In 1984 the International Commission on Radiological Protection first issued a statement indicating that no special limitations on exposures were required during the four weeks following the onset of menstruation.¹ This change and the reasons for it were widely discussed,^{2,3} and we looked forward to receiving clear advice to abandon the logistically complicated and operationally inefficient "10 day rule." In the event this was not forthcoming because of the ambiguity inherent in the second clause of the pregnancy question. This means one thing to those patients with an understanding of human physiology and another to those without such understanding. Any informed, sexually active woman in the second half of her cycle must answer "yes," and implicit in this interpretation of the question is retention of the 10 day rule.

The basic science suggests that it is the traditional interpretation of pregnancy that is important, and this can be established by asking "Have you missed a period?" This is the question that we now ask, which frees us from the unnecessary constraint of the 10 day rule without ambiguity, and for which we have the support of the director of the National Radiological Protection Board (R H Clarke, personal communication).

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Child health surveillance

SIR,—In his leading article Mr D M B Hall considered recommendations for the training requirements of general practitioners wishing to participate in child health surveillance.¹ I believe that the undergraduate years should not be forgotten in laying the foundations for appropriate knowledge and skills.

As outlined by Dr Leon Polnay,² in the very short period that is available for teaching basic paediatrics and child health medical students must be given every opportunity to learn some fundamentals of health surveillance—for example, they should learn to become competent at examining a newborn baby to detect serious congenital abnormalities; to test stability of the hip joint; to check the normal placement of testes; to explain the rationale and implementation of screening for phenylketonuria and hypothyroidism; to learn how to measure and weigh children accurately and to perform a simple developmental assessment; to understand the principles that underlie the monitoring of growth and the use of growth charts; to use simple distraction methods in the first year of life to test for sensorineural hearing loss at an early stage; and, most importantly, to learn how to use the doctor-patient contact to promote health through education and to listen to parents' anxieties regarding their children that might help in the early diagnosis and management of a wide variety of problems.

The importance of acquiring a sound basis of understanding in the simple skills of health surveillance could be further reinforced by requiring their competent demonstration in paediatric

examinations: many of the skills lend themselves to objective clinical assessment. Awareness that students are almost certain to be asked to show a basic competence in these skills would, I have little doubt, improve their mastery. Greater efforts must also be made to help senior house officers in paediatrics, most of whom will enter general practice, to develop these same skills at the same time as sharpening their clinical approach in looking after sick children in hospital.

As clinical teachers we have also to remind ourselves that far too little curricular time is spent teaching about the normal child—especially the wide range of normal biological variations in body structure, function, and development that can appear as worrying potential problems to parents. Much needless anxiety results when doctors fail to understand biological variation as a cause of parental anxiety. Human growth and development is a synthesis of all the basic sciences, lending itself to an interdisciplinary educational approach in the preclinical years. Medical students are invariably launched prematurely into a disease oriented programme of instruction without the necessary preparation for understanding normality. Without this the delivery of child health surveillance will not be fully appreciated.

I fully support the further training and better supervision of all who deal with children—whether they be general practitioners, health visitors, community doctors, or paediatricians. This commitment would, however, be made much easier for us all if the soil was better prepared during the undergraduate years.

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- 1 Hall DMB. Child health surveillance. *Br Med J* 1989;299:1352-3. (2 December.)
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Osteoarthritis

SIR,—Professor V Wright suggests that osteoarthritis ought to be the subject of extensive research as it is the most common of the rheumatic diseases, results in many days off work, puts more on the drug bill, and affects 10% of the population aged over 60 with disability.¹ We agree wholeheartedly with his remarks and note that he indicates that crepitus is the feature with the most discriminatory power in diagnosing osteoarthritis. We have suspected for some time that crepitus is among a range of useful vibrations emitted from human joints and have tried to devise means of objectively assessing these vibrations.² We use small transducers taped around the joint to detect vibrations that occur as the hip and knee are manipulated or simply flexed and extended. Some artefact has been identified and this is easily distinguished from true vibration.³ Our first attempts to implement this vibration recording technique were in detecting congenital dislocation of the hip.⁴ Early detection of this condition is possible using the well known tests of Barlow and Ortolani, but only if the resulting vibration emission, the hip clunk, is analysed for telltale signs of abnormality. We have found that many joints produce vibrations in their normal range of motion, and the discrimination between normal and abnormal is based on a subtle analysis of frequency content and energy.

In the adult knee vibrations can also aid the diagnosis^{5,6}; however, the rate of movement affects the vibration considerably. The crepitus we obtain from controlled movement of the normal patellofemoral joint is more regular than an electrocardiograph signal and is caused by the patella sticking and slipping in the trochlear groove of the femur as the knee is flexed and extended.

Such vibration techniques are, we believe, a new technology within the grasp of all those who are interested in the locomotor system.

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Calcium channel blockers in myocardial infarction

SIR,—None of the studies cited by Dr Peter Held and colleagues¹ were designed to assess the protective effects of calcium channel blockers against coronary artery disease. Furthermore, coronary artery disease is caused by multiple cardiovascular risk factors such as smoking, high cholesterol levels, hypertension, and genetic predisposition. Although the calcium channel blockers in effect improve the coronary blood flow by reducing the oxygen demand by the heart and by augmenting the oxygen supply, it would be foolish to assume that they may protect against heart attacks and death even in patients who may harbour other uncorrected (or uncorrectable) cardiovascular risk factors. For example, if someone continues to smoke, is physically deconditioned, and has other risk factors, no drug should be expected to prevent atherosclerosis. Therefore, the authors' basis for the critical review should be soundly rejected.

In the studies quoted by the authors the populations were not homogeneous, and various clinical baseline variables were not equally distributed. Thus, again, it is clearly fallacious to infer that "the data suggest a somewhat higher probability of harm than benefit" from the calcium channel blockers. I am not aware of any unwarranted claims that calcium channel blockers have been shown "to prolong life."

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- 1 Held PH, Yusuf S, Furberg CD. Calcium channel blockers in acute myocardial infarction and unstable angina: an overview. *Br Med J* 1989;299:1187-92. (11 November.)

SIR,—Dr Peter Held and colleagues¹ concluded that calcium blockers cannot be recommended for routine use to patients with acute myocardial infarction to reduce death and reinfarction. Results from the Danish verapamil infarction trial I (DAVIT I)² were included, but the results from the Danish pilot study^{3,4} were not. From the overview the reader who does not know DAVIT I might get a wrong impression of the design and outcome of that trial. We intended to treat patients admitted with acute myocardial infarction with verapamil or placebo for six months after admission. We knew that 40-50% of the patients admitted to coronary

	No of deaths/No randomised	Observed minus expected	Variance
Verapamil	Control		
Bussman <i>et al</i> ¹	0/29	0/25	0-0
Crea <i>et al</i> ²	0/8	2/9	-0-9
Danish pilot ^{3,4}	3/28	4/33	-0-2
DAVIT I ⁵	92/717	100/719	-3-9
Total	95/782	106/786	-5-0

Pooled odds ratio 0.89.
95% Confidence interval 0.66 to 1.20.

care units do not have an acute myocardial infarction; but to be sure that all patients with an infarct were treated, treatment should start immediately in all patients—without exclusion criteria—admitted with a suspicion of acute myocardial infarction. Treatment should then stop if a diagnosis of acute myocardial infarction was ruled out. This means that we did not intend to treat the 3447 patients in coronary care units but only the 1436 with acute myocardial infarction. Naturally the effect of verapamil in patients who were treated but did not fulfil the inclusion criteria should be reported from a trial with such a design. We find it impossible, however, to evaluate the effect of verapamil on death and reinfarction after an infarct in the 2011 patients without acute myocardial infarction, most of whom were treated for only two or three days and none for more than a week.

Based on the intention to treat principle and including all available trials with verapamil, which are all early intervention trials, an analysis shows a reduction in pooled odds ratio of 0.11 of mortality (table) and not an increased pooled odds ratio. The number of patients in verapamil trials (n=1568) is still small compared with the numbers included in nifedipine (n=9464) and diltiazem (n=3151) trials, and a beneficial effect of verapamil on mortality and reinfarction cannot be excluded. A report of the results of a further multicentre Danish verapamil infarction trial (DAVIT II) with late intervention is in preparation.

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- 1 Held PH, Yusuf S, Furberg CD. Calcium channel blockers in acute myocardial infarction and unstable angina: an overview. *Br Med J* 1989;299:1187-92. (11 November.)
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AUTHORS' REPLY.—Dr Ram suggests that none of the studies included in our overview were intended to examine the effects of calcium channel blockers on survival or recurrence of myocardial infarction. His position is incorrect. At least eight studies that we reviewed were conducted with the explicit aim of exploring whether or not calcium channel blockers reduced mortality or recurrent infarction (see table I of Held *et al*¹). Indeed some authors have claimed that these drugs are useful in this regard. We agree that coronary artery disease is multifactorial. Despite this a number of other drug interventions such as β blockers and antiplatelet agents have been clearly shown to reduce mortality and recurrent infarction in trials where risk factors were not modified. Therefore, it is reasonable to continue to explore whether various drugs reduce the risk of infarction or death. Dr

Ram's second point, that the "various clinical baseline variables were not equally distributed" (presumably between those randomised to the active group compared with the control group), is not substantiated as most of the trials published data on baseline characteristics that seem to be well balanced within each trial. Therefore it is reasonable to expect that, overall, the two treatment groups (active and control) were similar. The populations chosen in the various trials (or for that matter within each trial) are not "homogeneous" (whatever that may mean). Homogeneity, however, is not a requisite for the conduct of randomised clinical trials or for the conduct of an appropriate overview. The methods that we used compare patients randomised to the active and control groups with each other only within a trial and not between trials. The methods are standard, widely accepted, and prospectively validated in a number of different situations.

We had extensive correspondence with Dr Fischer-Hansen regarding his trials before the publication of our paper. The pilot study was not included in our overview because treatment allocation was based on the date of admission (odd or even) and was therefore not random.⁴ We recognise that by design in DAVIT I⁵ a large number of patients were withdrawn after randomisation because of lack of confirmation of the infarct. This was pointed out in table III of our paper. We believe that the only unbiased analysis of DAVIT I should be based on an intention to treat principle that includes all randomised patients (that is, all 3447 patients). It is possible that some high risk patients may have died after randomisation but before clinical confirmation of infarction was obtained; others may have suffered death due to infarction some time after the initial clinical episode was not diagnosed as an infarct. In others the drug may have prevented or precipitated an infarct. Therefore confining analysis to only a subset of patients in the table that Dr Fischer-Hansen provides in his letter could be potentially biased and misleading. We look forward to the publication of DAVIT II and hope that the data will be presented based on all patients randomised (irrespective of subsequent diagnosis, compliance with treatment, or outcome).

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Demoralised doctors

SIR.—Dr Debbie Parker spoils a persuasive piece¹ by massaging the findings of some research. She quotes a study of young doctors by Isobel Allen as reporting that "44% of the men and 49% of the women who qualified in 1981 wished that they had never become doctors."

Whatever the level of demoralisation, it was certainly not as catastrophic as these figures suggest. The percentages given are of doctors who responded affirmatively to the question "Have you

ever regretted your decision to become a doctor?"—the final question of a lengthy interview.

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- 1 Parker DF. Demoralised doctors. *Br Med J* 1990;300:56-7. (6 January.)

Psychiatric discharge summaries

SIR.—I would like to add my findings to those of Drs Nick Craddock and Bridget Craddock on the subject of psychiatric discharge summaries for general practitioners.¹ I conducted a similar postal survey of the 34 general practice surgeries (115 general practitioners) in South Warwickshire Health Authority (catchment population 223 000).

Each surgery received three sample discharge summaries describing the same case (an acute psychotic episode in a 40 year old woman) and containing details of the reason for admission, diagnosis, prognosis, discharge medication, and follow up. Summary A (half a side of A4 paper) was in note form. Summary B (one side of A4) was in prose style and added brief details of mental state and progress. Summary C (two and a quarter sides of A4) followed Institute of Psychiatry guidelines.² A question sheet asked practices' opinions on each summary, whether they would favour receiving lengthier summaries for first admissions and short summaries thereafter, and their opinion of the most important information required in a discharge summary. A prepaid envelope was included.

The response rate was poor (15 out of 34 practices), but the preferences expressed agree with Drs Craddock's findings (16% found summary A "just right," 67% summary B, 26% summary C). Summary A was considered lacking in detail, and the note format was considered unprofessional. Summary B was favoured for being in prose style while remaining clear and concise. Summary C "gives the GP the information he thought he knew but didn't!"—which was good for first admissions but excessive subsequently. All of the practices favoured the "two tier" system, 67% preferring to receive summary C first. The vital details in a discharge summary, in order of importance, were treatment on discharge (including arrangements for its administration); future management (including details of all the agencies concerned, dates of appointments, the nomination of a case manager for patients likely to be unreliable, and a clear delineation of the general practitioner's role in the case in relation to the other professionals); and diagnosis (including the evidence for it). Of lesser importance were background history, presenting problems, and course of admission. The need for promptness was stressed.

These findings carry forward Drs Craddock's comment: "Our results show clearly that separate summaries are required for the general practitioner and for hospital notes." A possible solution might be to prepare a detailed "clinical summary" following Institute of Psychiatry guidelines for the notes and the general practitioner after the patient's first admission in the catchment area. Thereafter the general practitioner's needs will be met by a concise communication of diagnosis, treatment, and management issues, with only brief details of the circumstances of admission and mental state—enough to give a rationale for the decisions made. The needs of the psychiatric records (to record information that may be required in future discussions of diagnosis, prognosis, and management issues) can be met by a concise update of the clinical summary, including information such as mental state and management and progress, as well as a note of any changes in personal circumstances and possibly a summary of "psychiatric dis-