might discourage unhealthy habits, and how rapidly they should legislate for greater road safety. I shall continue to offer whatever help I can whenever I come up with a road accident, cherishing the thought that this is normal for road users and being grateful for a medical and military training which probably enhanced my value to the casualty.

P A LAWRENCE

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Immersion and drowning in children

SIR,—We read with interest your leading article on this subject (16 July, p 146). We would, however, like to comment on the use of airway rewarming in the management of hypothermia, as, although this may be easily administered at the site of the accident, it has important limitations.

Lloyd, in his original article in 1972,¹ stated that quantities of heat may be delivered in this way amounting to 30% of heat production of a hypothermic patient, but later concluded on theoretical grounds that the absolute heat gain may not be very great. Experiments performed in our laboratory confirm this by showing, for example, that the quantity of heat taken up via the respiratory tract may well be less than 10% of metabolic heat production in the presence of shivering thermogenesis during hypothermia. This is not surprising considering that respiratory heat transfer is limited by the fact that the maximum temperature tolerated at the mouth is 50°C and that the inspired air cannot obviously be greater than 100% humidified. We have observed that even in the presence of moderate hypothermia (core temp 28–29°C) the expired air temperature using the Reviva¹ is well above that of the core, and this, together with expired air being fully saturated, means that the net heat uptake is minimal.

Central rewarming via the airway, therefore, has gross limitations as a rewarming device but may certainly play a part in the prevention of further heat loss from a hypothermic victim by insulating the respiratory tract under such conditions.

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¹ Lloyd, E L, *et al*, *Scottish Medical Journal*, 1972, 17, 83.

Entry to medicine

SIR,—Like Charlotte Wright (6 August, p 388) I have just completed my first year at medical school. However, I differ from her as, in retrospect, I have enjoyed the past year. I have found the lectures and practicals (with their clinical importance shown where relevant) interesting, although I must admit that evening study of anatomy, physiology, and biochemistry hasn't always been quite as enjoyable, especially as the termly course exams approach. One must, however, appreciate that all this is necessary, and can indeed be very interesting, before one can learn about "caring"—as Miss Wright calls it.

I fully intend to make the most of and indeed thoroughly enjoy the second year of the pre-clinical course before embarking on the clinical work which will occupy the remainder of my career as I believe that before learning

the art of "caring" (or indeed medicine itself) one must be proficient in the basic sciences of medicine—that is, anatomy, physiology, pharmacology, biochemistry, etc. Enjoying and understanding the preclinical course is not only the responsibility of the staff at the medical school but of the medical students themselves.

ANNE-MARIE FEELEY
Medical student

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SIR,—It is sad to see Charlotte Wright (6 August, p 388) condemning medical education at Newcastle for being "about everything but caring" and dismissing a knowledge of biochemistry with an air of boredom.

Some hold that biochemistry holds the key to all human disease, while many admit that its study seems laborious and at times tedious. Nevertheless, to omit it from basic training would adversely influence the later management of some of one's patients.

Compassion is a human virtue which the Newcastle curriculum did its best to cultivate in my experience there four years ago. However, compassion without knowledge cannot be in the patient's interest.

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Pinning down the diagnosis in breast cancer

SIR,—In your leading article (30 July, p 282) you describe the pros and cons of excisional biopsy and needle biopsy in the diagnosis of a mass in the breast, and in general give your support to the needling procedures. Diagnosis by cytology, with its "about 60% accuracy," you virtually (and rightly) dismiss.

You say that "needle biopsy will be increasingly used in the diagnosis of breast disease" and that the various techniques "should centre on reducing error to a minimum." Yet the means of achieving the greatest possible accuracy, some 99.8% by our own figures, are already available in the excisional biopsy which you criticise. You give reasons for rejecting this and for preferring the needling procedures, and these reasons merit scrutiny. With one exception they appear to me either irrelevant or invalid.

The desired object, all are agreed, is confirmation or rejection of the presence of cancer with the greatest degree of accuracy. Excisional biopsy, you say, is "costly of theatre time"—in the circumstances is this really relevant? It "disturbs the routine of busy laboratories"—it is not, I submit, a "disturbance" at all; it is one of the obligations built into the very fabric and function of histopathological diagnosis wherever it is practised. "Putting the pathologist under pressure"—one really wonders, Sir, what your opinion of pathologists is; would you proscribe certain operations because they put the surgeon under pressure? The facility is "far from uniformly available"—if a laboratory is staffed and equipped to report on needle biopsies it will almost certainly be able to provide a frozen-section service; competence in the one technique is scarcely ever divorced from competence in the other. The extent to which an excisional biopsy may "make a definitive

operation technically less easy" I do not know, but I can say that I have never yet heard it mentioned by surgeon colleagues as a factor, significant or insignificant.

The one reason that might justify needling is the one about which, unexpectedly, you have some doubt—namely, lessening the psychological trauma to the patient of recovery from the anaesthetic minus a breast. To even the well-advised patient this must be highly traumatic, and none would minimise the size of the problem. Needle biopsy, you believe, can help a great deal and you illustrate your attitude well when you say that "surgeons in breast clinics are all familiar with the smile of relief from the patient when, convinced she has a rapidly advancing tumour, she is shown the contents of a syringe." To be sure, many patients when "shown the contents of a syringe" will be relieved and many thereafter will have no further trouble, but if this practice is continued the day will surely come when some patient returns with the "cyst" refilled, and this time the "cyst" will be solid. How many patients thus relieved are to be weighed against this one whose diagnosis was missed because the cyst, with carcinoma in its wall, was aspirated and not excised? To many the answer, when a more accurate technique is available, must be "none." At any time one false-positive or one false-negative diagnosis is one too many of either, not one too many per year or one too many per cent but absolutely.

The answer to the problem may lie in the better psychological preparation of the patient for the possibility that mastectomy may immediately follow tylectomy, but it does seem strange that, in cancer diagnosis, a less accurate procedure should be preferred to a greater. In the opinion of some these needling procedures as applied to disease in the breast appear to be verging on the meddlesome.

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Which arm squeezes the bag?

SIR,—I have been interested in all kinds of wind instruments for over 50 years, but never before have I seen a right-armed bagpiper (30 July, p 332). Had I been asked, I would have said no such thing existed.

H G MAGILL

Exeter

*.*Dr Magill underestimates the versatility of the Scots.—Ed, *BMJ*.

Photo-onycholysis caused by tetracyclines

SIR,—Dr H J N Bethell's case report (9 July, p 96) prompts me to remark that, notwithstanding his statement that photo-onycholysis "has not been reported from the UK," this drug reaction is well known to British dermatologists, most of whom have probably seen at least one or two cases.

In the exceptional sunshine of last summer I saw it twice due to tetracycline in the low dosage of 250 mg twice daily used for acne. In neither case was it accompanied by significant phototoxicity of the skin. One woman complained of very severe pain under the free ends of the nails at the onset of the attack "like

red-hot needles being inserted." The thumbs may be spared as they are less exposed to light but were affected in one patient. Both recovered completely and in the autumn one resumed tetracycline therapy without mishap.

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Barium meal in uncomplicated dyspepsia

SIR,—We read with interest the paper by Dr G M Mead and his colleagues (4 June, p 1460). We have carried out a smaller study with very similar findings. Twenty-three consecutive patients referred to an emergency medical clinic (by their general practitioners) with ulcer-type dyspepsia of at least one month's duration were studied. We excluded patients with significant weight loss or a history suggestive of gastrointestinal blood loss. Alternate patients were referred for barium meal examination and all patients were given the same advice with regard to regular meals, antacids, and stopping smoking. Of the 11 patients referred for barium meal, radiological findings were normal in eight and abnormal in two (one duodenal ulcer and one hiatus hernia); one patient failed to attend for examination.

All patients were asked to attend for follow-up one month after their initial consultation. Symptoms had resolved in all 10 patients who had attended for barium meal examination. Only nine out of the 12 not referred for barium meal attended for follow-up and symptoms had resolved in all of these. There was no significant difference between the two groups in terms of either duration of symptoms (44 ± 14 (SEM) months for barium meal group *v* 42 ± 10 months for no barium group) or age (51 ± 2 years *v* 47 ± 3 years).

Our conclusion is that routine barium meal examination is of no value in the initial management of uncomplicated dyspepsia.

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Chloroquine-induced involuntary movements

SIR,—Drs E M Umez-Eronini and Elspeth A Eronini (9 April, p 945) report involuntary movements following chloroquine administration in five adult patients. They refer to the report of amodiaquine-induced involuntary movements by Akindele and Odejide,¹ but their claim that involuntary movements in association with chloroquine treatment have not been reported previously needs reappraisal.

Bhargava *et al.*² from India, reported six instances of an extrapyramidal syndrome following medication with antimalarials, including five cases in which chloroquine alone had been given. They also referred to 28 additional cases in which extrapyramidal symptoms supervened after the administration of antimalarials along with small doses of phenothiazines. Common clinical manifestations included upward rolling of the eyeballs, retraction of the neck and back, trismus with speech difficulty, and coarse tremors.

During the past year we have encountered four instances of this syndrome in children aged 2½–12 years following chloroquine therapy for malaria. All the patients developed typical self-limited extrapyramidal manifestations 2–96 h after the administration of chloroquine. The clinical picture was similar to that of phenothiazine toxicity, but none of the patients had received any phenothiazines. The cerebrospinal fluid was examined in two cases and was normal. There was no clinical evidence of cerebral malaria in any patient.

The exact mechanism of production of these symptoms by chloroquine is uncertain because there is no structural similarity between chloroquine and other chemotherapeutic agents, such as phenothiazines and reserpine, which are known to produce extrapyramidal side effects. In view of the fact that two patients had received rather excessive amounts of chloroquine it would appear that the side effects reported are dose-related rather than idiosyncratic.

To the best of our knowledge extrapyramidal side effects of antimalarials have not previously been reported in children below 12 years of age. It needs to be emphasised that drowsiness and involuntary movements may follow the administration of chloroquine and may not be of uncommon occurrence in countries where malaria is endemic. Though the clinical picture is alarming and creates anxiety in the family, spontaneous recovery invariably occurs within 48 h.

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¹ Akindele, M O, and Odejide, A O, *British Medical Journal*, 1976, **2**, 214.

² Bhargava, R K, *et al.*, *Journal of the Association of Physicians of India*, 1973, **21**, 969.

Strawberry pickers' foot drop

SIR,—Two young patients presented with foot drop to the accident and emergency department of this hospital in July 1977. Both had noticed weakness and tingling in the feet following a prolonged period of strawberry picking five days previously.

One patient, a girl aged 21, had complete foot drop in one leg and a positive Tinel's sign over the lateral popliteal nerve below the head of the fibula. The other patient, a man aged 29, had bilateral weakness of the dorsiflexors of the ankle and toes with no sensory loss but with a positive Tinel's sign over the lateral popliteal nerve.

These two young people had thus developed lateral popliteal nerve palsies while picking strawberries. This appears to have resulted from local pressure on the nerve while squatting for several hours with the knee flexed and the outer part of the leg pressed on the ground with the foot extended and inverted. The girl was evidently in the same position with pressure on the affected leg for two to three hours, and recovery of her complete palsy is likely to be slow and possibly incomplete. With the man the pressure was maintained first on one side and then on the other and, as the palsies were incomplete, recovery may be more rapid in this case.

It would be interesting to know if similar cases of lateral popliteal nerve palsy due to this

cause have been encountered elsewhere among strawberry pickers. It would seem important to warn strawberry pickers of the danger of this pressure palsy and advise them to avoid squatting for long periods in the same position.

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Paternity testing

SIR,—A passage from your otherwise excellent leading article on the above subject (16 July, p 145) might be taken to mean that any practitioner who has a problem involving paternity in his practice is at liberty to sample the individuals concerned and post off the samples to an approved laboratory for testing. This is certainly not so in my own laboratory and, I would suspect, in the majority of laboratories approved for this purpose. No samples should ever be sent without arrangements being made, preferably in writing, with the approved tester beforehand. The point is all the more important because of the biological nature of the materials involved, which means that samples arriving via the post on a day when preparations have not been made to receive and test them are invariably spoiled and the parties required to be re-sampled, which is a considerable nuisance for all concerned.

ALAN USHER
Approved tester to
the Home Office

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Drug metabolism in the elderly

SIR,—Dr Fatima Farah and others (16 July, p 155), using acetanilide, have demonstrated an age-related decline in microsomal oxidation rates in man. The same has been found in a number of other studies^{1–3} in which antipyrine has been administered. Although this decline could be due to aging per se, other factors that alter with age should also be taken into account.

Nutritional state is one such factor. For instance, vitamin C deficiency is known to occur in about half of the old people admitted to geriatric wards⁴ and has been shown to impair drug metabolism in man.⁵ Low folate levels are often found in the elderly in the absence of anaemia,⁶ and clinical studies suggest that folate depletion may limit microsomal metabolism of phenytoin.⁷ Finally, vitamin A deficiency impairs hepatic oxidative metabolism in rats,⁸ although there is no information about the effects of this deficiency in man.

We have measured the antipyrine half life in 36 elderly people with normal liver and renal function as judged by routine biochemical tests. None were anaemic or took drugs known to influence hepatic microsomal enzymes. The mean half life of the group was 14.6 ± 5.5 h, very similar to the 14.8 ± 5.9 h reported in a group of 84 old people in Baltimore.² However, 16 of our patients had low blood levels of ascorbic acid, folic acid, vitamin A, and vitamin B₁₂, either singly or in combination. The mean half life of these was 18.6 ± 5.8 h, significantly longer than the