recommended by the Halsbury Committee would inflate these mind-boggling sums to 12p and 9p respectively.

This, surely is the form in which doctors and the public at large should have N.H.S. expenditure presented to them. It would then be plain to all that for the medical profession to help the D.H.S.S. to wallow a little less deeply in the financial mire in which it now flounders is not only super-erogatory but irrelevant. More important, this way of looking at the costs of the care of acute illness also offers a way of meeting those costs. If every patient in hospital, except perhaps the very young and the very old, contributed 10p a day to that hospital he could rest secure in the knowledge that this trivial premium—the cost of five cigarettes, a can of coke, a bar of chocolate, or 1½ pints of petrol—would ensure that whatever illness he had, whatever urgent service he might need, whatever unforeseen complication or reverse he might suffer, cover would be provided at any hour of the day or night. Doubling the levy to a mere 20p a day would, moreover, underwrite the desperately needed increase of salaries for nurses and ancillaries.

Politicians of all colours have long lacked the courage to tell their electors that this kind of service must be paid for. Perhaps, after all, the D.H.S.S. and the public do not want the kind of service we now struggle to provide. If so, let them say so. But neither public, politicians, nor placemen should expect the medical profession to compound their parsimonious folly.—I am, etc.,

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Fatal Insect Stings

SIR,—In your leading article on this subject (18 May, p. 345) it was pointed out that respiratory tract obstructions—oedema of the glottis or bronchi—accounted for 70% of the deaths and that 58% of the deaths occurred within the first hour. It was also suggested that antihistamines may be injected intramuscularly or intravenously to combat the respiratory oedema; and by way of example promethazine hydrochloride 50 mg was quoted. It should be remembered that promethazine is a sedative and if injected intravenously can produce such a degree of sedation that the patient may become unconscious, a dangerous state to be in if the airway is partly blocked.

I recently saw a patient who had developed a minor degree of upper respiratory obstruction, having inadvertently eaten some pork, to which she was sensitive. Her breathing was laboured and she indicated that she could feel a sensation of swelling at the back of the tongue. I treated her with hydrocortisone intravenously to a total dose of 700 mg and at one stage I injected 5 mg of chlorpheniramine slowly into a vein. Immediately after this she became extremely sleepy and her breathing, which had until then been laboured but adequate, became slow and shallow and plainly inadequate. I found I could maintain her respiration by loud vocal encouragement and continuous tactile stimulation—in short, by shouting

and prodding—till she woke up 20 minutes later.

The fact that this was only a mild case of respiratory obstruction which ended harmlessly should not obscure the fact that the intravenous antihistamine, by depressing her consciousness, made the situation worse. Anaesthetists are trained to be aware of the danger of giving soporific drugs to patients with respiratory obstruction and I would urge that antihistamines be included in this group and should be used only with extreme caution.—I am, etc.,

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SIR,—I wish to draw attention to the potential danger of intramuscular or intravenous antihistamines, as recommended in your leading article (18 May, p. 345), in the treatment of acute anaphylactic shock caused by insect stings, particularly where bronchoconstriction is in evidence. Antihistamines may result in further bronchoconstriction and in any case they are probably useless in the treatment of acute anaphylaxis. The physiological antihistamine adrenaline together with intravenous corticosteroids and, of course, other supportive therapy would be the logical approach. I am rather surprised that you do not mention intravenous corticosteroids in your article.—I am, etc.,

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** The sedative effects of an antihistamine may vary from individual to individual but it would be unlikely that the recommended dosage would produce serious respiratory depression in most patients. The patient quoted by Dr. Thomson was still rousable, and was fully awake in 20 minutes—a remarkably short period if the antihistamine and not the anaphylactic shock was chiefly to blame.

There is no evidence that antihistamines, in therapeutic dosage, can cause bronchoconstriction though they may not relieve it. Antihistamines should still be considered as important in the treatment of acute anaphylaxis, second only to the all-important adrenaline.

Corticosteroids are of little or no value in acute anaphylactic emergencies. We agree that once the emergency has passed they should be used to prevent recurrent or delayed reactions.—Ed., *B.M.J.*

Lawn Mower Injuries

SIR,—These summer months will produce their share of lawn mower injuries. In the United States in 1970 it was calculated¹ that there were 27m. mowers in use, resulting in 140,000 injuries during that year. (Figures for Britain are not available.) Most of these appear to be caused by rotary mowers, whose blades rotate horizontally to the ground at speeds of up to 3,000 r.p.m., the blade tips reaching a speed of 232 miles (373 km) per hour.

Lawn mower injuries are of two types:

(1) Direct injuries. These are caused by the blades of the mower striking either the operator or someone else, usually a child who has fallen into the path of the mower.

Injuries to adults usually involve the forefoot, causing at the least lacerations of the toes and, more seriously, complete or partial amputation of one or more toes, the wounds being contaminated with grass and soil. We have found² that these forefoot injuries tend to occur when the operator is using the mower going down a wet or dew-damp slope, when his feet slip from under him and slide under the protective canopy of the mower into the blades. Lasting sequelae of such injuries are disturbance of balance, limping, and diminished walking distance due to pain, especially if the hallux and/or first metatarsal are involved.

(2) Missile injuries. When small, hard objects such as stones are struck by the rotating blades they may be hurled from under the mower for distances of 50 yards (46 m) or more. Apart from causing structural damage to windows etc., they may cause serious injuries to the eye, even blindness.³ A survey in New Zealand⁴ reported that such missiles were the most common single cause of traumatic hyphema.

The following points should help prevent these accidents: (1) remove stones etc. from the lawn before mowing; (2) keep children and pets away from mowers in use; (3) remember that slopes, especially if wet, are potentially hazardous; and (4) wear robust footwear capable of secure purchase on the ground—golf shoes or ordinary shoes with spikes inserted will prevent slipping.—We are, etc.,

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¹ DeMuth, W. E., et al., *Journal of the American Medical Association*, 1973, 225, 355.

² Hulme, J. R., and Askew, A. R., *Injury*, 1974, 5, 217.

³ Barsky, D., *Archives of Ophthalmology*, 1960, 64, 385.

⁴ Ferguson, R. H., and Poole, L. W., *Transactions of the Ophthalmological Society of New Zealand*, 1968, 20, Suppl. 10, p. 54.

Septic Abortion and the Dalkon Shield

SIR,—To remove an intrauterine contraceptive device (I.U.C.D.) in early pregnancy by traction on the strings, as advised by Dr. J. S. Templeton (15 June, p. 612), is very likely to cause abortion. Legal considerations apart, the risks of incomplete abortion, haemorrhage, and sepsis inherent in such a procedure must be far greater than the remote chance of intrauterine sepsis if the device remains in situ.

It seems likely that cases of septic abortion occurring in patients with I.U.C.D.s who become pregnant are due to attempted interference. If it is true that the infection can occur spontaneously, then an appropriate course of action would be to culture a high vaginal (not intracervical) swab and give a short course of antibiotics followed by a maintenance dose until the risk is considered to have passed.

The advice in Dr. Templeton's last paragraph could easily be misinterpreted by the patient as a promise of a therapeutic abortion if she became pregnant while wearing a Dalkon Shield. Such an undertaking would not come within the provisions of the Abortion Act, which, at least by implication, requires the opinions of two practitioners based on circumstances which present only

after the pregnancy has occurred. The ante hoc promise would have contractual significance, but the practitioner could not know that he would be able to fulfil the contract.—I am, etc.,

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Sensitivity to Rifampicin

SIR,—In the summary of their paper on this subject (25 May, p. 415), Dr. J. C. Pujet and his colleagues draw two main conclusions: firstly, that rifampicin dosage and serum concentration are "predominating factors" in the occurrence of adverse reactions to the drug and, secondly, that if it is considered necessary to continue giving rifampicin to a patient known to be intolerant to the drug, antibody titres during the 24 hours after the administration of a dose "must be measured to find when they are lowest, which determines the 'un-reactive period,' and when a further dose may be safely given." Neither of these conclusions is warranted by the information presented or by other published work.

Their conclusion on serum rifampicin concentration is based on measurements from only three patients with adverse reactions, two of whom had acute episodes (one of haemolysis, the other of anuria) which could have produced a temporary failure to metabolize or excrete the drug. Furthermore, though the authors refer to "hepatic disorder" in 39 patients, they do not state whether these 39 included one or more of the three on whom the serum rifampicin concentrations were measured. This is an unfortunate omission since rifampicin clearance may be considerably impaired during transient abnormalities of liver function.¹ It cannot in any case be assumed that patients who develop adverse reactions to rifampicin do so because of impaired clearance of the drug from the serum until a properly controlled study has provided evidence for such a hypothesis. The impaired clearance could just as well be an effect of intolerance as a cause of it.

We have compared our own data on maximum serum rifampicin concentrations in two groups of patients on once-weekly rifampicin, the first during adverse reactions,¹ the second with no adverse reactions.^{2,3} The geometric mean of the peak serum concentrations for 10 patients during reactions was 38.0 µg/ml, whereas the mean for 12 patients with no reactions was 25.7 µg/ml. Even though this difference is significant ($P = 0.01$) there was no evidence of variation from patient to patient in their serum concentrations among those with no reactions.³ Thus it appears probable that patients who have already become intolerant clear the drug from their serum less rapidly than do those without intolerance and do not develop intolerance because of a preceding tendency to have higher concentrations.

Although rifampicin dosage in intermittent regimens is known to affect the incidence of adverse reactions, a recent controlled trial has shown that the rhythm of administration of the drug is by far the more important factor.⁴⁻⁶ Thus the incidence of reactions in patients given

rifampicin once a week was significantly higher ($P < 0.001$) than that in patients on the same dosage twice weekly, and the incidence during once-weekly chemotherapy was significantly lower ($P = 0.025$) if the intermittent phase was preceded by two months of daily treatment. Adverse reactions of the type discussed by Dr. Pujet and his colleagues did not occur at all during fully supervised daily administration. A moderate reduction in rifampicin dosage stopped adverse reactions in some patients. However, if it failed to do so a change to a daily rhythm of administration almost invariably succeeded. Of 111 patients with reactions to intermittent rifampicin, for only 11, including three with purpura, was treatment with the drug terminated. These adjustments were made entirely on the basis of the patients' clinical signs and symptoms and without any reference to antibody titres. Similar results have been reported from other centres.^{7,8}

Though the rifampicin-specific indirect antiglobulin reactions obtained with the serum of some patients with adverse reactions to intermittent rifampicin probably indicate the presence of circulating antibodies to the drug, this cannot be assumed.^{9,10} Nor, if such antibodies are present, can it be assumed that they are directly responsible for the reactions.^{2,11} Though the association between the occurrence of reactions and the presence of presumed antibodies has been shown to be close ($P < 0.002$), it is by no means absolute.^{6,10}

The assertion that "antibody titres within 24 hours after administration of the drug must be measured to find when they are lowest . . . and when a further dose may be safely given" is unjustifiable. An association between "antibody" titre and severity of reactions has not yet been clearly demonstrated. Even if it had, such measurements would be quite unnecessary in clinical practice since adverse reactions to intermittent rifampicin, as indicated above, can be managed simply and rapidly on an entirely clinical basis. However high the "antibody" titres in the serum of patients with reactions, rifampicin administration can almost invariably be continued uneventfully and without risk on a daily basis.^{1,6}—We are, etc.,

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Influenza in Families.

SIR,—A large-scale, five-year study of influenza in families in England and Wales began in October 1973 following a pilot trial in the previous winter. The study, organized jointly by the Royal College of General Practitioners and the Public Health Laboratory Service (P.H.L.S.), has nearly 500 volunteer patients. Over 50 general practitioners are taking part, each collaborating with one of 25 P.H.L.S. laboratories. The first winter period (1973-4) has run successfully and it has been decided to enlarge the study. Practitioners interested in taking part are invited to contact Mrs. J. Mant, Epidemic Observation Unit, Royal College of General Practitioners, 14 Princes Gate, Hyde Park, London SW7 1PU by letter or telephone (01-584 6262, ext. 43). At present it is not possible to include more general practitioners in the London area, but doctors from all other parts of England and Wales where laboratories are not already fully committed are welcomed.

Each doctor recruits between two and five volunteer families whose members will agree to provide a 10-ml blood sample in October and April each year (blood samples are not taken from children under 15 years). The families are kept under surveillance and each member is asked to contact the doctor if he develops an illness in which the diagnosis of influenza is even a remote possibility. The doctor or a nurse then records the clinical details and collects a nose and throat swab to be cultured for influenza viruses in the P.H.L.S. laboratory with which the doctor collaborates.

The main aims of the study are: (1) To relate pre-existing immunity, as measured by serological tests, to the influenza attack rate caused by new influenza virus strains as they naturally occur. (2) To study the relationship of pre-existing immunity to the severity of clinical influenza and to occurrence of subclinical infection. (3) To determine how influenza spreads within families.

The findings are expected to be of considerable practical importance. For instance, the results should help to improve the accuracy with which influenza epidemics could be forecast and help to decide when vaccination should take place and which persons should be included.

This is a worth-while study which can be carried out only by the close collaboration of general practitioners with their colleagues in virus laboratories.—I am, etc.,

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Computer Assisted Tomography

SIR,—In your leading article (22 June, p. 623) in which this most promising new method of investigating the intracranial soft tissues is reviewed the following statement regarding its application to the investigation of the orbit is made: "Various contrast media have been used in the past with very qualified success, and the techniques, apart from orbital phlebography, are regarded by most radiologists as being too dangerous since the information provided is limited." In our opinion this is misleading and totally