a 50-fold reduced chance of developing an unpleasant headache. In this situation the use of a measure such as the routine intake of Jesmopressin (DDAVP) would be an unnecessary, if not unjustifiable, invasion.

In commenting at the end of their short report the authors suggest that DDAVP "merits trial in other clinical situations associated with lumbar puncture including . . . epidural anaesthesia." As an enthusiastic proponent of this anaesthetic technique I would not want your readers to get the impression that epidurals have a constant, close association with puncturing the dura. On the contrary, the object of the exercise, by definition, is to avoid the dura at all costs; and in experienced hands the unintentional spinal tap occurs in less than 0.5% of cases.² The prophylactic use of DDAVP, including a dose four hours prior to each epidural procedure, would indeed constitute a very pessimistic approach to the technique.

Perhaps there was a slip of the pen and the authors meant to say "spinal anaesthesia," which, despite some still-debated complications, is regaining popularity—the only serious limitation to its proper use being the occurrence of headaches. The use of DDAVP in these cases may well be of benefit, but in my experience the application of short periods in the prone position, for those in whom it is feasible postoperatively, significantly reduces the incidence of postspinal headaches. This is particularly useful after obstetric procedures when patients often relish the chance to lie on their abdomens for the first time in six months.

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¹ Brocker RJ. *JAMA* 1958;168:261-3.

² Doughty A. *J R Soc Med* 1978;71:879-84.

SIR,—The article about the technique of lumbar puncture (2 February, p 297) was correct to emphasise that positioning the patient carefully is essential. However, I was surprised to see it suggested that this should be done on a bed. From personal experience of several thousands of punctures I know that to minimise failures the patient must be placed on a hard surface such as a trolley or a theatre table, to ensure that the spine is horizontal. Even placing a fracture board under the mattress is inadequate for this purpose. The spine must be straight in both planes and the horizontal is as important as the vertical.

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Hypothermia and unawareness of mental impairment

SIR,—The report by Professor W R Keatinge and others on hypothermia during saturation diving in the North Sea (2 February, p 291) ends by commenting on the unawareness of mental impairment in the hypothermic state. I wish to report my own experiences during my student elective period testing aspects of helicopter survival units.

After two hours in such a unit at a water temperature of 4°C in the local river my core temperature (as measured by a continuous-reading rectal thermometer) had fallen to 34.5°C. Although I had suffered from violent shivering earlier, I felt fully mentally alert and was astonished to discover my total inability to

complete successfully simple mental tasks—namely, subtracting serial sevens from 100. The five other people taking part had similar experiences and I would fully concur with Professor Keatinge's suggestion that such mental confusion could readily account for unexplained incidents in working dives.

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Incidence of malignant melanoma of the skin

SIR,—I suggest that any future survey of malignant melanoma of the skin (24 November, p 1324) must take into consideration the different types of melanoma. To lump together all melanomas as the same can lead to confusion and inconclusive results. One may well suppose that melanoma arising on lentigo on the face is influenced by sun exposure, but if such cases are not distinguished from plantar and subungual melanomas the association may be difficult to establish. The recognition of various causes of skin carcinoma has depended on clinical as well as histological recognition of types.

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Cycling and health

SIR,—We were interested to read Dr Ronald Williams's enthusiastic support (22-29 December, p 1617) for urban cycling. We were particularly interested in his personal measurements of carboxyhaemoglobin (CO) after cycling in central London. In a series of 17 volunteer students and nurses recently studied we came to the same conclusion. It was found that immediately after cycling for 2 km in heavy central London traffic the levels of carboxyhaemoglobin were significantly ($p < 0.03$) lower than the resting value.

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Exercise-induced asthma

SIR,—Your leading article (2 February, p 271) points out that we still do not understand the underlying mechanisms in exercise-induced asthma. A similarly titled leading article in 1977 (27 August, p 536) said that exercise-induced asthma is "more than a matter of pharmacological and physiological curiosity" and that it "may provide clues to the pathogenesis of asthma itself."

Small clues may be of interest and even of importance, and a careful history in many cases of exercise-induced asthma reveals excessive mucus production as a precursor to the asthmatic episode. The productive cough, usually following exercise in cold air, often precedes the bronchospasm by many minutes—a fact not dwelt upon by Godfrey¹ or in either leading article. McFadden and Ingram² have shown that drying of the upper airways does take place and logically this would be followed by extra mucus production. Would this not in itself be sufficient to trigger a labile bronchial tree? I would agree that this does

not provide the answer to the question about the precise mechanism, but it may present us with another clue.

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¹ Godfrey S. In: Clark TJH, Godfrey S, eds. *Asthma*. London: Saunders Chapman and Hall, 1977:56-78.

² McFadden ER, Ingram RH. *N Engl J Med* 1979;301:763-9.

Syncope after running

SIR,—I read with much interest the short report on syncope after running by Drs Etsuro Tsutsumi and Hiroshi Hara (8 December, p 1480). The very title of this case report suggests at once the diagnosis of hypertrophic obstructive cardiomyopathy, better known on this side of the Atlantic as idiopathic hypertrophic subaortic stenosis.¹

There are several features in the report that suggest the diagnosis of hypertrophic obstructive cardiomyopathy. (1) The patient developed syncope only while standing still at the end of his running and he never suffered from the symptoms while running. The pathophysiological explanation for the phenomenon is as follows. When a patient with hypertrophic obstructive cardiomyopathy is running an increased catecholamine level and heightened sympathetic tone tend to augment the ventricular contractility, which in turn should aggravate the subaortic dynamic obstruction. However, the simultaneous increase in the venous return to the heart from the vigorously contracting calf muscles of the runner increases the left ventricular volume and overrides the tendency to obstruction. Once the patient stops running and begins to stand still, the venous return is abruptly reduced while the heightened sympathetic tone and high catecholamine level continue to operate for a few more minutes. Now the increased contractility of the left ventricle is free to provoke subaortic obstruction resulting in syncope, angina, or dyspnoea. This is also the basis for the relief of symptoms obtained by beta-blockers.

(2) There was a grade 2 systolic murmur at the apex, although we are not informed whether it was ejection or pansystolic in nature. It would also be worth while to know if the intensity of the systolic murmur increased with standing and decreased with squatting of the patient. Although usual ejection systolic murmur of hypertrophic obstructive cardiomyopathy is best heard in the lower left sternal region, it is best heard in the apical area in some patients with this disorder. Besides, a good number of patients with hypertrophic obstructive cardiomyopathy have an apical pansystolic murmur of mitral regurgitation.

(3) Their patient had an abnormal ECG suggesting ischaemic heart disease, whereas coronary arteriography did not reveal any significant lesion. (4) There was a fall in systolic and diastolic pressures when the patient was standing still at the end of the treadmill exercise test but not during the exercise. (5) The fall in blood pressure at the end of exercise was abolished by the beta-blocking agent pindolol. (6) The patient did not suffer from syncope if he continued to jog at the end of his running instead of standing still.

Normal ventriculography and haemodynamics at rest observed in this patient do not rule out the diagnosis of hypertrophic obstructive cardiomyopathy. It is well known that subaortic obstruction in hypertrophic obstructive cardiomyopathy can remain latent until provoked by several means such as isoprenaline infusion, the Valsalva manoeuvre, and postextrasystolic potentiation.

Syncope while running or exercising should suggest to the clinician the possibility of a fixed cardiac output state such as critical valvular aortic stenosis, discreet subaortic stenosis, or severe pulmonary hypertension.

On the other hand, syncope, angina, or dyspnoea at the end of exercise should raise the question of dynamic subaortic stenosis of hypertrophic obstructive cardiomyopathy.

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¹ Braunwald IE, Lambrew CT, Rockoff SD, Ross J Jr, Marrow AG. *Circulation* 1964;30(suppl IV): LV3-119.

Medical charities and prevention

SIR,—I am surprised at the outburst from the medical charities (19 January, p 178, and 26 January, p 249) on your recent leading article on medical charities and prevention (22-29 December, p 1610). They make so many points (excuses?) that I am reminded of the saying "The best way of hiding a leaf is in a forest."

Both cancer and heart disease have a common connective factor, that of smoking. But one charity says that "the means of changing people's social habits have yet to be devised . . . and further research is needed into preventive education before large sums are committed to propaganda." Yet we know 25% of cancers could be prevented if we could stop the smoking epidemic.

If the charities are worried about the public and their need to be accountable to it, then I as a member of the public—a concerned general practitioner and one who donates to these charities—will be looking for more effect in the preventive field before I next contribute.

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Introduction of U-100 insulin

SIR,—Dr C Hardwick and other specialists in diabetes make out a strong case for the planned introduction of U/100 insulin (24 November, p 1363). Insulin preparations containing 100 units/ml used with syringes graduated to contain one unit per division have been under trial by the British Diabetic Association and successful results have been reported in 18 insulin-dependent diabetic children receiving not less than 16 units of insulin daily.¹

Paediatricians will welcome the additional safety and simplicity which would follow the change to U-100 insulin. We do have reservations, however, about the implicit suggestion that 100 units/ml insulin will be the only strength of insulin preparation available. The problem arises when very small insulin doses are required and this is likely to increase as monocomponent insulins are more widely used. Dr Hardwick describes such cases as "very rare"; but reviewing 40 new cases referred to our paediatric clinic over four years we found that 24 (60%) required maintenance doses of 4 units of insulin or less at some time during their clinical course.

Children's needs are different from those of adults. It is to be hoped that the small advisory committee supporting the officer co-ordinating the introduction of U/100 insulin will include a paediatrician so that the need for a small syringe (0.5 ml) and methods of administering

small doses of insulin can be given consideration.

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¹ McKinlay I, Farquhar JW. *Arch Dis Child* 1976; 51:796-8.

Control of proliferative diabetic retinopathy

SIR,—Dr P J Watkins's review article (9 February, p 350) on insulin infusion systems reminds that mildly affected diabetics who do not require insulin can often be excluded from the likelihood of developing proliferative diabetic retinopathy by the chlorpropamide-alcohol-flush test.¹

This could be quite important practical news because Kohner and Leaver explain² the importance of having an expert retinoscopist rather than a GP to identify the early proliferative lesion to provide easier, quicker, and much more effective photocoagulation. This would omit from the expert "mild" diabetics who do not or cannot be persuaded to attend diabetic clinics. The omission might in practice be clearly limited if these mild diabetics were to have the "flush" test.

Annual retinoscopy to catch the early lesion³ is necessary despite photocoagulation's ability in 60% of eyes to halt or reverse retinopathy where vision has not progressed beyond 6/36.⁴ Visual acuity is too late a casualty in the proliferative lesion, but it remains interesting that use of the insulin mini-pump can cause regression of lesions.⁵ Retinoscopy for the whole diabetic population could be tedious and expensive.

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¹ Leslie RDG, Barnett AH, Pyke DA. *Lancet* 1979;ii: 997-9.

² Kohner E, Leaver P. *Br Med J* 1979;iii:48.

³ Cheng H. *Br Med J* 1979;ii:365-6.

⁴ Irsigler K, et al. *Lancet* 1979;ii:1068.

⁵ Hercules BL, Gayad II. *Br Med J* 1979;ii:1710.

Unwillingly to school?

SIR,—Dr G F Goddard's Personal Paper (5 January, p 21) on the reasons for children developing emotional and behaviour problems made interesting reading, and I share his concern at the level of bullying in some of our secondary schools. However, some of his sweeping generalisations should surely not be allowed to go unchallenged any longer.

"Children go to school only because they have to and not because they want to"—really, when Mitchell and Shepherd¹ found only 5% of Buckinghamshire children disliked school according to parental report, 30% of boys and 40% of girls liked school very much, and the remainder fell into an intermediate category. Dr Goddard's experience as a child psychiatrist is likely to have been with a selected sample, as there was a high risk of children disliking school, showing poor academic attainment, anxiety at home, and problem behaviour in school. "Peer persecution is responsible for . . . school phobia, truancy. . . ." But a mass of evidence² suggests that these problems are multifactorially determined, and the clinical experience of others supports the notion that fear of separa-

tion from home is often of paramount significance.

"Good schools are almost non-existent." Perhaps Dr Goddard should give us his definition of a good school so that we can evaluate this statement. Professor J A Davis, in his letter (2 February, p 333) supporting Dr Goddard, suggests that we should consider the need for two types of school—therapeutic schools for the deprived and schools primarily concerned with education, in its academic sense, for ordinary children. He may be right, though it is only fair to point out that current educational thinking³ is opposed to this view, and lays emphasis on the value of firm educational objectives in teaching maladjusted children, and on the sense of pride and achievement which disturbed, chronically failing children enjoy when at last they experience educational success. What is needed is more evaluative research into special schooling, so that different approaches can be more rationally compared.

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¹ Mitchell S, Shepherd M. *Br J Educ Psychol* 1967; 37:32-40.

² Rutter M, Hersov L. *Child psychiatry: modern approaches*, ch 19 and 21. Oxford: Blackwells, 1976.

³ Committee of Enquiry into the Education of Handicapped Children and Young People. *Special Educational Needs*. London: HMSO, 1978.

Medicine and the humane society

SIR,—I am sorry Dr Martin F Shapiro (9 February, p 398) has misunderstood my review of his book (17 November, p 1285). Of course I believe in our "ability to transform society and . . . sustain all that is good in science and medical practice while so doing," but the whole question is *how* this may be done. It is my view that the logic of medical science will increasingly lead those doctors who are loyal to it into collision with the social forms that at present constrain and distort it, and into entirely new social alliances. I therefore see all the caring professions, particularly the doctors, as a reserve of progress rather than reaction, despite all outward appearances to the contrary. I am in this respect a committed optimist, and he a pessimist.

We have to start from where we are, with the people we have.

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Meningococcal infection

SIR,—In their communication Drs J R Oakley and A N Stanton (25 August 1979, p 468) reminded practitioners of the importance of maintaining a high index of suspicion of possible serious meningococcal disease in infants who show altered behaviour and haemorrhagic skin rashes. As the authors emphasised, such patients must be promptly hospitalised and, if the diagnosis is confirmed, treated without delay. A subsequent leading article (20 October 1979, p 953) agreed with the concluding remarks of this paper—namely, that practitioners ought to administer an injection of benzylpenicillin en route to the hospital. In fact, the practice of administering "a shot of penicillin" or other antibiotics prior to hospitalisation has been noted in about 50% of the patients admitted to hospital with