technique, and outcome of peripheral thrombolysis for the past two years.² This is a continual process to provide a system for the national audit of peripheral arterial thrombolysis, and so far over 450 events of thrombolysis have been recorded. In these, only 13% of infusions were given with a pulse spray technique, in a median time of six hours (range 1-78 hours).

Pulse spray lysis is certainly faster than conventional low dose techniques, but it requires expensive catheters and infusion systems. Other methods, such as high dose bolus thrombolysis and six hourly dose infusions, have also been reported to reduce infusion times without expensive equipment.^{3,4} Personal communications with the manufacturers of pulse spray infusion catheters also suggest that relatively few hospitals in Britain use the pulse spray technique.

Little information is available on many of the techniques for peripheral thrombolysis, and low dose infusions remain the gold standard for many hospitals in Britain.

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Streptokinase is more economical than alteplase

EDITOR,—Marc Verstraete cites streptokinase and alteplase as alternative thrombolytic drugs for the management of myocardial infarction.¹ His guidance on choice is confined to the statement that use of streptokinase, aspirin, and heparin saves 26 lives per 1000 patients treated, whereas use of alteplase, aspirin, and heparin saves 35-37 lives per 1000 patients treated. The implication is that he recommends alteplase. He omits to mention that the cost of treating a single patient with alteplase (£750, all inclusive) is over nine times higher than that of using streptokinase (£81.50, including the cost of the diluent, transfer device, and infusion bag). An annual budget sufficient to treat 1000 patients with streptokinase could therefore save 26 lives whereas the same budget would allow only 108 patients to be treated with alteplase and could save only three lives.

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Timing is more important than choice of agent

EDITOR,—Marc Verstraete states incorrectly¹ that the accelerated tissue plasminogen activator regimen used in the global utilisation of streptokinase and tissue plasminogen activator for occluded coronary arteries (GUSTO) trial² "lowered the 30 day mortality to 6.3%, compared with 7.2% achieved with streptokinase, aspirin, and

intravenous heparin." The 30 day mortality for the latter combination was found to be 7.4%. The figures quoted are for the combination of aspirin, streptokinase, and subcutaneous heparin in the same trial.

To quote this trial without mentioning the discussion that it has generated is misleading. By doing so Verstraete implies that streptokinase is good but that tissue plasminogen activator is better. This has by no means been proved to be the case. Many of the controversial issues surrounding the trial were summarised in a recent review.³ The authors helped put the debate in perspective by emphasising that the timing of thrombolysis is much more important than the choice of thrombolytic agent.

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Are second opinions a right or a concession?

An important political issue

EDITOR,—Granting patients an unqualified right to a second opinion about their diagnosis or treatment would set in motion much needed cultural changes in medicine.¹ It would be a nail in the coffin of medical paternalism and of the "like it or lump it" health service. Giving patients the power to "vote with their feet" would flush out many poorly performing doctors.² It could generate sensitive new performance indicators—for example, for each individual consultant, the proportion of referrals that led to requests for a second opinion initiated by the patient and the proportion of these that resulted in changes of diagnosis or treatment.

We could soon expect the new arrangements to raise standards of diagnostic performance; promote both more considered choice of treatments and better monitoring of their outcomes; and reduce the frequency and scale of the costly, embarrassing, and tragic hospital blunders that have done so much in recent years to threaten patients' confidence that they are safe in the NHS's hands. This right would provide doctors with a powerful incentive to "accept that they could improve their practice and to work continuously to do so."³ In conjunction with the lifting of restrictions on patients' rights of access to their medical records, the unqualified right to a second opinion could be a powerful deterrent to clinical fraud.⁴

So much good would obviously come of this right that we need to look carefully at any reasons adduced for not establishing it. The view that resources must be conserved seems to be an excuse rather than a reason, since the cost implications both of granting the right and of not granting it remain unknown. Before considerations of possible harm to patients could be seriously entertained there would need to be good evidence of its occurrence, nature, and gravity to offset the accumulating evidence that going without a diagnosis is harmful to patients, even if the ultimate diagnosis lacks clear implications for treatment.⁴ If doctors are reluctant to countenance granting the right to a second opinion their reluctance needs to be acknowledged for what it is and the reasons for it examined openly and dispassionately.

Behind the smokescreen of contrived ethical debate and foregone economic conclusions lies a political issue. We can choose to acknowledge or

ignore it. The core values embodied in medicine in the 21st century⁵ may well hinge on the outcome of that choice.

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Case history breached confidentiality

EDITOR,—I take issue with two points raised in the debate over whether second opinions are a right or a concession.¹

My first point relates to confidentiality in such an exercise. The doctors at Bethlem Royal and Maudsley Hospitals can easily be narrowed down to a shortlist of two or three, including me. If I am not one of those described then I have had an extraordinarily similar experience. I discussed the matter with a member of the *BMJ's* staff soon after the article appeared, and he said that there is sometimes a dilemma between protecting confidentiality and the need for open debate. Has the *BMJ*, which has an excellent reputation for issuing professional directives, now lurched towards the tabloid genre?

Secondly, I take issue with Anthony J Pelosi's polemic against tertiary referral centres. Having done most of his training at the Bethlem Royal and Maudsley Hospitals, Pelosi knows that patients do not sit around there being overresearched. The patient discussed in the article would immediately have had a trial of clozapine. E B McGinnis is incorrect in saying that tertiary referrals are not free: all such referrals to my unit will be free until at least 1997. This is not an ethical debate but the all too familiar tale of a patient being denied a superior modern treatment because of the inertia, prejudice, and protectionism that bedevil the psychiatric profession. If the *BMJ's* readers have any patients in whom clozapine should be tried, I and my colleagues, Dr Reveley and Professor Murray, will be happy to accept appropriate referrals. The patients will certainly not sit around for months having "expensive brain scans and well meaning attempts at psychological treatment"—our waiting list is far too long for that.

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New developments have transformed outlook for patients with schizophrenia

EDITOR,—In the debate on whether patients with schizophrenia should have the right to referral for a second opinion against the wishes of their local psychiatrist, Anthony J Pelosi attacks one of my lecturers (Dr B) for "bizarre behaviour" in advising a relative that my colleagues and I are willing to see patients in such circumstances.¹ While we much prefer to cooperate with local doctors, our experience has been that a small number of psychiatrists use ineffective or counter-productive treatments and yet oppose a referral. In such a situation where the patient continues unnecessarily to have hallucinations or crippling side effects of inappropriate drugs, his or her

interests must take precedence over the pride of the local psychiatrist.

The fact that some psychiatrists have failed to keep abreast of advances in knowledge about schizophrenia is shown by Pelosi's statement that "treatment must be unsatisfactory and there is no knowledge base and no technical skills that could justify superspecialist opinions." That is no longer true. New developments in neuroimaging, neuropharmacology, and psychology have transformed our understanding of schizophrenia and the outlook for patients. Schizophrenia is a chronic illness, as Pelosi states, but that is no reason for the therapeutic nihilism that he espouses. Diabetes is also a chronic illness, but few would doubt that expert care can enable most diabetic patients to enjoy reasonably good health for many years. So it is with schizophrenia.

Prompt intervention with a combination of modern cognitive-behavioural treatments and the new generation of antipsychotic drugs can successfully abolish hallucinations and delusions in most cases. On the other hand, suboptimum treatment that allows patients to remain psychotic can render their illness much more intractable.

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Taxi rank malaria

EDITOR,—Malaria contracted during travel to a malarious zone may develop only after the traveller's return to an area free of the disease. This has led to doctors' practice of asking febrile patients, "Where have you been and when?" Malarious disease may also occur in people who have never visited a malarious area or been exposed to blood products infected with plasmodium. In north western Europe most such cases occur in the vicinity of international airports. These cases of "airport malaria" are acquired through the bites of infected anopheline mosquitos inadvertently imported by aircraft from endemic areas.^{1,3} Infected mosquitos can survive for extended periods in aircraft cabins and holds that have been sprayed with insecticide, and even in the wheel bays of aircraft.⁴ Little attention has, however, been paid to outbreaks of malaria due to anopheline mosquitos in overland vehicles.⁵

Hendrina, a small farming town (population 20 000) in Mpumalanga Province, Republic of South Africa, is 1220 m above sea level and has a mild climate (the average maximum daily temperature is 26°C in summer and 15°C in winter). The town is about 140 km from the limit of the summer malarious zone, and no cases of indigenous malaria in the town or surrounding district have been notified since malaria became a notifiable medical condition in South Africa in 1957.

During January 1995 a 57 year old housewife and 19 year old female university student resident in Hendrina developed febrile illnesses with features typical of uncomplicated malaria within one week of each other. As the most recent visit to a malarious area by either patient had been over five years previously, malaria was not suspected and symptomatic treatment was started. Falciparum malaria was diagnosed by Giemsa thin blood smear (percentage parasitaemia 1.8% and 2.4%) and curative treatment was started three weeks after the onset of symptoms, when the patients were referred to a regional hospital because of concern about their clinical conditions. They responded to treatment with chloroquine and suffered no sequelae.

The women lived in neighbouring houses, and their homes were within 80 m of a taxi rank serving

commuters from Mozambique and the low lying Mpumalanga area, which is malarious. An entomological search for vectors, larvae, and potential breeding sites proved fruitless.

A large number of similar cases of malaria have been linked epidemiologically to commercial transport routes in South Africa in recent years (C F Hansford, Institute for Tropical Diseases, Tzaneen, South Africa, personal communication). The volume of commercial land transport between malarious and malaria free areas suggests that this route of importation of the vector may be of greater public health importance than airport malaria.

When confronted by a puzzling case of acute febrile disease, health workers in malaria free areas that are served by vehicles, including taxis, from endemic areas should maintain a high index of suspicion and investigate for malaria.

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Should good Samaritans claim a fee?

EDITOR,—I have always thought that the calls for help on aircraft for a doctor to come forward were a summons to do one's best for a fellow traveller, taking into account one's training and the equipment available. I could never imagine asking the patient which company he or she was insured by (virtually all passengers in civil aircraft are insured by somebody) and then sending a bill. The good Samaritan never asked for recompense. Is this changing?

I recently saw an account submitted to an insurance company by a doctor who had escorted a patient across the Atlantic for a second company. One of the first company's customers had had a severe attack of angina. Valuable help and advice were given, but at what stage is it right to start charging for this help? Will we start checking at the roadside to see whether accident victims' general practitioners are fundholders? Should rail tickets, especially first class ones, include details of private medical cover in case of the holder's collapse.

If the ethic of the good Samaritan is replaced by that of Good Samaritan plc where will it all end?

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Managing in flight emergencies

Emergency kit will now contain fatal dose of lignocaine

EDITOR,—While we admire the way in which W Angus Wallace and T Wong dealt with a tension pneumothorax under the adverse circumstances of a long haul flight, some comments have left us confused and concerned.¹

The inability of both clinicians to calculate the percentage of lignocaine provided (1%) serves to highlight the findings of S Rolfe and N J N Harper that many doctors are confused by the varying presentations of the drug content of an ampoule.² Nevertheless, it seems that the lignocaine was

used, as the chest drain was inserted "under local anaesthetic." In the discussion the authors comment that "a suitable local anaesthetic would, however, have been a helpful addition." This implies that the 1% lignocaine provided, and presumably used, was inadequate. Finally, the plan to include a 20 ml multidose phial of 2% lignocaine in the M5 medical emergency kit in future is worrying. Such an ampoule would contain 400 mg of lignocaine, which is twice the current maximum recommended adult dose of 200 mg.³ This could lead to the administration of a toxic dose, especially when circumstances are less than ideal. We therefore question the need for such a concentrated solution of lignocaine, as 1% is adequate for most surgical and medical emergencies.

For future reference the volume, per cent concentration, and dose of a drug are simply related by the formula:

$$\text{Volume (ml)} \times \% \text{ concentration} \times 10 = \text{dose (mg)}$$

Thus if any two are known the third can easily be calculated.

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- 2 Rolfe S, Harper NJN. Ability of hospital doctors to calculate drug doses. *BMJ* 1995;310:1173-4. (6 May.)
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Glove and cannula approach is easier

EDITOR,—I applaud W Angus Wallace's ingenuity, which upholds a long orthopaedic tradition of improvisation.¹ I suggest, however, that the next time he is confronted with this problem he uses the coat hanger to hang up his coat. Using a large intravenous cannula and sterile surgical glove, one can pass the point of the cannula through the end of the middle finger of the glove from within, with the hub of the cannula remaining in the glove. The tip of the cannula can then be quickly and easily inserted into the pleural cavity with the glove attached around the waist of the cannula; the glove will hang over the hub of the needle, acting as a flap valve.

I suggest that, having done this, Wallace returns the bottle of brandy to the nearest air hostess in exchange for a respectable malt whisky and returns to his seat to enjoy the remainder of the flight.

This technique is by no means new and has been used in outlying clinics in Africa, where coat hangers and brandy are, alas, at a premium.

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Plane should not have left the ground

EDITOR,—I initially read about W Angus Wallace's adventure—in performing an operation on board an aeroplane flying from Hong Kong to London—in the British press and thought it a ripping yarn. When I read his own account of it I was aghast.¹

When the patient was first drawn to Wallace's attention the aircraft was still on the ground in Hong Kong; this detail was not made clear in the newspaper accounts. Wallace was called to