test or through collateral evidence, especially as human errors can so easily arise in the chain of sending specimens and reports even in the best run hospitals. We would raise the possibility of such serious disease with an unsuspecting patient only after collecting evidence and reaching a degree of certainty.

I suggest that precounselling should be omitted when HIV testing is to be done as part of differential diagnosis in a patient who is not overtly concerned about HIV infection. If the result is negative the need for repeat testing will be determined by other findings and subsequent progress. If it is positive the clinician may choose not to reveal the result immediately but rather to raise the possibility of HIV infection with the patient and proceed to a confirmatory HIV antibody test.

Doctors are paid not to obey rules but to exercise judgment in the patients' best interests. These interests are not served by raising the spectre of AIDS (or of any other serious disease) prematurely and unnecessarily.

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AIDS: When to test

SIR,—Your series on the acquired immune deficiency syndrome (AIDS) is both timely and helpful. It has, however, raised at least one major doubt in my mind: when to investigate.

AIDS is a polymorphic disease, as the articles show. The differential diagnosis of lymphadenopathy (which is an early feature in some patients) includes the equally serious disease leukaemia. Leukaemia is often treatable and must therefore be identified as early as possible. In general practice the order in which investigations are carried out is related to the likelihood of the test being helpful, its cause, and its invasiveness. All other things being equal, a blood film is always done before a bone marrow biopsy.

With AIDS we are told that a blood test for the presence of antibodies should not be done before the patient has been counselled and fully understands the effects of having such a test. I am aware of the limitations of the human immunodeficiency virus (HIV) antibody test, but, to some extent, similar limitations apply to many other investigations but do not prevent us from performing the tests. Nor do we always tell the patient every possible outcome of an investigation. Indeed, we ourselves are sometimes surprised when an investigation shows a possible lesion that we had not previously considered. Why should a test for HIV antibody be different?

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Simple thyroid cyst: cause of acute bilateral recurrent laryngeal nerve palsy

SIR,—We agree with Messrs J S Gani and J M Morrison (2 May, p 1129) that it is difficult to explain the rapid onset and sudden relief of the palsy in their patient. We think, however, that impairment of the microcirculation to both nerves is an unlikely cause.

Interruption of the microcirculation to a nerve for a short period of 20 to 30 minutes results in a palsy with no recognisable pathological lesion, and on re-establishing the blood flow there is an almost immediate reversal.¹ Longer lasting ischaemia results in demyelination with a far longer recovery period. In the reported case the microcirculation

to the recurrent laryngeal nerves was probably interrupted for more than 30 minutes, making immediate recovery, when the pressure was relaxed, extremely unlikely.

In January this year we admitted a 41 year old man who had had a goitre for many years and who gave a three month history of hoarseness. Indirect laryngoscopy showed a paralysed left vocal cord, but at operation the left recurrent laryngeal nerve was noted to be in a normal anatomical position and not stretched over the gland. The left vocal cord remained paralysed in the immediate post-operative period. Histological examination of the gland confirmed the diagnosis of a multinodular goitre. At his second outpatient visit 10 weeks after surgery his voice had improved but the left vocal cord remained paralysed. When he reattended six weeks later he had further improvement with full vocal cord movement.

We believe that this patient's recovery was more typical of the pattern exhibited by patients with ischaemic demyelination injury to the recurrent laryngeal nerve.

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1 Ochoa J. Nerve fiber pathology in adult and chronic compression. In: Omer GE, Spinner M, eds. *Management of peripheral nerve problems*. Philadelphia: Saunders, 1980.

Developing primary health care

SIR,—Professor Brian Jarman and Mrs Julia Cumberlege (18 April, p 1005) propose a totally organised system of community care on a geographical basis. Their system would work if all general practitioners were state salaried and their premises owned by the state. Commendably, they include the general practitioner in their primary health care team, but it is astonishing that "there is no question of one person being in charge." Really. Consensus management went out with Griffiths, and now he too is looking at community services. Furthermore, there is no word about practice nurses (there could easily be 10 000 in the country), yet the authors say, "We support attempts to evaluate different models of care."

It is surely arrogant to say that "The patient's right to freedom of choice of a doctor, however, should be retained, as it adds flexibility to the rigidity of fixed geographically based services." There is more to a patient's freedom of choice than this. A patient has allegiance to a practice, not a community, and the reference point in community care is the practice and not the community care area. Mrs Cumberlege has enhanced the role of the practice nurse enormously. Let us hope that the paper by Professor Jarman and Mrs Cumberlege has a similar paradoxical effect.

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Clinical Algorithms: Irregular vaginal bleeding

SIR,—It is a commonly held belief that carcinoma of the cervix is always treated by hysterectomy and that some sort of adjuvant radiotherapy is sometimes given for the sake of completeness. Unfortunately, Professor Geoffrey Chamberlain seems to imply this in his recent article (11 April, p 947). He states: "If the biopsy confirms the presence of stratified squamous cell carcinoma (or, rarely, adenocarcinoma from the canal) the treatment is usually a combination of radical surgery, local irradiation, and deep irradiation," and in the

algorithm box he puts "Radical surgery±deep x ray treatment."

Though a combined approach is generally accepted for the management of operable carcinoma corpus uteri, there are few cases of invasive cancer of the cervix (nearly always stage IB or earlier) in which the treatment of choice is not primary radiotherapy with external beam and subsequent intracavitary irradiation. For more advanced stages surgery is not a feasible proposition, and as yet such cases form the bulk of the caseload for invasive cancer of the cervix in most centres.

Postoperative radiotherapy is often requested for patients in whom pelvic lymph node metastases were found at surgery. In fact, very few such patients really benefit much unless the node disease is truly microscopic and can therefore be eradicated by the radiation doses which can then "safely" be given. (The place of aggressive chemotherapy deserves more serious consideration here than it commonly receives.) The opposite approach, when primary radical radiotherapy is followed by planned surgery, has its advocates, though usually for barrel shaped tumours or adenocarcinomas. I am reliably informed by gynaecologist colleagues, however, that hysterectomy after radiotherapy is rarely a radical operation, unless the radiation doses were deliberately kept low.

Planned combinations of radical treatments carry unnecessarily high risks of damage to patients and rarely improve the prognosis for the patients. "Safe" combinations, given in either order of preference, inevitably mean that the efficacy of one of the treatments is compromised; the patient's medical attendants probably gain more in reassurance than the patient gains in prognosis. Obviously, the radiotherapist must attempt what he can for a patient in whom primary surgery is inadequate, just as the gynaecologist rarely objects to attempting salvage surgery in the patient for whom radiotherapy has failed.

My complaint is that so often a radiotherapist has to answer the questions of an anxious patient, or her husband, who has been told by junior gynaecological staff, the family doctor, or a nurse to expect major surgery—whatever the disease stage—and who then understandably thinks that radiotherapy is either second best or simply wrong. I realise that Professor Chamberlain could not enter this kind of discussion for the purposes of his algorithm, and I do not wish to open up the silly surgery versus radiotherapy argument. I would suggest, however, that the algorithm box for the treatment of cancer of the cervix should more accurately be labelled "Surgery or radiotherapy."

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Look after your heart

SIR,—Although Dr Noel D L Olsen's leading article (2 May, p 1115) contains much good sense, it conspicuously failed to mention promotion of exercise as a priority in coronary prevention. This omission is unfortunate not only because exercise is highly effective in prevention but also because attention to other risk factors has not substantially altered the overall incidence of coronary disease.¹

Paffenbarger showed lack of exercise to be the best predictor of coronary risk in the community he studied,² and in May's review³ physical conditioning was the best form of secondary prevention (Coronary Prevention Group, RSM, London, 1987). Remarkably little exercise is required to reduce coronary risk (30 minutes

jogging or brisk walking three times a week), yet only 15% of the population of the United Kingdom do this. The real benefits of exercise have not yet been emphasised, either by this campaign or by previous attempts, and the few hazards of exercise have been overemphasised. Mass screening and drug treatment are costly, exercise is cheap, and all that is required is a positive attitude by health authority managers and general practitioners. For these reasons and the financial state of the NHS exercise deserves a higher priority.

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- 1 Oliver MF. Should we not forget about mass control of coronary risk factors? *Lancet* 1983;ii:37-8.
- 2 Paffenbarger RS. A natural history of athleticism and cardiovascular health. *JAMA* 1984;252:491-5.
- 3 May GS. Secondary prevention after myocardial infarction. *Progress in Cardiovascular Disease* 1982;24:331-51.

Antenatal, perinatal, or postnatal brain damage

SIR,—I was pleased to see Professor E M Symonds reiterating the important information that cerebral palsy is rarely a result of birth asphyxia (25 April, p 1046), a subject recently well reviewed by Dennis.¹ However I was struck by the absence of any reference to the woman who bears the baby and who in most cases, with or without her partner, will care for any handicapped child who is born.

Surely the importance of better identification in utero of the fetus who is already acidotic is that by appropriate care one might reduce the risk of the joy of parenthood being followed by the tragedy of neonatal death or severe disability? As Dr Marsden Wagner said in 1986, "If the doctor plays God he must expect to be blamed for natural disasters"; and part of the feeling by parents that there must be some action or some omission to explain why their child is "brain damaged" stems from the way that women have been persuaded that attending regularly for antenatal check ups and having their babies in hospital "guarantee" a successful outcome.

I believe that genuinely sharing our knowledge, and the lack of it, with women; not applying routine investigations without adequate scientific evidence of their value; and giving a straightforward explanation when things do not turn out as hoped will "free the obstetrician from the unwanted attention of the lawyers."

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- 1 Dennis J. Longterm effects of intra-partum cerebral damage. In: Crawford JW, ed. *Risks of labour*. Chichester: Wiley, 1985.

Evaluating mass training in cardiopulmonary resuscitation

SIR,—Mr A I Glendon and others (9 May, p 1182) will be glad to know that the coordinating committee of the Save a Life Campaign entirely agrees with them about the importance of evaluating the effectiveness of any campaign of mass education in emergency aid. The committee always intended to monitor the effectiveness of the campaign, and its most generous benefactor insisted on this. The campaign is 85% funded by donations from charity and industry.

The campaign commissioned the BBC broadcasting research department to evaluate the campaign over 18 months. This will include the number of viewers who watched the programmes and their sex, age, and social class distribution;

their reactions to the programmes and what they learnt; what motivated people to attend an emergency aid class; and what elements of the campaign were most effective in teaching people emergency aid and helping them to retain this knowledge, with particular regard to the leaflet sent to inquirers, the classes, and the booklets given to class attenders.

Obviously this research project cannot measure such things as competence or success rate at the time of resuscitation, nor can it place a value on the saving of a human life. We hope, however, that this research will prove useful not only to the campaign but to others working in health education. The preliminary results of a prelaunch survey and a survey after the first transmission of the BBC *Save a Life* programmes were presented at a meeting of the section of occupational medicine at the Royal Society of Medicine earlier this year, and the results of the long term study will be published in due course.

As a postscript we have been notified of 82 000 attendances at the public two hour course. Many more have been stimulated to attend by local coordinators, but we do not yet know the numbers. We have also been notified of 16 claims of successful resuscitation by those who have been reached by the campaign.

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Drug formularies in hospitals

SIR,—Judging by recent contributions to your columns (9 May, p 1226), the hospital formulary is in danger of being misunderstood. Its main value is not to contain costs, which it may or may not do, but to inform medical staff of the drugs considered to be most effective by consultants in whose specialist disciplines they are used. A second, but equally important, aspect of the formulary is to encourage staff to think hard about what drugs they should use for treating a particular condition, taking into account drug cost, efficacy, and fashion.

To be successful the formulary needs to be updated frequently. Our hospital formulary is updated every six months. Consultants are reminded of the drugs that they favoured six months ago and are asked if there are any that they wish to see changed. The formulary is used in conjunction with the *British National Formulary*. Receipt of an advance copy of the *Formulary* means that the same colour may be used for the hospital one and the corresponding page numbers are included so that our formulary can be used as an index to the *British National Formulary*. Advice on antimicrobial treatment based on current local sensitivities is also included and updated every six months.

Doctors are encouraged to use drugs from the formulary, but auditing and policing are not enforced as many patients are admitted to hospital already taking drugs prescribed by their general practitioners, some of which may not be included in the hospital formulary. These are not changed unless there is a specific reason for doing so.

The hospital formulary is used mainly to guide new prescribing. It may also encourage thought about the use of drugs and prevent automatic prescribing of every new drug marketed by the pharmaceutical industry before proper evaluation. As pointed out by Professor James C Petrie and Dr Andrew K Scott (11 April, p 919), cost is of secondary importance, and Dr M C Bateson (9 May, p 1227) correctly states that any savings made cannot be quantified. These are minor considerations compared with the increased prescribing

awareness that may be generated during the setting up and use of a formulary.

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Lower oesophageal contractility as an indicator of brain death in paralysed and mechanically ventilated patients with head injury

SIR,—The reported observations of Drs A R Aitkenhead and D I Thomas (16 May, p 1287) in recording spontaneous lower oesophageal contractions in three out of four patients who fulfilled the present criteria of brain stem death deserve our urgent attention.¹ If it is established that such activity is mediated through the vagal brain stem nuclei and connections with higher cortical centres²⁻³ further doubt is cast on the adequacy of the clinical tests of brain stem death to determine that "all functions of the brain have permanently and irreversibly ceased."⁴ There is already ample evidence of the persistence of electroencephalographic activity in the higher centres, even with "normal waking rhythms in the presence of an irreversible brain stem lesion."⁵⁻⁸ Hypothalamic pituitary function is also reported to be maintained.⁹ Cardiovascular responses—tachycardia and hypertension—consistent with residual brain stem function have been reported in 10 out of 10 paralysed but unanaesthetised "brain dead" patients in response to the surgical incision.¹⁰

The criteria for brain stem death were introduced in 1976 "to establish diagnostic criteria of such rigour that on their fulfilment, the mechanical ventilator can be switched off in the secure knowledge that there is no possible chance of recovery,"¹¹ but not that the patient is already dead. This refinement was introduced in the 1979 memorandum in response to the need to obtain vital organs from "beating heart donors."¹²

The cerebral and brain stem activity reported may not represent life in all its fullness, but neither does it equate with death, even as defined by the conference memorandum itself. Our first duty must remain to the dying patient, and that duty should not be compromised for the benefit of a third party, however deserving.

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- 1 Conference of Medical Royal Colleges and their Faculties in the United Kingdom. Diagnosis of brain death. *Br Med J* 1976;iii:1187-8.
- 2 Evans JM, Davies WL, Wise CC. Lower oesophageal contractility: a new monitor of anaesthesia. *Lancet* 1984;ii:1151-4.
- 3 Sinclair ME, Suter PM. Lower oesophageal contractility as an indicator of brain death in paralysed and mechanically ventilated patients with head injury. *Br Med J* 1987;294:935-6.
- 4 Royal Colleges and Faculties of the United Kingdom. Memorandum on the diagnosis of death. *Br Med J* 1979;ii:332.
- 5 Pallis C. Defining death. *Br Med J* 1985;291:666.
- 6 Legg NJ, Prior PF. Brain death. *Lancet* 1980;ii:1378.
- 7 MacGillivray B, Pallis C. Brain death and the EEG. *Lancet* 1980;ii:1086.
- 8 Walton J. *Essentials of neurology*. 5th ed. London: Pitman, 1982.
- 9 Hall GM, Mashiter K, Lumley J, Robson JG. Hypothalamic pituitary function in the "brain dead" patients. *Lancet* 1980;ii:1259.
- 10 Wetzel RD. Haemodynamic responses in brain dead donor patients. *Anesth Analg* 1985;64:125-8.

SIR,—In reply to Drs A R Aitkenhead and D I Thomas (16 May, p 1287), the five patients in our study who did not have spontaneous activity at any time had not received any sedation as there was no clinical indication for this.¹ I totally agree with Drs Aitkenhead and Thomas that to perform any test of brain death in a sedated patient would be