.^{2,3} Skinner, writing on behalf of the Royal College of Surgeons in 1993, stated that "all doctors involved in the initial resuscitation and subsequent management of patients with major injuries should possess a current ATLS provider certificate from the RCS."⁴ Senior house officers form the majority of the workforce staffing accident and emergency departments. They should be trained in advanced trauma life support in accordance with the college's guidelines.

Thirteen major accident and emergency departments provide trauma care for the several million people who live in the Southwest region. An audit was conducted in June 1994 to establish the proportion of senior house officers working in accident and emergency in the region who had a certificate in advanced trauma life support. The audit was repeated 12 months later. It was found that only 11 (16%) of the 68 senior house officers working in the 13 departments in 1994 and only nine (11%) of the 70 working there in 1995 had a certificate in advanced trauma life support.

There are several possible reasons for this lack of certification. The Royal College of Surgeons' data on the career stage at which doctors received their

training in advanced trauma life support suggested that only 0.25% were trained before full registration. Most senior house officers work in accident and emergency in their first or second post-registration job and hence have not had access to a course when they start their job. The problem is exacerbated because having passed a part 1 examination of a recognised college is a prerequisite for being allowed on to many courses. Many senior house officers are on the waiting list for courses while doing their accident and emergency attachments, but waiting times can be up to a year, and in a lot of cases trainees have moved on from accident and emergency before they receive their training. This is despite the expansion in the number of courses available.

The principles of advanced trauma life support help relatively inexperienced doctors to deal with complicated clinical situations in a controlled and structured way.⁵ They thus improve the overall standard of patient care. Senior house officers working in accident and emergency should be trained in advanced trauma life support; a gold standard would be certification as a prerequisite for applications to work as a senior house officer in accident and emergency posts, or official training in advanced trauma life support could be built in to induction courses in accident and emergency. To achieve this, access to the courses needs to be improved. This has major implications in terms of resources.

We are conducting a national audit to record the numbers of senior house officers in Britain who have been trained in advanced trauma life support. It will be interesting to see if the figures from the south west reflect a more widespread problem.

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1 Royal College of Surgeons. *Management of patients with major injuries. Report of a working party*. London: RCS, 1988.

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Review of prescribed treatment for children with asthma

Weaknesses in methods and analysis limit conclusions

EDITOR,—Analysis of a computerised prescribing database showed that 9362 children were prescribed some form of preventive treatment for asthma. Of these, 1358 received sufficient repeat prescriptions to suggest that they were consistently receiving prophylactic treatment.¹ Several weaknesses in this analysis limit the interpretation and conclusions reported.

Firstly, the author assumes that all children remained on the practice list for a whole year. Morton-Jones and Pringle estimated that 30.6% of people on a practice list registered or de-registered within one year.²

Secondly, there is an implicit assumption that asthmatic patients require preventive drugs continuously, and this may indeed be stated in guidelines. Some, however, will be newly diagnosed during the year, while for others the problem will no longer be active and treatment will be stopped. The increased proportion of patients using inhaled steroids and the decreased proportion using inhaled sodium cromoglycate identified during this study emphasises the dynamic nature of patient management. In addition, there will be

other patients who require treatment for only short periods—for example, sodium cromoglycate for exercise induced asthma. In these circumstances it is inappropriate to determine levels of compliance on the basis of use of treatment over a whole year by identifying patients who were prescribed more than six corticosteroid inhalers or nine sodium cromoglycate inhalers. As a result, the compliance rate is likely to be underestimated.

Thirdly, the prescribing records were not validated independently (for example, against prescribing analysis and cost (PACT) data), though we recognise that this could not readily be undertaken in an age specific group.

Finally, the unit of analysis was a prescription or inhaler pack. No attention was given to the different formulations, strengths, or quantities prescribed; this could have been done by standardising the data by using defined daily doses. How were prescriptions for Rotacaps dealt with?

Although we are critical of the methods and analysis of this paper, we fully endorse the desirability of audit. This paper emphasises the importance of adequate records for the purpose and of a well tested standard as the baseline for audit.

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1 Warner JO. Review of prescribed treatment for children with asthma in 1990. *BMJ* 1995;311:663-6. (9 September.)

2 Morton-Jones T, Pringle M. Explaining variations in prescribing costs across England. *BMJ* 1993;306:1731-4.

More recent data suggest guidelines are being adhered to

EDITOR,—J O Warner found that too few children were prescribed preventive treatment and too many were prescribed oral β agonists in 1990-1.¹ Though international paediatric guidelines had been distributed, the British Thoracic Society's guidelines were published later, in 1993. With more widespread dissemination of guidelines in general practice and incentives for asthma clinics, shared care, and audit, trends in prescribing in primary care have probably changed.

We have data from a questionnaire survey of prescribing in chronic diseases by 1000 general practitioners, who provided data over random four week periods between July 1990 and June 1995 (the new and change therapy inquiry). The data presented refer to all newly started courses of treatment for asthma for patients aged between 5 and 18 (that is, the incidence of new prescriptions). The figures did not include repeat prescribing (analogous to the prevalence). Our results show that the proportion of prescriptions for asthma that were for new courses of inhaled steroids increased by 49.6% between 1990 and 1995, from 25.8% to 38.6% (table). Prescribing of new courses of oral

bronchodilators halved. Although the proportion of sodium cromoglycate inhalers decreased by one third, general practitioners are not alone in making this deviation from the guidelines, as only 21% of hospital general paediatricians surveyed used sodium cromoglycate as the first step.²

These incidence data probably reflect new prescribing habits more accurately than prevalence data, as general practitioners are less likely to change established treatments in patients with stable disease.

These results suggest that the guidelines are now being more closely adhered to. We agree with Warner, however, that prospective trials of prophylaxis are needed, with emphasis on long term adverse effects, compliance, and the requirement for inhaled short acting β agonists.

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1 Warner JO. Review of prescribed treatment for children with asthma in 1990. *BMJ* 1995;311:663-6. (9 September.)

2 Robins AW, Lloyd BW. Most consultants deviate from asthma guidelines. *BMJ* 1995;311:508. (18 August.)

Author's reply

EDITOR,—It is inevitable that readers will have found weaknesses in my analysis of prescription data. There is, however, an urgent need to review prescribing in the light of the many published guidelines over the past five years, and it is regrettable that more robust data are not available.

A M Ross and D M Fleming point out that the rate of registration and de-registration of patients within individual practices over one year is up to 30.6%.¹ This, however, would make virtually no difference to the analyses. As just under a tenth of patients were being prescribed treatments for asthma in the one year period, this means that only 3% would be added to or subtracted from the total with asthma in the practice. As only half of these were prescribed any form of prophylaxis the difference would amount to 1.5%.

Ross and Fleming also point out that the management of asthma is dynamic in nature, with frequent modulation of treatment. In ideal circumstances this may be the case, but all too commonly it is not so. The dynamics come from the patients and parents themselves, who stop and start treatment without medical advice. Implicit in the comments of Ross and Fleming is that they seem not to believe that continuous prophylactic treatment is always appropriate. In questioning this dogma from published statements they are flying in the face of overwhelming evidence showing that continuous prophylaxis achieves the best

possible outcomes. Intermittent use of inhaled steroids is an all too frequent practice; there is no precedent to suggest that it is of value. It must continue to be asserted that when a patient starts to take a prophylactic compound for asthma the likely duration of treatment will be measured in years, not months.

A recent study has shown that the longer that effective prophylaxis is delayed in school age asthmatic children the smaller the increase in lung function with growth.² This emphasises the need to start prophylaxis early once the nature of the disease is well established. Thus few asthmatic children were receiving inhaled prophylaxis either sufficiently early in the course of their disease or sufficiently consistently for me to consider that the treatment was being prescribed appropriately. This was not because patients were failing to seek consultations or repeat prescriptions, because the rate of prescribing for β agonist inhalers was consistently high for all the categories of patients and was certainly higher than most would consider appropriate, at a rate of 3-4 doses a day. Indeed, in my own district a target has been set to reduce the ratio of inhaled bronchodilators to inhaled anti-inflammatory drugs prescribed by general practices by a quarter between 1993 and 1996. In 1993 and 1994 the ratio was 1.7:1.³

The information provided by Richard Martin and colleagues is timely. An investigation of new and changed treatment will undoubtedly provide important information, but the rate of prescription of prophylaxis was disappointingly low. Doctors in Britain are failing to follow the paediatric guidelines, which 'emphasise the use of sodium cromoglycate as the first step in prophylaxis.'⁴ In some countries adherence to the guidelines is much better.⁵

The authors of the two letters conflict on one point, with Ross and Fleming indicating a dynamic approach to the management of asthma with changes in treatment and Martin and colleagues suggesting that, once treatment has been established, it tends to remain unaltered. Whatever the minor disagreements, however, we all agree that large prospective studies of prophylaxis in practice are needed urgently; hopefully these will collect data on morbidity as well as on prescriptions and compliance.

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1 Morton-Jones T, Pringle M. Explaining variations in prescribing costs across England. *BMJ* 1993;306:1731-4.

2 Agertoft L, Pedersen S. Effects of long-term treatment with an inhaled corticosteroid on growth and pulmonary function in asthmatic children. *Respir Med* 1994;88:373-81.

3 Southampton and South West Hampshire Health Commission. *Annual report*. Southampton: SSWHHC, 1995:43.

4 Asthma: a follow-up statement from an international paediatric asthma consensus group. *Arch Dis Child* 1992;67:240-8.

5 Korppi M, Kuikka L, Remes K. Preventive therapy for asthma in children; a 9 year experience in eastern Finland. *Eur Respir J* 1995;8:1318-20.

Prescribing of new courses of treatment for asthma for patients aged between 5 and 18 in general practice, July 1990 to June 1995. Figures in parentheses are annual market share (as percentage) of each type of treatment

	Jul 1990- Jun 1991	Jul 1991- Jun 1992	Jul 1992- Jun 1993	Jul 1993- Jun 1994	Jul 1994- Jun 1995	Analysis of trend*
Inhaled β_2 agonists	378 (37.1)	505 (37.5)	563 (38.2)	655 (39.1)	617 (36.9)	P=1
Inhaled steroids	263 (25.8)	393 (29.2)	482 (32.8)	566 (33.8)	646 (38.6)	P=0.002
Inhaled sodium cromoglycate	96 (9.4)	106 (7.9)	108 (7.3)	108 (6.4)	101 (7.2)	P=0.01
Oral steroids	77 (7.6)	131 (9.7)	149 (10.1)	158 (9.4)	150 (9.0)	P=0.5
Oral bronchodilators	205 (20.1)	211 (15.7)	169 (11.5)	190 (11.3)	158 (9.4)	P=0.01
Total	1019	1346	1441	1677	1672	P=0.01

*Simple linear regression analysis was applied to annual market share of each drug and to total number of prescriptions in final row.

Correction

Managing cleft lip and palate

Owing to an editorial error only one author was given for the penultimate letter in this cluster, which was sent by the Craniofacial Society of Great Britain (25 November, p 1432). There were in fact 10 authors, who make up the council of the society: D A SELL, specialist speech and language therapist; B C SOMMER-LAD, consultant plastic surgeon; F B CHRISTIE, consultant orthodontist; M J W FERGUSON, dean of School of Biological Sciences; L F A STASSEN, consultant maxillofacial surgeon; V J RUSSELL, specialist speech and language therapist; M A P MILLING, consultant plastic surgeon; K F MOOS, consultant maxillofacial surgeon; J P MOSS, consultant orthodontist; and O FENTON, consultant plastic surgeon. The address for all of them is as published.