though atherosclerosis and calcification were seen, intraluminal thrombosis was rare.[7]

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Research in general practice

Sir,
Dr Craddock's letter (February *Journal*, p.86) raises the issue of research by general practitioners. I agree with the view that research in general practice is both possible and worthwhile. Unfortunately, there may be a decline in the proportion of practices who are undertaking research.

I undertook a survey in 1982[1] and 124 of the practices in that study responded in the 1990 survey referred to by Dr Craddock.[2] In 1982, 39 of the 124 practices reported undertaking individual research of some kind, but in 1990 this number had fallen to 27. In 1982, 27 of the practices were taking part in some type of collaborative research, but in 1990 this figure had fallen to 19.

While this information is from a relatively small number of practices, if it does reflect a general trend, there is a depressing reduction in the proportion of general practices taking part in research. Possible explanations include the increase in pressure of work and changing attitudes among general practitioners towards research. This finding is worrying for those who wish to see general practice continue to develop a sound academic foundation. It is clearly important that further work be undertaken to confirm whether or not there is a genuine decline in research being undertaken by practices. If a decline is found, it is essential that the explanations for this are identified so that appropriate action can be taken.

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Postgraduate education

Sir,
We would like to respond to Dr Fox's criticism (May *Journal,* p.218) of our paper (January *Journal*, p.19). We were careful to report what the results showed and this was only that doctors who were members of a centrally organized educational scheme attended more educational meetings and that this applied for all categories of the postgraduate education allowance. Although we feel that the system is better educationally as it gives a more balanced spread of education we do not have the data to show this.

Dr Fox talks about education being a process whereby new skills and/or knowledge and/or attitudes are acquired which improve one's work and we could only agree with him. However, the literature on educational research in general practice is sparse. Fortunately this has been enhanced by the work from the west of Scotland. Dr Fox will be pleased to learn that we are currently looking at the effect of education on doctors in their day to day work.

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Quinine for night cramps

Sir,
In describing his crossover trial of quinine for night cramps (letters, March *Journal*, p.127) Dr Dunn states that 'this carry over effect suggests that withdrawal of quinine induces cramps. This is totally unexpected, and has not been reported before. Such an effect is difficult to explain.'

There were 14 patients in each group at the beginning of the trial, and a total of three dropped out. With such small groups it seems perfectly reasonable that the percentage of nights with cramp during the placebo period should be 65% in one group and 37% in the other. It only requires two or three individuals with severe symptoms to create this disparity.

If we look at the effect of quinine in each group we see that it reduced the incidence of nights with cramp from 65% to 27% in one group (58% reduction) and from 37% to 14% in the other group (62% reduction). This represents effective therapy in each group and in my opinion justifies the use of quinine for this condition.

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On-site physiotherapy

Sir,
Waiting list initiative money is being used in Doncaster to fund on-site physiotherapy in general practice. Twenty two of the 49 practices in Doncaster (45%) expressed an interest in establishing this service. Six practices have been funded to offer the service to their patients and Doncaster Health is keen to evaluate the initiative. Therefore Hackett and colleagues have produced a timely paper on the value of on-site physiotherapy in general practice (February *Journal*, p.61).

However, I am concerned about the different case mix in the three settings (one practice had on-site physiotherapy, one direct access and the third access only via orthopaedic consultants) and the fact that these were not taken into consideration in the analysis. The mix of diagnoses among patients in the practice with on-site physiotherapists differed significantly from that of the practice with access via orthopaedic consultants (chi square = 37.2, 7 degrees of freedom, $P<0.001$). On-site physiotherapy dealt with larger proportions of ankle ligament sprains and miscellaneous conditions and a smaller proportion of shoulder injuries. In particular, the higher proportion of prescriptions in the group with access only via a consultant may have been related to the case mix, thereby making the conclusion that ready access to physiotherapy may result in less drug prescribing a potentially misleading one?

The point made in the discussion that the practice with on-site physiotherapy had a rate of referral to physiotherapy of more than twice that of a practice with direct access is an extremely important one. Rates seemed higher for some conditions but particularly so for ankle ligament sprains and miscellaneous conditions. Beckerman and colleagues (February *Journal*, p.73) have demonstrated that there is as yet no proven benefit for treatment of many conditions with physiotherapy. It is not unusual to be undertaking