Breach of this standard is ipso facto malpractice. Furthermore, responsibility for professional acts rests with the actual treating physician and may not be transferred to employers, government programmes, hospital officials or committees, chiefs of service, commissioners, and the like. We have no professional duty to any such party; our obligation is solely to our patients.

Who, if anyone, will pay to have our orders carried out must remain an entirely separate question. But Professor Williams's dangerous solution is to coningle these issues, thus muddying the clarity of professional thought.

If, constrained by budgets and policies, we fail to tell our patients what we think is best for them they'll never know and will never be able to act in their own interest.

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1 Williams A. Health economics: the end of clinical freedom? *Br Med J* 1988;297:1183-6. (5 November.)

Active versus physiological management of third stage of labour

SIR,—The results of the Bristol third stage trial comparing active with physiological management of the third stage of labour have been recently reported.¹ The conclusion that active management of the third stage of labour (routine oxytocics, early cord clamping, and controlled cord traction) is preferable to physiological management (refrain from the aforementioned routine and encourage early breast feeding and delivery of the placenta with maternal pushing) is important for reducing maternal mortality in developing countries, where postpartum haemorrhage is its major cause and the rate is 30 to 60 times higher than in Western, industrialised countries.

The authors' concern for the stability of oxytocics at high temperatures is important given that many home birth programmes provide birth attendants with these drugs. The fact that little is known about the effects of "high" temperatures on drugs is disturbing. For instance, the recommended storage temperature for ergometrine injection is below 10°C, and it is stable for 13 months at "room" temperature if kept in a cool, dark place. What is required in tropical countries are guidelines for keeping these drugs under harsher environmental conditions.

Although the primary effect of using oxytocics in managing the third stage of labour is preventing deaths from haemorrhage, reducing the need for blood transfusions will have a special role in places with a high incidence of HIV infection and no facilities for adequately screening blood supplies.

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1 Prendiville WJ, Harding JE, Elbourne DR, Stirrat GM. The Bristol third stage trial: active versus physiological management of third stage of labour. *Br Med J* 1988;297:1295-1300. (19 November.)

Serum screening for Down's syndrome

SIR,—Professor Nicholas J Wald and others constructed a multivariate mathematical screening model to estimate the risk of a Down's syndrome pregnancy and reported that it could detect over 60% of affected pregnancies with no increase in the amniocentesis rate.¹ From this they concluded that

screening using this model would be cost effective.

We are concerned that, despite a detailed description of the complex statistics used in the analysis, no account seems to have been taken of the fact that their model would lose predictive efficiency if used prospectively in a screening programme. The model seems to have been tested only on the dataset on which it was based. A mathematical model inevitably makes better predictions when used with the dataset from which it was originally derived than it does when used with a different dataset.² We are therefore interested to know whether the authors have estimated the likely efficiency of their model in predicting the risk of a Down's pregnancy in another group of women. Ideally, this would be achieved by formally testing the efficiency of screening on an independent set of data. Alternatively, "jack knifing"³ could be used on their current dataset.

This is a matter of considerable importance. It would be inappropriate to adopt a new screening procedure on the basis of potentially over-optimistic results for the programme would inevitably perform less well than anticipated. What is more, once a screening method becomes accepted practice ethical considerations may prove an obstacle to the assessment of predictive efficiency.

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1 Wald NJ, Cuckle HS, Densem JW, et al. Maternal serum screening for Down's syndrome in early pregnancy. *Br Med J* 1988;297:883-7. (8 October.)

2 Spiegelhalter DJ. Statistical methodology for evaluating gastrointestinal symptoms. *Clinics in Gastroenterology* 1985;14:489-515.

3 Dixon WJ, ed. *BMDP statistical software*. Los Angeles: University of California Press, 1981.

AUTHORS' REPLY,—We recognise that the accuracy of predictions made from a statistical model necessarily depends on the dataset from which the model was derived, so that in conventional multivariate analysis predictions are likely to be more favourable than would be found in practice. This is a major problem when associations are sought between many factors and a disorder and the factors that happen to be associated with that disorder in the study population are modelled to predict the presence of the disorder. Our analysis, however, was designed to minimise the problem in three important ways. Firstly, all four factors (maternal age and α fetoprotein, unconjugated oestriol, and human chorionic gonadotrophin concentrations) considered to be screening variables had been separately identified as associated with Down's syndrome in previous work.^{1,4} Secondly, the data from our study were not used to generate the statistical model adopted—namely a trivariate Gaussian distribution of α fetoprotein, unconjugated oestriol, and human chorionic gonadotrophin concentrations given maternal age. Thirdly, the maternal age specific risk of Down's syndrome we used was based on an analysis of worldwide published work (based on 4528 affected pregnancies⁵) and was not derived from the data in our study.

Our data were used to estimate the parameters of the multivariate Gaussian distribution for α fetoprotein, unconjugated oestriol, and human chorionic gonadotrophin concentrations and to this extent our estimates of detection rate and false positive rate are "data derived." We explored this potential problem using the "jack knifing" procedure (ignoring age) mentioned by Dr Burton

and his colleagues. All pregnancies with Down's syndrome correctly classified using our model were also correctly classified after jack knifing. Only one correctly classified unaffected pregnancy became misclassified.

Rather than our estimates being too favourable in expectation they are likely to be slightly conservative for two reasons. Firstly, they are derived from estimates of gestational age based on a woman's last menstrual period ("dates"), which is less precise than methods based on the use of an ultrasound examination of the fetus. As a result the biochemical measurements that are expressed in multiples of the normal median value for the gestational age based on "dates" will be less precise than would be the case in normal practice. Secondly, the assays we used were not specifically designed for use in the second trimester of pregnancy. Serum screening for Down's syndrome using gestational age estimates based on ultrasound and optimised biochemical assay will produce improvements in screening performance.

In summary, while we agree that Dr Burton and his colleagues have made a valid general statistical point, we think that its application to our analysis is minimal. The method we used may, in this respect, have marginally overestimated the benefits of screening, but there are other ways in which our estimates are conservative. None of these effects is likely to be great, and we believe that our published estimates are close to the detection and false positive rates that will be achieved in practice.

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Monitoring the acute phase response

SIR,—Professor John Stuart and Dr S N Lewis¹ cited alternative tests to measuring the erythrocyte sedimentation rate and stated that now that manufacturers are developing automated viscometers for hospital laboratories measurement of plasma viscosity instead of the erythrocyte sedimentation rate is likely to increase.

I agree with them that the limitations of the erythrocyte sedimentation rate should be recognised but would take issue with critics who have suggested that its measurement should be abandoned because it is strongly influenced by anaemia, which cannot be corrected for and thus confuses the interpretation. The erythrocyte sedimentation rate is simple to estimate and is ideal for the busy doctor's surgery, for a district hospital's outpatient clinics, and at the bedside.

I would particularly emphasise the need for its immediate estimation in any patient around 60 who presents with intractable headache, particularly occipital and temporal; pain in the face, jaw, and mouth exacerbated by chewing; and tenderness over the scalp and temporal and cranial arteries.¹ I regard giant cell arteritis as one of the acute emergencies of general medical practice. A delay of even a few hours in starting steroid treatment may result in irreversible visual failure. Once diagnosed on clinical grounds steroid treatment must be started immediately and the patient must not be allowed to leave until the erythrocyte sedimentation rate is available. It is unacceptable to waste valuable time in sending blood off to a hospital laboratory with facilities for measuring plasma viscosity instead of estimating the erythrocyte sedimentation rate. If untreated some 30% of patients develop serious visual complications² owing to obliteration of the central artery to the retina or more commonly to ischaemic optic neuropathy as a result of the ciliary arteries supplying the optic nerve and disc being affected.³

An elderly patient presenting with sudden loss of vision in one or both eyes needs an intravenous injection of 10 mg dexamethasone before admission to hospital and before the result of the erythrocyte sedimentation rate is known.⁴ In patients with giant cell arteritis a daily oral dose of about 80 mg prednisolone should then be continued until the systemic manifestations of the disease have completely resolved and erythrocyte sedimentation rate has fallen significantly.⁵ With this high dose of steroids toxic effects may develop, but this is surely a small price to pay compared with permanent loss of vision. Once taking a low maintenance dose of steroids, patients should be warned that any exacerbation of symptoms, particularly deterioration of vision, demands that the dose should be immediately increased. Details of this procedure should be given to the family doctor as well to avoid possible delay.

As with other generalised inflammatory disorders, the efficacy of the erythrocyte sedimentation rate as a guide to dose reduction and prognosis is well established. This is certainly not the time to scrap it.

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Anaesthetic complications of a weight reducing regimen

SIR,—Dr J M Field's case report¹ raises the important issue of whether attempts should be made hastily to correct moderate chronic hypokalaemia before surgery.

Only 2% or about 60 mmol of the total body potassium is extracellular, and the time for equilibration between this and the intracellular com-

partment is as long as 40 hours.² In chronic depletion the total body deficit may approach 1000 mmol³ and rapid intravenous administration will be unable to correct this but it will acutely increase the ratio of extracellular to intracellular potassium and predispose to potentially dangerous arrhythmias.^{4,5} Furthermore, there is no evidence for an increased incidence of arrhythmias during anaesthesia in otherwise healthy patients with isolated moderate chronic hypokalaemia.⁶ Dr Field points out that the only prospective study showed no association between chronic hypokalaemia and arrhythmias during surgery.⁷ Studies that have reported arrhythmias in the presence of hypokalaemia have been confined mainly to patients with cardiac disease.^{8,9} Cardiac complications are also more frequent in the elderly and in patients undergoing intrathoracic, aortic, or major intraabdominal surgery.¹⁰

In a young patient about to undergo appendectomy with no history of cardiac disease the presumed benefits of increasing the serum potassium concentration do not warrant delaying emergency surgery and this manoeuvre may itself produce arrhythmias during anaesthesia, especially when suxamethonium is used for intubation, and further increase the extracellular to intracellular potassium ratio.

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Chlamydia: One step forward or two backwards?

SIR,—Dr Penny Owen and others suggested a role for general practitioners in the management of chlamydial infection.¹ This leads us to consider the wider issue of who should treat sexually transmitted disease. Traditionally, specialists in genitourinary medicine (formerly known as venereologists) diagnosed and treated venereal infections and arranged for the sexual contacts to be traced. This worked well for gonorrhoea: a man who developed distressing symptoms after a sexual contact would refer himself to a special clinic for treatment, and his female contacts (who might be symptomless) could be traced. Chlamydial infection and the sexually transmitted viral infections often do not lend themselves to this approach, and the number of patients presenting directly to the clinic represent only a small fraction of the cases occurring in the community. Therefore many cases of these infections will be diagnosed (or overlooked) by other doctors, particularly general practitioners, family planning doctors, and gynaecologists. If doctors outside a

specialist clinic suspect a sexually transmitted disease should they attempt to treat it themselves or should they refer the patient to a genitourinary medicine clinic?

Genitourinary medicine clinics are staffed by people who are familiar with asking detailed questions about sexual matters and are experienced in performing genital examinations. They have easy access to a range of diagnostic tests (such as immediate microscopy) and have the assistance of specially trained contact tracers and established networks to facilitate contact management. These favourable conditions are unlikely to prevail outside a specialist clinic. A general practitioner can take a chlamydia swab, prescribe treatment, and advise that the sexual partner should seek medical attention, but the contact is unlikely to be a patient at the same practice. Confidentiality may be hard to maintain in a general practitioner's surgery, and the patient may well prefer the anonymity of a genitourinary medicine clinic. The patient may be embarrassed to consult the general practitioner, who may think it necessary to be judgmental in approach, which may damage a previously good doctor-patient relationship. Finally, diagnosis of one sexually transmitted disease implies the need to screen thoroughly for other infections.

Some patients will prefer the comparative familiarity of the general practitioner's surgery to the (imagined) stigma of attending a genitourinary medicine clinic. Ideally, general practitioners should be aware of all the health problems of their patients and know what treatment they are receiving. General practitioners are well placed to screen patients for infection—for example, sexually active women presenting with vaginal discharge—and in so doing could help to reduce the reservoir of undiagnosed infection in the community. This requires time and resources, however, which may be particularly scarce in busy inner city practices where sexually transmitted diseases may be most prevalent.

We hope for and welcome a greater role for general practitioners in this subject as awareness of the prevalence and importance of sexually transmitted diseases increases and diagnostic facilities become more widely available. Specialists should encourage this trend and communicate clearly the elements of good genitourinary practice. Currently few practices will have the necessary time, equipment, and skill to manage sexually transmitted disease adequately, and poor management could have serious consequences. Therefore, most general practitioners who suspect or diagnose sexual transmitted disease should continue to refer the patient to a genitourinary medicine clinic.

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Diagnosing and treating dementia

SIR,—Minerva questions whether clinicians are overzealous in their investigation of patients with dementia,¹ quoting Clarfield's finding that, although at least 11% of such patients have a potentially reversible cause, complete resolution of functioning is seen only rarely in practice.² Minerva's conclusions are perhaps unduly pessimistic. One problem is the difficulty clinicians have in correctly diagnosing dementia. Dr Anne Homer and others (8 October, p 894) showed the discrepancy between findings at necropsy and