suggested by Mr Pearson and Miss Weaver, record many fewer movements per unit time than when they record for shorter periods. Presumably this is an effect of fatigue and reduced alertness. Recording during meals, conversation, reading, listening to music, etc, is not reliable. We instruct the women to assess and record each fetal movement for periods of 30-60 min three times a day. If the number of movements is less than three per hour the recording is continued for 6-12 hours in the day. From the sum of the movements recorded the rate per 12 hours—daily fetal movement recording (DFMR)—is calculated. Employing this method for a total of 1.5-3 hours a day the computed DFMR in 114 women with a normal outcome varied between 4 and 1440 per 12 hours. The majority of DFMRs were between 200 and 600 per 12 hours. In addition, the number of fetal movements recorded by an electromagnetic device¹ varied between 25 and 235 per hour. The patients recorded 87% of the movements recorded by the device. These data indicate that DFMRs are higher when recording is made for short periods from which the 12-hour score is computed.

(2) In 17 patients reduced fetal activity was observed, with 4-10 movements per 12 hours, yet the outcome was normal. This fact indicates that there is no significance in the number of the movements recorded provided that they are fairly constant. Only a definite decrease of the DFMR up to the cessation of movements, with normal heart beats, for at least 12 hours should require delivery of the fetus when it is viable.

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¹ Sadovsky, E, *et al*, *Lancet*, 1973, 1, 1141.

Antibiotics for respiratory illness?

SIR,—Your leading article on this subject (4 September, p 550) may be correct for patients without ailments other than asthma, as in these the tendency to spontaneous cure is obvious. However, it is not correct for chronic asthmatics, as in these there is a great chance of the asthma becoming acute when the infection descends into the lower respiratory organs, as is usual. It may even cause status asthmaticus.

As in most cases haemophilus is the infective agent oxytetracycline (2 g/day) should be given at the first sign of an acute respiratory infection. This dose can usually be reduced after a few days. I have used this treatment in chronic asthma for more than 20 years and have given my patients prescriptions in advance for just this eventuality, with excellent results. My controls are those who come only when the infection has taken a hold: their acute phases then last several weeks and often demand corticosteroids or higher doses of them if they had been on them beforehand.

You ought to have added a rider to your advice—"chronic asthmatics excepted."

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SIR,—In your leading article on antibiotics for respiratory illness (4 September, p 550) an error occurs in the final paragraph, where you refer to the paper by Stott and West which

appears in the same issue (p 556). The antibiotic used in their study was doxycycline. In your leading article you have erroneously referred to the antibiotic as minocycline.

DAVID F TOMLINSON
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* * * We are sorry to have made this error—it was a simple slip of the pen.—ED, *BMJ*.

Oestrogens for menopausal flushing

SIR,—In his article on the treatment of menopausal symptoms (14 August, p 414) Professor Arnold Klopfer states that vascular instability is a consequence of oestrogen deprivation, and that "treatment . . . should replace the missing oestrogen."

In a recent article¹ Mulley and Mitchell, after a detailed survey of the literature, conclude that "no correlation has so far been established between hormonal changes and menopausal flushing and the rationale for the use of oestrogens to relieve flushing . . . would not seem to withstand critical scrutiny." It is suggested that "as oestrogens carry a significant risk we should stop prescribing them for a condition which we do not fully understand."

Furthermore, Professor Klopfer does not mention the therapeutic role of clonidine hydrochloride in menopausal flushing, yet your experts have advocated this treatment twice within the past three months in the "Any Questions?" columns of the *BMJ* (26 June, p 1584; 7 August, p 357).

I would be interested to read Professor Klopfer's comments on these points, the former of which seems to contradict the rationale upon which his treatment is based.

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¹ Mulley, G, and Mitchell, J R A, *Lancet*, 1976, 1, 1397.

* * * We sent a copy of this letter to Professor Klopfer, whose reply is printed below.—ED, *BMJ*.

SIR,—A good many cherished beliefs could not meet Mr Broadhurst's challenge of direct proof. Such iconoclasm is valuable and I would not wish to counter it with a tedious recital of the data which suggest that there is a connection between oestrogen deprivation and menopausal vascular instability. Let me rest upon one incontrovertible fact which is a matter of such common experience that I need not cite authority in support of it. If a menopausal woman keeping a flush count is treated with oestrogen the number of flushes declines. Depending on which evidence you accept it is also established that the magnitude of the result is dose-related and can be clearly distinguished from a placebo effect. This may not prove a causal relationship but makes the therapeutic point I was concerned to establish. We are not in dispute about the risks of oestrogen treatment, but I don't think Mr Broadhurst reads me fairly about this. Synthetic oestrogens are dangerous and should not be used without good cause. No such case has been proved for natural oestrogens produced by the human ovary during the woman's

menstrual life. As regards clonidine hydrochloride, my intention was to write about endocrine preparations and for reasons of space (the Editor is very free with his red pencil) I did not think it proper to go into the pros and cons of other preparations. It would be interesting to see applied to clonidine hydrochloride the same rigorous criteria of therapeutic efficacy and safety as we now apply to oestrogens.

I think it is important that we should keep our cool. This is an issue in which there is more emotion than reason. I hope the *BMJ* will steer between the Scylla of pharmaceutical houses and crusades in the lay press on one hand and the Charybdis of Mr Broadhurst on the other. At this time there is still a place for certain oestrogens in the treatment of menopausal symptoms. The limits of that place should be watched vigilantly and drawn anew if fresh evidence comes in.

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Dangers of tinted glasses for driving

SIR,—It is a pity that Mr J B Davey, in adding his general support (24 July, p 233) to the warnings which have been raised by Professor R A Weale and myself in your columns and elsewhere on the potential and actual dangers of driving with tinted lenses and windscreens, should have seen fit to add a further red herring to the discussion when he suggests that the wearing of spectacles (with what he suggests might be appropriate photochromic lenses) may add to the physical safety of the wearer by virtue of the tougher glass from which these spectacles are made.

Although, as far as I am aware, there are no specific figures on the subject, it is undoubtedly the experience of many ophthalmologists who, after all, naturally see rather more of these, that in many cases of injury the damage arises from the spectacle frames rather than the lenses.

One would have hoped that, rather than adducing a somewhat dubious further basis for the wearing of tinted spectacles, there could have been further support for our plea that all in the concerned professions put their weight behind an effort to inform the public accurately about the potential dangers and disadvantages of driving with tinted lenses and/or wind-screens.

M J GILKES

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pH of swimming pools

SIR,—In a letter published a short time ago (3 July, p 47) I emphasised the importance of maintaining the water of swimming pools at the correct pH. In a recent leading article (7 August, p 344) you refer to the danger of pseudomonas infection, but once again the pH of the water was not mentioned. The pH of swimming bath water is perhaps as important as proper control of chlorination. The pH of blood is 7.38 and tears are alkaline. The water should be kept alkaline and the addition of chlorine gas makes it go acid, so this effect has to be neutralised by an alkali. However, in some domestic pools where chlorine gas would be a hazard sodium hypochlorite is used, and this

makes the water very alkaline so an acid has to be added to bring the pH to the acceptable level of 7.2-8.0. If the pH is right and there is free chlorine in the pool, it is very unlikely that problems will ever be encountered.

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Abortion and maternal deaths

SIR,—Mr Caspar Brook (28 August, p 524) correctly quotes our study as having shown that a majority of women seeking therapeutic abortion contact the health services at an early stage in pregnancy and suffer delays thereafter.¹ These findings were subsequently supported by others.²⁻⁴ However, he did not make it clear that our study related to a period before the University Hospital of Wales was opened and before any members of the current professorial team had arrived in Cardiff.

Mr Brook touches on another point (help with terminations) which is perhaps best illustrated by a quotation from a report on Welsh patients in 1975 produced by the British Pregnancy Advisory Service: "Overall, Welsh women are more likely to get NHS abortions than English women unless they live in Cardiff. The differences are so great between Cardiff and Swansea that they cannot be accounted for in medical resource terms only." Like other local variations, this is a reflection of the prevailing moral positions of gynaecologists in their interpretation of the Abortion Act.

Surely we have already tolerated for too long the dual iniquities whereby on the one hand gynaecologists with sincerely held convictions have to resist pressure to interpret the Act more liberally⁵ and on the other hand a woman's address is the most important determinant of whether or not she will have to pay for an abortion. Dr Selwyn Crawford⁶ and others⁷ have suggested that a way out of this dilemma is to remove work involving the termination of fetal life from mainstream gynaecology. This is the way the non-profit-making private sector has overcome the problem. When are we going to see a similar development within the NHS?

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¹ Chalmers, I, and Anderson, A B M, *Lancet*, 1972, 1, 1324.

² Johnstone, F D, and Vincent, L, *Lancet*, 1973, 2, 717.

³ Committee on the Working of the Abortion Act, *Report*, vol III, London, HMSO, 1974.

⁴ Coles, R J, *Journal of Biosocial Science*, 1975, 7, 357.

⁵ Walley, R, *British Medical Journal*, 1976, 1, 1456.

⁶ Crawford, J S, *Lancet*, 1975, 2, 407.

⁷ *Lancet*, 1975, 2, 912.

Teaching teaching

SIR,—Dr D P Mason's Personal View (14 August, p 418) reveals that he has learnt much from his first year as a trainer and indeed, by his side-swipes at academics, reveals that he has also learnt much about learning (equals teaching) by reading and by contacts with others.

Teachers in general practice are taking on this task as a second professional commitment.¹ Many teaching skills are practised by all general practitioners in the very nature of their

work. Extra skills are desirable in teachers and, while a talented few may have these intuitively, most of us need to acquire and practise them with our peers.

Courses for teachers are organised in such a way that participants learn mostly from each other and not from "educationalist peers." Perhaps Dr Mason would contribute to a teacher course more than he would gain from the experience of it, but would that be a good reason for abstention?

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¹ Byrne, P S, and Long, B E L, *Learning to Care*, Edinburgh and London, Churchill Livingstone, 1973.

Postural effect of diazoxide

SIR,—The management of severe hypertension has been improved considerably by the introduction of intravenous diazoxide. The standard therapy is 300 mg given by fast injection, though the need for rapidity has been challenged. The response is generally prompt and may be sustained long enough to permit maintenance therapy to be instituted after a single dose. Failure of effect may lead to repeating the same dose, doubling it, or using alternative agents. If the speed of the first injection was slow then rapid repeat injection is recommended by the manufacturers. This case report suggests that posture may be important in the response to diazoxide.

A 53-year-old woman developed a sudden severe headache. Her own doctor prescribed chlorthalidone for this after finding her blood pressure to be 160/120 mm Hg. Her symptom improved, but she again developed a severe occipital headache after three weeks. On admission to hospital her blood pressure was 230/130 mm Hg. Her retinae showed arterial narrowing, haemorrhages, and blurred margins to the nasal half of both optic discs. She promptly had a generalised convulsion, which was controlled by diazepam 10 mg intramuscularly. An intravenous injection of 300 mg of diazoxide was given as quickly as possible, with an ill-sustained moderate fall in blood pressure to 190/110 mm Hg. After four hours, when the blood pressure had reached 210/125 mm Hg, a repeat injection was given, in approximately 1½ minutes, with a temporary marked fall in blood pressure to 130/70 mm Hg. After a further three hours a further injection of diazoxide was considered since the blood pressure had risen to 250/140 mm Hg, but before this was given the bed was tilted 10° foot down. A satisfactory fall in blood pressure to a mean level of 170/95 mm Hg occurred and this was sustained for 10 hours. It was then possible to start therapy with oral bethanidine. Blood sugar was monitored and did not exceed 9.4 mmol/l (170 mg/100 ml). Blood urea was normal.

The patient was stuporous throughout. There was intermittent right facial weakness, hyperreflexia in the right arm was noted, and the left plantar response was extensor. A lumbar puncture revealed uniformly bloodstained cerebrospinal fluid with a pressure of 320 mm fluid. The chest radiograph showed a normal heart size and the electrocardiogram marginal left ventricular hypertrophy. Angiography subsequently showed an aneurysm of the left posterior communicating artery. During and after neurosurgery the anti-hypertensive therapy had to be temporarily withdrawn and the blood pressure rose again to a persistent level of 180/120 mm Hg.

Diazoxide has been approved in Britain for use in hypertensive crises for several years now. A number of articles have appeared on its use. None of them mention the possibility of tilting the bed to potentiate the effect, though

postural hypotension is mentioned as an uncommon side effect. Apparently this refers only to vertical posture. The onset of effect is agreed to be within a matter of minutes. There is a wide range of opinion about the duration of action, variously stated as 2-6 hours,¹ 1-18 hours,² 3-8 hours,³ and 4-24 hours.⁴ Frusemide is claimed to combat the fluid-retaining effect and thus potentiate the hypotensive action.²

In the case reported here there was an unsatisfactory response to intravenous diazoxide on two occasions. The blood pressure had risen alarmingly only 2½ hours after the second injection and the question arose of repeating diazoxide or using alternative agents. After bed tilting these became unnecessary. This suggests that the effect of the diazoxide was potentiated. It seems very unlikely that this manoeuvre itself could have controlled such severe hypertension. In view of the subsequent relapse of hypertension after surgery and withdrawal of specific therapy spontaneous remission cannot reasonably be claimed to account for the effects noted.

However, severe hypertension may be labile and the response to diazoxide ill-defined in amount and duration. The correct timing of repeat injections is a matter of individual judgment. The findings reported indicate that lack of response may be remedied by tilting the patient's bed before further therapy is considered. It could be that this ought to be an integral part of diazoxide therapy from the start in all but comatose patients likely to inhale vomit.

Professor I A D Bouchier kindly gave permission for this case to be reported.

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¹ Laurence, D R, *Clinical Pharmacology*, 4th edn, ch 18, Edinburgh, Churchill Livingstone, 1973.

² Moser, M, *American Heart Journal*, 1974, 87, 791.

³ Page, L B, and Sidd, J J, *New England Journal of Medicine*, 1972, 287, 1074.

⁴ Avern, J, and McLeod, D C, *Drug Intelligence and Clinical Pharmacology*, 1973, 7, 459.

Risk of haemorrhage in oxytocin stress test

SIR,—Though the oxytocin stress test has proved to be of considerable value in antenatal monitoring,^{1 2} it could be dangerous in patients with placenta praevia, as illustrated by the following case.

A 31-year-old Malay woman, gravida 6, para 3, was admitted with suspected intrauterine growth retardation. She was uncertain of her menstrual history. There was no relevant obstetric history and no predisposing causes were elicited to account for the intrauterine growth retardation. The positive findings were a lax abdomen with a single fetus in breech presentation. The oxytocin stress test as described by Weingold *et al*² was performed on two occasions separated by an interval of three days. On both occasions the tracings showed a normal pattern. However, a day after the second test the patient began to have intermittent vaginal bleeding not associated with any apparent contractions. An immediate placental scan with radioactive indium showed the presence of a major placenta praevia. This was confirmed subsequently at examination under anaesthesia and lower-segment caesarean section. A baby boy of 3000 g was safely delivered. The baby did not show features of intrauterine growth retardation.

Oxytocin stress tests and antenatal cardiotocography are becoming more commonly used to diagnose placental insufficiency in many