meaningless. Is it not better for people to know that they have an infection, have it treated in every way possible, be accepted as any other person with any disease should be, and live to the fullest that is possible but to be aware of the restraints imposed by the condition and so prevent unwitting spread to others? For most people infected with HIV the infection will manifest at some time. They may then have on their conscience the fact that they spread the disease unknowingly.

In most countries, submitting to HIV testing is considered to be blameworthy. In Saudi Arabia all expatriates are tested as a requirement before they are employed. Rather than be seen as an invasion of a person's privacy or an infringement of his or her rights an HIV test should become as routine as any other test carried out in the interests of health promotion.

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1 Evans JA, Marriage SC, Walters MDS, Levin M. Unsuspected HIV infection presenting in first year of life. *BMJ* 1995;310:1235-6. (13 May.)

Patients with a self diagnosis of myalgic encephalomyelitis

EDITOR,—Myalgic encephalomyelitis is most commonly related to an underlying psychological or psychiatric disturbance.^{1,2} Shonagh Scott and colleagues report that when general practitioners deal with symptoms consistent with those of myalgic encephalomyelitis their attitude is likely to be influenced by the patient's perception, expectations, and social class.³ It is not uncommon for patients to diagnose myalgic encephalomyelitis themselves before they seek a consultation; this can lead to disruption of the doctor-patient relationship, unsatisfactory consultations, and possibly failure to diagnose any underlying pathological process. We report on a patient with a self diagnosis of myalgic encephalomyelitis in whom hypopituitarism was diagnosed only after a protracted period.

A 65 year old man presented with a four year history of tiredness, lethargy, and loss of weight of 13 kg. He had attributed his symptoms to myalgic encephalomyelitis, and, although he was referred for a medical opinion, he defaulted, preferring to attend a popular herbalist. Over the next five years he took a series of remedies and concoctions with only limited success. The persistence of his symptoms persuaded him to seek confirmation of his self diagnosis, and a further medical consultation was arranged. When seen he was noted to have a sallow appearance, dramatic loss of body hair, gynaecomastia, and micro-orchidism.

Subsequent investigations confirmed hypopituitarism: the cortisol concentration was 48 nmol/l basally and minimal after tetracosactrin, rising to 160 nmol/l at 30 minutes. Thyroid stimulating hormone was undetectable, with a low free thyroxine index of 18.3 nmol/l (normal range 21-36). Serum testosterone concentration was <1 nmol/l, and gonadotrophins were undetectable basally and after stimulation. Computed tomography showed a large pituitary adenoma. His symptoms resolved dramatically within 24 hours of the start of hydrocortisone replacement treatment. He continued to take full hormone replacement and resumed his normal lifestyle after resection of his adenoma.

Support groups for people with presumed myalgic encephalomyelitis publish an extensive literature. In this, intestinal *candida albicans* is strongly implicated in the pathogenesis of myalgic encephalomyelitis, within "many people, probably over half, the yeast being out of control." Among the remedies suggested are anti-candida diets, garlic, homoeopathic doses of candida, and even colonic cleansing. Such polarised publications, while providing valuable support for patients with myalgic encephalomyelitis, also lead to self diagnosis and self treatment without appropriate investigation. The use of the above remedies may provide some relief but in this case would not be a substitute for steroid treatment.

When considering the diagnosis of myalgic encephalomyelitis it is important to remain objective and exclude any underlying remediable disease. Hypopituitarism should be considered in all patients presenting with non-specific symptoms.

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- 1 Maclean G, Wessely S. Professional and popular views of chronic fatigue syndrome. *BMJ* 1994;308:776-7.
- 2 Pawlikowska T, Chalder T, Hirsch SR, Wallace P, Wright DJM, Wessely SC. Population based study of fatigue and psychological distress. *BMJ* 1994;308:763-6.
- 3 Scott S, Deary I, Pelosi AJ. General practitioners' attitudes to patients with a self diagnosis of myalgic encephalomyelitis. *BMJ* 1993;310:508. (25 February.)

Review ignored biography of Sloane

EDITOR,—Christopher Booth's review of a biography of Sir Hans Sloane¹ overlooks a previous biography, by St John Brooks.² While the earlier book does not list Sloane's collections in detail, it has biographical merit. It seems a pity that it should be ignored.

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- 1 Booth C. Sir Hans Sloane: collector, scientist, antiquary [book review]. *BMJ* 1995;310:1209. (6 May.)
- 2 St John Brooks E. *Sir Hans Sloane: the great collector and his circle*. London: Batchworth Press, 1954.

Guidelines to reduce x ray examinations in accident departments

Implementing guidelines may not improve outcome for patients

EDITOR,—Eugene McNally and colleagues report the effect of introducing guidelines on when to request radiographs for certain conditions presenting in an accident department.¹ Two aspects of this paper merit discussion. Firstly, the outcome measured and the data presented do not seem to support the conclusions. Secondly, one should not infer that use of the posters containing the guidelines will lead to clinical benefit for patients.

The outcome measured (the proportion of patients referred for particular series of radiological views) is not the same as the proportion of patients managed in accordance with the guide-

lines. The follow up of patients who did not undergo radiography seems inadequate: the reduction in the proportion of patients undergoing radiography may have been inappropriate. The reduction need not have been due to fewer unnecessary radiographs being obtained.

In two of the areas studied (radiography of the cervical spine and ankle) no significant change occurred. (It is not possible to calculate from the data whether a significant change occurred when all four areas are considered together.) One cannot necessarily extrapolate the results from these two areas to others. We would like to have seen data from areas not covered by posters: other factors, such as use of the Royal College of Radiologists' booklet,² may have caused the reductions seen.

The final point concerns the interpretation of such studies. These data do not show that using posters to promote guidelines benefits patients. Even if they did show increased adherence to the guidelines, we believe strongly that such data (concerning the process of care) should not be interpreted as showing improved outcomes for patients unless the guideline has previously been shown to confer benefit when followed. Increasing adherence to a flawed guideline may be harmful.

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- 1 McNally E, de Lacey G, Lovell P, Welch T. Posters for accident departments: simple method of sustaining reduction in x ray examinations. *BMJ* 1995;310:640-2. (11 March.)
- 2 Royal College of Radiologists. *Making the best use of the radiology department: guidelines for doctors*. London: RCR, 1989.

Radiology guidelines could be improved

EDITOR,—Radiologists' suggestions to help reduce unnecessary x ray examinations in patients prescribing to accident and emergency departments have been welcome. Eugene McNally and colleagues suggest that this reduction can be sustained by the use of posters.¹ I am concerned, however, about the content of the two examples of their posters shown in their paper.

The poster illustrating the guidelines for x ray examination of the skull states, "Do not x-ray patients who are to be admitted." A linear fracture is important chiefly as an indicator of potential secondary intracranial bleeding.² A patient with a head injury who is not oriented will be admitted for observation. If this patient has no skull fracture there is a 1 in 100 risk of a serious intracranial bleed. That risk is increased 25 times to 1 in 4 if a skull fracture is present.³

Reducing the threshold for performing computed tomography is one answer, but this has financial and workload implications that many units might not be able to afford. A skull x ray film can thus be a useful triage tool in determining which patients with head injury require computed tomography. It should, of course, be emphasised that patients with serious head injuries (for example, those with a score on the Glasgow coma scale of ≥ 8) need urgent computed tomography and not skull radiography.

Teaching of advanced trauma life support has greatly raised awareness of possible injuries to the cervical spine and highlighted the importance of lateral radiographs of the cervical spine in major trauma.⁴ It is thus disappointing that the poster on x ray examination of the cervical spine does not mention major trauma or multiple injuries. Similarly, the first indication on the poster is "Neck injury with pain." However, patients who are difficult to assess—for example, because of alcohol—may not always complain of pain. This and the mechanism of injury must be taken into account. If there is any doubt about a possible neck

injury the neck must be immobilised and an x ray film obtained.

Several guidelines are now available for use in accident and emergency departments—for example, on advanced cardiac life support, paracetamol poisoning, and asthma. Unfortunately, the more posters that adorn the walls of the department the less will be their individual impact. Great care needs to be exercised in drawing them up, especially as there is an increasing fear that they will also end up adorning the walls of lawyers' offices.

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Authors' reply

EDITOR,—The aim of our study was to propose a method of reinforcing clinical guidelines. The outcome that was measured showed a significant change in referral patterns and supports the conclusion that carefully designed posters are effective in reinforcing guidelines. Reductions of 75% for abdominal radiographs and 50% for skull radiographs were achieved. Data on the overall change in referral patterns (that is, for all four areas combined) were not presented as we regarded this statistic as meaningless.

Several other possible reasons for the reduction in referral for radiography were considered, including the experience of the doctors and changes in staff. No other guidelines, including the Royal College of Radiologists' booklet, were used during the period studied. No request was refused because it fell outside the guidelines. Editorial limitations on the length of our paper precluded a full discussion of these issues.

We agree with R D Hardern and D W Hamer that this should not necessarily be regarded as a study of outcome. Clearly, if guidelines are poor and based on dubious evidence then the outcome in patients may well be adversely affected, particularly if the method of reinforcing the guidelines is as successful as in this study. Our guidelines were devised, after an extensive analysis of the literature, in conjunction with local clinicians.

We agree with Mr Dudley that the presence of a vault fracture is associated with an increased risk of intracranial injury. What Dudley does not make clear is that the figure of 1 in 4 refers to adults with both a skull fracture and an altered level of consciousness. In patients with skull fracture who are oriented the incidence of intracranial abnormality is eight times less.¹ Furthermore, as many as 60% of patients with intracranial abnormality after head injury will not have a fracture.² The important finding, the intracranial lesion, may be overlooked if focus is put on skull radiographs. For these reasons, there is now an extensive literature arguing against routine skull radiography after admission in favour of a more open policy of using computed tomography.^{3,4} The advanced trauma life support guidelines, mentioned by Dudley, also support this view. Used correctly, this policy can be cost effective,⁵ but, clearly, local modifications will be necessary where computed tomography and neurosurgical advice are not available.

Patients who cannot be adequately assessed, whether because of unconsciousness or diminished

consciousness or after severe head injury, should be assumed to have a cervical spine injury until proved otherwise. This point is adequately covered in our guidelines.

Devising guidelines alone is insufficient; the real challenge is making them work. Dudley expresses concern regarding the increasing trend towards use of clinical guidelines. We trust that Dudley does not regard the challenge of devising and testing methods for ensuring that policies for good practice are implemented as one to be resisted and use this as an excuse for doing nothing.

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Genetic testing in the classroom

EDITOR,—Recent advances in molecular genetics permit simple genetic testing; this has raised the possibility that such testing may be used to show genetic techniques as part of medical education. Indeed, in a biochemistry class in one medical school first year medical students have undergone collective testing for the most common genetic defect causing cystic fibrosis (ΔF -508). The results were presented collectively, not individually, so the anonymity of carriers of the mutation will probably have been preserved. However, little genetic counselling was offered about the implications of testing. No student objected to the testing, but the students were not told that they had a choice.

Given that anonymity must be difficult to ensure in a classroom and that the stringent quality controls practised in service laboratories would not apply, serious problems could arise. What if no one in a class was found to have the mutation? Should the students rely on this finding if they (or a partner) had a family history of cystic fibrosis? This procedure comes close to breaching the guidelines laid down by the Nuffield Council on Bioethics, which recommend that "adequately informed consent should be a requirement for all genetic screening programmes."¹

A similar situation might easily have arisen in another postgraduate course with which one of us has been involved. In this course a class carried out tests for apolipoprotein E, which could produce results with serious implications for susceptibility to ischaemic heart disease or Alzheimer's disease. During discussions some members of the class expressed a strong desire to know their individual results of the test, though this option was not offered.

We wonder whether other medical schools or teaching institutions carry out classroom testing on their students that could elicit medically important information for which the students have not been prepared. We are disturbed by both the lack of pretest counselling and the potential lack of confidentiality in this context. It would be unfortunate

if testing of students for genetic disorders becomes widespread in the classroom because a potentially powerful opportunity to promote careful thought about the ethical issues will have been lost. Furthermore, students may be encouraged by such experiences to trivialise these issues, and they may then fail to recognise their importance in clinical practice.

Perhaps this example has wide implications for the organisation of teaching about laboratory studies of inherited disease. In such classes should not anonymous DNA samples be used rather than samples from members of the class? Are guidelines required?

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Medical audiovisual organisation continues

EDITOR,—Minerva's comment on the future of Graves Medical Audiovisual Library is ill informed.¹ In 1993 Graves Educational Resources transferred its audiovisual distribution services to Concord Video and Film Council, based in Ipswich, from where the Graves medical audiovisual programmes are still available. The national medical slide bank, which was established by Graves in 1988, is now housed at the Wellcome Trust and is being further developed to meet wider needs for high quality pictures in all branches of medicine. The curator of the bank can be contacted at the Wellcome Centre Medical Photographic Library, 210 Euston Road, London NW1 2BE (telephone 0171 611 8746).

The savings from winding up the base in Chelmsford have been placed by the University of Wales College of Medicine in a special fund known as the Graves Educational Resources Development Fund, which will be used to support pioneering work in computer based learning in medicine. The important contribution that John and Valerie Graves made to medical education will be perpetuated.

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- Minerva. *BMJ* 1995;310:1342. (20 May.)

Haemophilus influenzae vaccines for infants in Spain

EDITOR,—*Neisseria meningitidis* is the commonest cause of bacterial meningitis in Spain. The overall ratio of meningococcal meningitis due to *Haemophilus influenzae* type b in children aged 0-15 in the past 15 years was 10:1. Many doctors in Spain believe that *H influenzae* type b is a rare or minor pathogen because of the high incidence of invasive disease due to *N meningitidis*. They also believe that invasive disease due to *H influenzae* type b is less prevalent in Spain than in other European countries that have licensed a vaccine against the organism. Until now, *H influenzae* type b vaccine has not been included in any immunisation programme in Spain.

The Basque region in northern Spain has a