statement that "no patient with acute asthma should be sent to hospital without first being given 200 mg of hydrocortisone or prednisolone intravenously or intramuscularly." As a consultant paediatrician I have always been intrigued by the fact that the majority of my child patients who come into hospital show very good response in status asthmaticus to a single injection of ACTH gel, given in a dosage equivalent to 40 to 80 units in an adult and scaled down according to the child's weight. What I find particularly surprising is that this treatment seems to work within 20-30 minutes.

I understand from some of my general practitioner colleagues that this treatment also works in the home. It would be interesting to know if other practitioners have found this very safe treatment effective and if any of our more academic colleagues can explain why ACTH gel should produce this effect within such a short space of time. With many of my very small patients it is difficult to believe that the relief of bronchospasm could be psychogenic in these circumstances. We do, of course, recognise the response of asthma to coming into hospital in those who are sensitive to the house dust mite present in their home environments but not present in the cleaner and at least less dusty environment of the hospital ward, but this response is, of course, much slower and takes hours or days.

The other first-aid measure, which seems greatly to help children in severe bronchospasm is what I call "aided respiration." In this procedure the child sits on the adult's knee facing away from the adult. The adult then wraps his arms around the child's chest and, in time, with the child's efforts at expiration, he gently squeezes the chest to encourage fuller emptying. It is most important that this manoeuvre is timed to coincide with the child's attempts at expiration, and the adult must not in any way attempt to dictate the rate of respiration. After such an aided expiration the next breath the child takes gives quite considerable relief, and this seems to restore confidence and reduce the sense of suffocation felt in a severe attack of bronchospasm. There is, of course, considerable psychogenic reassurance for the child, seated and held in this way by a concerned and empathic and helping adult.

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Deep vein thrombosis in pregnancy

SIR,—In your leading article on "Venous thromboembolism and anticoagulants in pregnancy" (22 November, p 421) no mention was made of the value of ultrasound in the diagnosis of deep vein thrombosis in pregnancy and the puerperium. Ultrasound fetal heart detectors are widely used in obstetric units in Britain and can be used to test the patency of the iliofemoral venous segment. Minor calf vein thrombi will not be detected, but it has been shown that these do not carry any significant risk of embolism.[1]

The technique and its limitations are described very fully in the paper by Dr Jeanette Meadway and others (6 December, p 552). It is clear from this careful study that the technique is not foolproof and that the results must be interpreted with common sense, but it does represent a great improvement on clinical evaluation. In pregnancy the special techniques of venography and the radioiodinated fibrinogen uptake test cannot normally be used because of the radiation hazard to the fetus. If the ultrasound test is used in pregnant patients with calf pain of uncertain cause most of them will be saved from unnecessary anticoagulants.

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1 Kakkar, V V, *et al*, *Lancet*, 1969, **2**, 230.

SIR,—Your leading article on venous thromboembolism and anticoagulants in pregnancy (22 November, p 421) emphasises that the failure to reduce death from thromboebolism during pregnancy is mainly because clinical diagnosis is inaccurate because invasive techniques such as phlebography and ^{125}I-fibrinogen uptake scanning are hazardous.

However, the problem may be overcome by a number of non-invasive techniques which carry no hazard to the fetus; these include thermography,[1] which has a 95% correlation with phlebography, and the measurement of the serum level of fibrin(ogen) degradation fragment E[2,3] and plasma level of β-thromboglobulin.[4] Preliminary results of these estimations show a considerable degree of accuracy in the diagnosis of venous thromboembolism. In our experience thermography alone has either confirmed the clinical suspicion or has avoided unnecessary anticoagulation in patients in whom this therapy would otherwise have been indicated.

In the future it may be possible to screen all patients at specific risk using one or more of the above methods, and it will be of great interest to see whether such a programme would serve to reduce the morbidity and mortality associated with venous thromboembolism in pregnancy.

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Inhalation technique in treatment of asthmatic children with steroid aerosols

SIR,—The use of aerosol steroids has become well established as an important part of the management of severe childhood asthma.[1] Their place is well deserved and few would doubt their efficacy. However, there remain a few children in whom control of symptoms is inadequate without resort to alternate-day oral steroids, and we have realised recently that poor inhalation technique has been the probable reason for the inadequate response in some of these.

In the children's asthma clinic at this hospital patients have always been carefully taught how to take aerosols when they are first prescribed. In addition to this we now ask all children to demonstrate their inhalation technique at each visit. We have found some who do not take their inhalations correctly, and control of symptoms has improved very considerably in some cases when they have been reinstructed.

We therefore suggest that asthmatic children who are receiving inhalation therapy should be asked to demonstrate the use of their inhaler as a routine part of such outpatient visits and that particular attention should be paid to this point in those children with persistent symptoms for whom oral steroid therapy is being considered.

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1 Godfrey, S, and König, P, *Archives of Disease in Childhood*, 1974, **49**, 591.

Cigarette smoking and chest pain

SIR,—I was surprised that your leading article on this subject (15 November, p 368) made no comment about gastro-oesophageal reflux as an important and common reason for anterior chest pain.[1] Reliance on demonstrating a hiatus hernia to confirm this diagnosis is misplaced.[2,3] Cigarette smoking is a potent cause of gastro-oesophageal reflux[4] because it causes relaxation of the lower oesophageal sphincter,[5] and this mechanism should therefore be much more frequently considered as the cause of chest pain in smokers than your article suggests. The oesophageal acid perfusion test[6,7] is helpful in confirming the diagnosis.

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SI units

SIR,—I am directed to write to you on this subject by my committee. There is no support from the clinicians in this district, or indeed in the area of East Sussex, for the introduction of SI units at this time. It is our opinion that the use of even relatively small quantities of money to effect this change will be wrong and that absolutely no benefits to the patients will follow such a change.

The argument that it is standardisation is the purest tosh. All doctors and laboratory workers will need to carry two standards in their memories since reference to American and Scandinavian work will be large. We would like to see the change to SI units delayed until such time as the Health Service can afford even these small charges and the

change itself is not seen as an extra irritation.

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Measurement of blood nicotine

SIR,—We should like to comment on the interesting paper by Dr A K Armitage and his colleagues (8 November, p 313). Our comments cover two aspects of their paper: first, the value of their radiochemical method vis à vis other methods such as gas chromatography and radioimmunoassay, and second, their use of arterial rather than venous blood samples.

The radiochemical determination of nicotine during and after smoking cigarettes spiked with ^{14}C-nicotine is a notable advance. It has enabled Dr Armitage and his colleagues to estimate how much of the nicotine present in a cigarette is taken into the mouth during smoking (no more than 25%) and how much of this is then absorbed into the body (up to 90%). They have also been able to begin to trace the pattern of its metabolism in and excretion from the body. Despite the potential sensitivity and reliability of this radiochemical method its use is restricted to experimental and laboratory conditions. Unlike gas chromatography and radioimmunoassay, the radiochemical method could not easily be applied to the measurement of nicotine in the blood, urine, or saliva of smokers in clinical and epidemiological settings.

In the introduction to their paper Dr Armitage and his colleagues state that "gas chromatographic methods are available for nicotine, but there is evidence of interference from a nicotine-like substance present in the blood of both smokers and non-smokers and in animals not exposed to tobacco smoke." In the discussion they repeat this, saying that results from the gas chromatographic method "should be viewed with caution because of the presence of a nicotine-like substance, the nature of which is disputed." This somewhat cursory dismissal of the gas chromatographic method would be justified were it valid rather than ill-informed.

They cite three references to back these statements.[1-3] One of these is their own unpublished observation[2]; another is a paper by ourselves[3] which actually points out that the so-called nicotine-like peak found in non-smokers is in fact nicotine which has been absorbed by breathing air polluted by tobacco smoke. Though they refer to it, Dr Armitage and his colleagues appear not to have read this paper closely. They also fail to refer to the most up-to-date work on the use of gas chromatographic methods to determine blood nicotine[4-6] and to the confirmation by mass spectrometry that the nicotine peaks in both smokers and non-smokers are indeed nicotine.[6,7] Furthermore, all of this information was published well before Dr Armitage's paper was submitted.

The advantages of taking arterial rather than venous blood in this kind of study are not altogether clear, especially since the procedure is not without risk.[8] It is certainly not routine in pharmacokinetic studies of other drugs. Dr Armitage and his colleagues believed that arterial sampling was necessary "to interpret the significance of short-term changes in concentration." However, as their smooth plasma-level curves show, the sampling during smoking was unfortunately too infrequent to detect the true situation—namely, the brief high-nicotine boli which might be expected to follow each inhaled puff. A cardinal omission was their failure to use the opportunity to take occasional simultaneous venous samples to establish the arterial-venous differences. For most research and routine use venous sampling is obviously the more appropriate. It is gratifying to us, having spent some three years refining the gas chromatographic method of measuring nicotine in venous blood, that our results so far[1,5] agree with those of Dr Armitage and his colleagues as well as those obtained by radioimmunoassay.[9,10]

Finally, Dr Armitage's reference to Harris *et al* should have read Haines *et al*.[9]

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Attitudes and expectations of women doctors

SIR,—The article based on Professor C T Dollery's views on attitudes and expectations in the NHS made very interesting reading (27 December, p 750). I was, however, a little disappointed in what is reported as his ideas on women doctors and their professional work. I found him unexpectedly less objective and informed on this subject, and his attitudes and expectations rather rigid.

Women doctors' working pattern today is, as far as any evidence exists, closely related in the UK society to marriage and young dependants. These factors have greatly reduced the availability of many women for full-time work in post-war years, though nearly all single women work full-time or maximum part-time and so do some married women. Moreover, there is no evidence that all men and women consider full-time appointments in hospital, as they are today, to be the most desirable and ideal way of being a consultant, for either personal or professional reasons. They are sceptical about full-time posts or geographical full-time equivalents being always a better way of staffing all special departments. Contrary to the statement that "everyone wants a set-up with full-time staff," there are NHS establishments flourishing on part-time staff, and employers and senior doctors and nurses have changed both attitudes and expectations and see positive advantages for all in employing such staff. Sadly, many planners for the NHS seem to ignore these successful staffing arrangements.

To be realistic we must acknowledge that the physical presence of consultants on the hospital premises is not necessary all day and all night every 24 hours. What is required is that they should be present to do the work and the teaching and research and should be readily available for consultation by other colleagues and hospital staff and to go to the hospital when necessary. If this concept were not bedevilled by paranoid ideas about private practice there would, it seems to me, be no problem about staffing some hospitals with more, not fewer, doctors working less than full time or maximum part time, so giving more women chances of consultant work. I prefer this to the idea of twinning or sharing a post, which implies that a full-time post is the ideal norm in all cases.

Professor Dollery suggests that new thinking is needed in the structure of consultant careers and it would be very useful for many young women consultants to be able to opt for or out of extra work. He says that in the *future* women are going to want posts similar to those held by men. This is not a new wish: they have always wanted it. For many reasons opportunities have not always been there. He also says they will not be content with "clinics and the relatively menial jobs of medicine." I believe I speak for many colleagues, men and women, working in chest, child, school, and family planning clinics when I say we do not look at our work in this light. Perhaps some are frustrated because training and abilities are not being used properly—we may regret professional isolation and wish that all of us had a chance of continuing postgraduate education, perhaps leading to extra income, like GPs. But worry about status and hierarchical matters is foreign to most women's makeup until we come up against comments such as Professor Dollery's. Luckily in some ways this "menial" work is being absorbed into hospitals and general practice, and let us hope that attitudes and expectations will change and preventive medicine be recognised as an important service to the community; a service freed from the degrading description of "menial."

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Salary increments and anti-inflation policy

SIR,—Recent correspondence has discussed the legality but not the morality of the unilateral breaking of the consultants' contract by the interruption of the incremental salary scale. Most doctors accept the £6 limit on salary increases and the bar at £8500. With some hesitancy they have also accepted the block on the deferred salary increases granted earlier in 1975 and also the moratorium on new distinction awards. Rough it may be, but there is still an element of justice.

The consultant salary scale is something entirely different. The contract allowed for four annual increments, which are now disallowed after the second point. The incremental salary scale has nothing whatsoever to do with inflation, and it is hard to see the logic by which one group of hospital medical staff should be deprived of a normal contractual salary increment because the cost of living is rising by 20%. Inflation appears as a thinly veiled excuse for the levelling down of salaries.

The practical implications make no more sense than the economic. There is an evident desire by the Government to establish a whole-time salaried medical service. Young consultants are vital to such a service and yet they are the only group of hospital doctors to have their contracts broken in this manner. They have surely arranged their forward finance in the reasonable expecta-