Dr Slater is wrong when he states that "Wright³ estimated that a 1°C rise in temperature will increase the estimated blood alcohol concentration by 6.5%." Careful scrutiny of Wright's paper shows that he made no such claim. However, in the same proceedings Dubowski⁴ stated that "it may be well to point out that each 1°C increase in actual alveolar breath exit temperature between 34°C and 37°C would tend to increase a blood alcohol concentration calculated on the basis of an assumed 1:2100 ratio by about 6.5% over the actual level." Presumably it was to this statement that Dr Slater intended to refer.

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¹ Alobaidi, T A A, and Hill, D W, *Journal of Physics E*, 1975, 8, 30.

² Payne, J P, Hill, D W, and King, N W, *British Medical Journal*, 1966, 1, 196.

³ Wright, B M, in *Proceedings of the Third International Conference on Alcohol and Road Traffic*, p 251. London, British Medical Association, 1963.

⁴ Dubowski, K M, in *Proceedings of the Third International Conference on Alcohol and Road Traffic*, p 203. London, British Medical Association, 1963.

Smallpox vaccination for students?

SIR,—I am sometimes asked to give smallpox vaccination to students before university entry. They do not seem to be in any special risk category. My explanation that the risks probably outweigh the advantages unless they plan a trip to Ethiopia is not always well received. Sometimes vaccination is demanded "because the university says I need it."

It is interesting to contrast this attitude with that of some parents to infant immunisation. "Official" recommendations are that the benefits outweigh the risks, even for the highly publicised pertussis vaccine. Yet many children go totally unimmunised for fear of brain damage. In view of current public concern about the safety of vaccines, perhaps those universities advising students to be vaccinated against smallpox should revise their requirements before there is hue and cry about the unnecessary risks our "best brains" are being subjected to.

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Haematemesis and melaena

SIR,—In their useful summary of the management of acute gastrointestinal haemorrhage Dr P B Cotton and Mr R C G Russell (1 January, p 37) refer to the difficulty which all surgeons experience in identifying those patients who need urgent operation. The patients most at risk are those who continue to bleed, or who recommence bleeding, after admission to hospital and I have found the figures collected here some years ago¹ to be of great practical value.

Among 817 consecutive admissions for acute alimentary bleeding there were 229 episodes of further haemorrhage (FH) after admission to the wards. This group had a mortality of 28.8% compared with 7.8% among those who did not bleed significantly after admission. These figures highlight the significance of FH after admission. Its adverse effect was felt among those with haematemesis and with melaena. It was more dangerous if it occurred more than 48 h after admission

rather than during the first two days. Emergency surgery had to be performed on 66% of patients whose FH came from a peptic ulcer and who were bleeding more than 24 h after admission. At St James's Hospital, Balham, it was found² that emergency surgery performed on the day of admission carried a mortality of 14% but that this rose to 33% on the fourth day and to 52% when operation was delayed until the seventh day after admission.

These results underline how vital is the advice of Dr Cotton and Mr Russell to observe these patients very closely, in the best possible circumstances, so that evidence of FH can be promptly detected. Once obtained, this evidence places these patients immediately into a group which, irrespective of age, is at very high risk.³ This is the moment for the physician to consult with the surgeon and, with these figures in mind, the surgeon may find it easier to make a decision. The evidence shows unmistakably the penalties of delay.

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¹ Jones, P F, *et al*, *British Medical Journal*, 1973, 3, 660.

² Cocks, J R, *et al*, *Gut*, 1972, 13, 331.

³ Needham, C D, and McConachie, J A, *British Medical Journal*, 1950, 2, 133.

Renal arterial disease and accelerated hypertension

SIR,—In the paper by Drs R D Thomas and M R Lee on sodium repletion and beta-adrenergic blockade in the treatment of salt depletion with accelerated hypertension (11 December, p 1425) I notice with interest that the patient was a man aged 60 years who was found to have a totally occluded left main renal artery.

Having been especially interested in hypertension for over 30 years I can remember only four patients aged 60 and above who presented with accelerated or frankly malignant hypertension. The first one had no special studies done; he was aged 74 whom I did not think it worth while to investigate, perhaps wrongly. The other three all had unilateral renal disease—a complete renal artery block in two cases and a significant main renal artery stenosis in the third. All patients had rather low potassium and serum sodium concentrations, as is common in secondary accelerated hypertension. In two patients resection of the non-functioning kidney led to a fall in blood pressure to levels around 180/100 mm Hg, which were probably present before the renal artery occlusion occurred and were the expression of a simple essential hypertension which required no treatment. The last patient was referred elsewhere with a view to a bypass graft but instead was treated medically—this not without initial troubles, as is to be expected in hypotensive treatment in the elderly.

Although renal investigation of hypertension rarely yields profitable results I would make an exception in the case of accelerated and malignant hypertension in the elderly. If renal artery occlusion or severe stenosis is found I think that there is a strong case for surgery, as medical treatment in the elderly can be difficult and the patients do not stand to lose much by the ablation of a non-functioning or very poorly functioning kidney.

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Need for improvement in dermatology services

SIR,—I would like to link up the paper on the National Eczema Society by Mr John Launer (18 December, p 1494) with the letter on economies through improved dermatological services from Dr H R Vickers (1 January, p 46).

The National Eczema Society, the Psoriasis Society, the Cosmetic Camouflage Society, and any other such organisation which may exist unknown to me all have one interest in common, the improvement of the dermatological services throughout the country. The usual management technique which assesses and order of priority between different specialties and then allocates the inadequate resources available has a built-in defect. The acute services of medicine and surgery always come top and specialties such as dermatology always come near the bottom and get little financial support.

It is a constant up-hill battle for a consultant dermatologist in the periphery to get proper facilities for his patients, especially if he is involved in more than one administrative area. In South Wales the appointment of a consultant dermatologist to serve the whole of the country west of Swansea has repeatedly been deferred over many years. A recent appointment at Newport due to retirement failed to attract a suitable candidate. In both situations there has been failure to provide adequate facilities to organise a modern dermatology service.

Patients with skin diseases suffer but seldom die in dramatic fashion. They are also reticent about their complaints and do not seek publicity. It would be of value if these individual organisations could combine to speak on behalf of all sufferers from skin disease. It is only through a vocal public demand that improvement of services is likely to occur.

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Neonatal respiratory intensive care at local level

SIR,—We write in reply to the letter from Drs J M Davies and Janet L P Hunter (25 December, p 1557) about referral units for newborn babies requiring intensive care.

While we would agree that there is much to be said for all units administering oxygen to premature babies being able to measure at least the concentrations in incubators if not the tension in arterial blood, it is our belief that the artificial ventilation of such babies should as a rule be attempted only in units staffed and equipped for intensive care. Respiratory intensive care is very expensive in terms of man and woman power and equipment and is not done well or economically on an occasional basis. A region can keep such a unit busy with good return on capital in terms of lives saved and morbidity prevented; a maternity hospital cannot unless very large and itself a referral unit. In a small unit concentration of concern on very ill babies is only too likely to lead to relative neglect of others and to an overall increase in mortality and morbidity.

There is much that peripheral units can do for vulnerable newborn infants which will reduce the incidence of and mortality from

respiratory distress syndrome and which can be done only at birth or on the spot. Ventilation with high oxygen concentrations is best reserved for larger referral units to which babies requiring such treatment can be safely transferred either in utero if the risk is predictable or by flying squad if it was not. Their treatment requires practised staff round the clock, an adequate number of ventilators in working order, laboratory support for the measurement of blood gas tensions, bilirubin levels, and electrolytes, the maintenance of apparatus in working order, and chronic umbilical artery catheterisation of the infant, which is a hazardous procedure in unpractised hands, as well as other uncommon and potentially lethal complications.

It is our contention that all very sick babies suffering from medical, surgical, or cardiac conditions or any combination thereof should be referred to one regional unit for treatment in their own interests and in that of other babies in the referring unit. Those who enjoy such work should get a job there if they want to do it. There is plenty for the peripheral neonatologist to do that does not involve intensive care of very ill babies.

However, we do not entirely agree with the Oppé Report recommendations¹ and would advocate instead a policy whereby babies causing concern should be held under observation in an annexe to the labour ward until it becomes clear either that they are well enough to join their mothers or that they need intensive care.

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¹ Department of Health and Social Security, *Report of the Working Party on the Prevention of Early Neonatal Mortality and Morbidity*. London, DHSS, 1974.

Intensive investigation in management of Hodgkin's disease

SIR,—The excellent study by Dr S B J Sutcliffe and others (4 December, p 1343) confirms the value of laparotomy and splenectomy in the staging and management of patients with Hodgkin's disease.

We have reported cases of fulminating septicaemia following splenectomy in our own experience and discussed the possible significance of changes in serum immunoglobulin levels (particularly the fall in IgM) following operation and treatment¹; longer-term studies are in progress. Serious infection following splenectomy is probably not common² and Dr Sutcliffe and his colleagues do not comment on this particular point, though they have had some morbidity related to the operation itself. What would be helpful would be to try and identify patients who may not need exploratory laparotomy.

Total cellular anergy is infrequent, but in our studies so far it has been found to be invariably a feature of generalised disease.³ We have now assessed 78 untreated patients by four techniques (skin and leucocyte migration inhibition testing with recall antigens, lymphocyte transformation with phytohaemagglutinin, E-rosette studies). Total cellular anergy as judged by subnormal response in all tests was seen in only five cases (6%). In three of these patients disease was obviously generalised (clinically stage

IIIB in one and stage IVB in two). The other two patients were in clinical stages IA and IIA respectively but were found to be in stage IVA after laparotomy and splenectomy.

If it were to be confirmed that total cellular anergy always implied generalised disease (that is, that the patients were in the chemotherapy group), then these patients, in whom retention of the spleen may prove beneficial in the long term, could be excluded from laparotomy regardless of apparent clinical stage.

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¹ Hancock, B W, *et al*, *British Medical Journal*, 1976, 1, 313.

² Desser, R K, and Ultman, J E, *Annals of Internal Medicine*, 1972, 77, 143.

³ Hancock, B W, *et al*, *Clinical Oncology*. In press.

Dangers of corticosteroids in phaeochromocytoma

SIR,—We were very interested to read the case report by Drs Peter Daggett and Stephen Franks (8 January, p 84) describing a patient with phaeochromocytoma who experienced hypertensive episodes while on a high daily dose of 45 mg prednisone, given to treat concurrent giant cell arteritis, but not when the dose was reduced to 5 mg. They also observed marked hypertension when 100 mg hydrocortisone was given parenterally. A similar observation was made by Cowley *et al*¹ when 100 mg hydrocortisone was given before the removal of a phaeochromocytoma.

A peripheral interaction may partly explain these observations since there is good experimental evidence that corticosteroids have a permissive role in, and may also potentiate, the smooth-muscle response to corticosteroids.² However, we suggest that corticosteroids when given in high doses may have a significant direct action on the adrenal medulla. We have shown that concentrations of hydrocortisone in the range 20–200 mg/l release catecholamines from isolated perfused dog adrenal glands³ and we would expect a dose of 100 mg hydrocortisone given parenterally to reach an initial plasma concentration of approximately 30 mg/l, assuming a plasma volume of, say, 3 l. This concentration is of the order found in the adrenal venous effluent in stress or after corticotrophin administration.⁴

Thus the hypertensive episodes may be due to the direct action of hydrocortisone on the adrenal medulla and phaeochromocytoma tissue. High circulating levels of prednisone are also likely to potentiate the release of catecholamines from chromaffin tissue. Furthermore, in dogs we found that corticotrophin administration results in the release of adrenal catecholamines⁵ and hypertensive crises have been described following corticotrophin administration to patients with phaeochromocytoma.^{1,6,7}

We suggest that high doses of corticosteroids may have a significant direct action on chromaffin tissue and wonder what role the intra-adrenal and peripheral interactions between corticosteroids and catecholamines play in massive dose corticosteroid therapy for shock.

Finally, we repeat that the administration of either corticosteroids or corticotrophin may be hazardous in patients with phaeochromocytoma.⁸

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¹ Cowley, D J, Montgomery, D A D, and Welbourn, R B, *British Journal of Surgery*, 1970, 57, 832.

² Ramey, E R, and Goldstein, M S, *Physiological Reviews*, 1957, 37, 155.

³ Critchley, J A J H, *et al*, *Journal of Physiology*, 1974, 254, 30P.

⁴ Marotta, S F, *Proceedings of the Society of Experimental Biology and Medicine*, 1972, 141, 923.

⁵ Critchley, J A J H, and Ungar, A, *Journal of Physiology*, 1974, 239, 16P.

⁶ Welbourn, R B, personal communication.

⁷ Moorhead, E L, *et al*, *Journal of the American Medical Association*, 1966, 196, 1107.

⁸ Critchley, J A J H, West, C P, and Waite, J, *Lancet*, 1974, 2, 782.

Student health

SIR,—I would like to make a few comments on the letter from Mr D R Forsyth (25 December, p 1560).

Manchester University Student Health Service tries to offer a service to suit the individual student. Some students do in fact like to be seen by prearranged appointment. However, there is always at least one doctor available to see patients who walk in. Similarly, the counsellors see students either by walk-in or appointment. Nurses are always available and can and do refer patients to the doctor directly. The reception staff make considerable effort to ensure that the patient attends at the centre to fit in with university commitments. The system is kept as flexible as possible.

Unfortunately we are not allowed to provide general practitioner services as part of the NHS. Hence the number of doctors is limited as the service is funded almost entirely by the university. There are four medical officers at the centre, although the accepted ratio is 1500 to 2000 patients per doctor, so there should be 12 doctors. Attendances at the student health centre have increased from 26 000 to 34 000 and now some 40 000 over the last three years.

We hope that in Manchester the student has no dilemma about a choice to be made between health and education.

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Erythromycin-resistant *Clostridium welchii*

SIR,—I wish to report the isolation of a strain of *Clostridium welchii* resistant to erythromycin. The minimum inhibitory concentration (MIC) in broth is 512 mg/l: sensitive strains, tested in parallel, were inhibited by 2 mg/l. The strain was also resistant to tetracycline and the patient was hypersensitive to penicillin.

Tetracycline resistance in *C. welchii* is now well recognised, but I have seen no report of resistance to erythromycin in the UK, and this antibiotic has been recommended^{1,2} for the prophylactic treatment of patients hypersensitive to penicillin who are undergoing certain operations prone to the complication