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SIR,—We do not agree with Dr C R Kirk and others (30 April, p 1236) that penicillin is so much the drug of choice in treating gas gangrene that a test dose should be given to confirm reported allergy.

Their comment that other agents are ineffective because of poor penetration of tissues cannot be substantiated. Metronidazole penetrates tissues well, achieving concentrations equivalent to those found in serum.¹ Dose is important in determining tissue concentrations, and we are not told the doses of metronidazole or amoxycillin trihydrate and clavulanic acid that were given in this case. In a murine model of gas gangrene responses to metronidazole were highly dose dependent,² and survival of mice treated with penicillin was not significantly better than that of untreated controls in spite of very high serum concentrations.

Antibiotics and hyperbaric oxygen have an adjunctive role in the management of clostridial gas gangrene, with surgical débridement offering the mainstay of treatment. It is not appropriate to give a drug, even as a test dose, to a patient with a possible allergy when the drug has not been shown to have clear benefit. Metronidazole may offer a good alternative to penicillin in such cases.

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Proteinuria in malignancy

SIR,—Dr Nick Sawyer and colleagues (7 May, p 1295) describe an association between proteinuria and malignancy. Although proteinuria in patients with diabetes mellitus predicts diabetic nephropathy, it is also a risk factor for generalised vascular disease.¹ Diabetic patients with microalbuminuria, in contrast to those with normal albumin excretion, show increased vascular permeability to radio-labelled albumin.²

In patients with no clinical or biochemical evidence of renal disease we have found increases in renal permeability to plasma proteins after trauma,³ sepsis associated with burns and trauma,⁴ and acute pancreatitis⁵ and during elective surgery.⁶ We have proposed that increased renal permeability is part of a generalised increase in vascular permeability, rather than indicative of primary renal disease.⁵ This hypothesis is consistent with the finding that increased vascular permeability to radiolabelled albumin is found in patients after surgery and in septic shock.⁷ In that series nine out of 11 patients with malignant disease also showed increased vascular permeability. The mechanisms for these changes are not certain, but systemically active substances which cause massive increases in vascular permeability have been identified in several conditions, including advanced malignancy.⁸

We suggest that the proteinuria that often accompanies malignancy may not be due primarily

to subclinical nephritis but is a reflection of an increase in overall vascular permeability. We speculate that in advanced neoplastic disease mediators are present that produce systemic effects, which in the kidney are manifest as mild proteinuria. Rapid advances in the automated assay of low concentrations of specific proteins in urine mean that this relation could have implications for the early diagnosis and treatment of malignancy and many other conditions.

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Crisis in medical education

SIR,—Professor Peter Richards (7 May, p 1278) has, unwittingly, made a strong case for moving a large part of undergraduate medical education away from the universities and into general practice. As he states, "As the emphasis moves to outpatient and community clinics, primary health care and prevention . . . the need is not for more educationalists but for more clinical teachers who understand the complexity of medicine." The existing network of general practitioner trainers, course organisers, and associate and regional advisers is well placed to meet this challenge along with the academic departments of general practice.

Perhaps some of the criticisms levelled at undergraduate education by Dr H J N Andreyev (7 May, p 1326) would then be overcome. Many of his criticisms are of the style of education and the lack of regard for patient autonomy. In postgraduate education in general practice we have had to learn the techniques needed to facilitate adult learning, and our work has taught us the importance of patient autonomy.

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SIR,—Dr H J N Andreyev (7 May, p 1326) does not say where he trained, but his clinical course was obviously not at Addenbrooke's Hospital in Cambridge.

Much of what he says contains some truths, particularly with regard to the rigours of preclinical training, but surely his negative feelings relate to the hospitals where he trained. I thoroughly enjoyed the clinical course at Addenbrooke's, even though it was short (26 months). Individual teaching was promoted, and on peripheral hospital attachments there were often only one or two students on each firm. The teaching was

excellent, and much of this was because of mutual cooperation.

Learning of lists is tedious but much of the knowledge acquired is necessary. One often needs to think quickly and recall a likely differential diagnosis in order to act appropriately. Did Dr Andreyev do any student locums? I did three and found them invaluable. I was well supported during each of them.

Some attitudes that prevail in medical schools are unpleasant. Many doctors are downright rude, but there is no need for the enlightened to perpetuate this behaviour. I wonder what Dr Andreyev's career choice will be. He might find that some of his junior hospital training is also not what he had hoped for. He might be more fulfilled working in general practice if he does not become too bitter along the way.

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SIR,—Dr Peter Richards (7 May, p 1278) discusses the crisis in undergraduate medical education. A feature of teaching hospitals has been unnecessary divisions between staff employed by the university and by the National Health Service. This has been exacerbated recently by problems in university funding and the loss of staff and support. Many people who work in teaching hospitals know the areas of division, friction, and lack of communication between these two groups of staff.

I suggest that teaching hospitals should be separately funded. All their staff should have equal status. If required, all consultants would be senior lecturers and, where appropriate, could be upgraded to reader or professor according to their abilities in clinical work or research.

New consultant staff should be appointed according to the overall requirements of the hospital. This would replace the current arrangement where appointments are limited by the nature of the post vacated. Consultants appointed to district general hospitals who have responsibilities for teaching medical students should also be part of the new system. These suggestions would remove the financial support of teaching hospitals away from the general university system because of the special requirements of providing clinical care to patients over and above research and teaching. They would put all consultants on an equal footing and remove confusion in the running and the development of the teaching hospital with respect to clinical service, teaching, clinical research, and basic research.

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SIR,—Professor Peter Richards discusses medical education (7 May, p 1278), but is there really a crisis? There is no shortage of first class recruits, and the product is excellent, although perhaps rather too stereotyped. We forget that the student-teacher ratio that we regard as optimal could be maintained by reducing the student intake as well as by shoring up the teaching establishment. Having spent nearly all my life in teaching hospitals—metropolitan and provincial, British and foreign, concerned with undergraduate and postgraduate education—I wish to make the following suggestions.

There is an overwhelming case for a reform of sixth form education, which, whether we like it or not, is determined by selection for university places. A regrouping of subjects is needed into the inorganic (mathematics, physics, and inorganic chemistry); the organic (biochemistry, botany,