and if substantial differences in dietary intake were an important independent risk factor this must affect the minority of patients. These various observations do not provide a persuasive argument to increase the dietary calcium of the healthy population.

On this basis we would not conclude that calcium had no effect on hip fracture. The strength of attributing causality or otherwise depends in part on the plausibility of the association. This is weak in the case of advocating hair dye for the management of osteoporotic fracture but stronger in the case for calcium. As reviewed in our paper, we put forward persuasive evidence that pharmacological amounts of calcium in the elderly osteoporotic population do retard the rate of bone loss and might, therefore, decrease the risk of fracture frequency, even though this has yet to be shown. The rationale is, however, pharmacological rather than nutritional. Thus calcium may well prove to have a place in the management of established osteoporosis as a drug rather than as a nutritional requirement. In this sense the editorial subtitle of our article was perhaps misleading.

The possible protective role of physical activity emerges from both case-control studies and is certainly more plausible than that of calcium or hair dye. The cited paper from Cavanaugh and Cann is tangential since, as reviewed by ourselves, there is little evidence that exercise (or calcium) can prevent the accelerated bone loss that occurs in the several years after the menopause.

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Risk factors for acute myocardial infarction in women

SIR,—We have recently examined whether current or former use of oral contraceptives was associated with an increased risk of acute myocardial infarction.[1] After recent publicity about possible long term effects of contraceptive pills that contain the progestogen levonorgestrel[2] we have re-examined our data to test the hypothesis that use of these brands ever selectively increases a woman's risk of having an acute myocardial infarction.

The women who had ever used the contraceptive pill were separated into two mutually exclusive groups: those who had taken brands which included levonorgestrel (levonorgestrel users) and those who had never used these brands (other progestogen users). The relative risk associated with each group was calculated with never users as the reference. Adjustments were made for smoking, social class, history of hypertension, and toxaemia of pregnancy. In a second comparison the levonorgestrel users were compared with a combined reference group of never users and other progestogen users. The prevalence of use of pills containing levonorgestrel ever was 10% (62/632), and so we had 80% power to detect a twofold increase in the relative risk (α=0·05, one sided test). The table shows that in neither comparison did levonorgestrel users have an increased risk of an acute myocardial infarction. The adjusted relative risk for all ever users compared with never users was 1·12 (95% confidence interval 0·74 to 1·71).

Combined oral contraceptives which contain the progestogen levonorgestrel lower high density lipoprotein cholesterol concentrations,[3] an effect that is dose dependent.[4,5] As high density lipoprotein cholesterol seems to protect against coronary disease in some populations some authorities have recommended that clinicians avoid prescribing these brands.[2,5] We examined ever use of such pills because any long term effects of changes in lipid induced by the pill will increase in importance as the incidence of heart disease accelerates after the menopause. The balance of hormones in the different brands and their dosage and duration of use may affect any comparisons based on progestogen content alone, and further analyses are clearly needed. For the present, we have found no evidence to support the hypothesis that levonorgestrel increases the risk of acute myocardial infarction.

Relative risk of acute myocardial infarction associated with ever use of combined oral contraceptives containing levonorgestrel

Category of pill user	Cases	Controls	Relative risk*	95% Confidence interval
Never	64	227	1·0	
Levonorgestrel	11	51	0·55	0·24 to 1·26
Other progestogen	83	196	1·24	0·81 to 1·91
Never and other progestogen	147	423	1·0	
Levonorgestrel	11	51	0·48	0·22 to 1·05

*Adjusted for smoking, social class, history of hypertension, and toxaemia of pregnancy.

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Reactive arthritis: a further consequence of the increase in salmonella infections

SIR,—The recent controversy on the subject of salmonella infection in poultry and egg production has obscured most of the scientific facts.

We have recently noted an appreciable increase in the number of cases of reactive arthritis after salmonella infection. Many of the patients still have symptoms of arthritis a year after the original infection so the consequences for some may be more serious than a short episode of food poisoning.

During five months in the summer of 1987 seven patients with reactive arthritis were seen in this department. Five were male and two were female, and their ages ranged from 13 to 44 (mean (SD) 26 (4)) years. Five patients had a short history of diarrhoea, which was usually mild. All presented with acute inflammatory oligoarthritis that predominantly affected the lower limbs. The knees were affected in all cases, the ankles in five, with enthesopathy in two. The diagnosis was confirmed in all cases by positive results on serological testing for *Salmonella enteritidis*. In three patients cultures of their stools yielded *S enteritidis* (phage type 4). Six patients were positive for HLA-B27.

The prevalence of reactive arthritis in this outbreak is impossible to estimate because the sources of infection were different and the total number of cases unknown. Intestinal infections with *S enteritidis* are, however, becoming increasingly common in the United Kingdom and throughout Europe and the United States. Over the past two years in our area the number of recorded cases of gut infections due to this organism has increased almost 30-fold. The commonest source of infection seems to be poultry.

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Mendelian inheritance

SIR,—Dr Helen Kingston has given an excellent basic overview of Mendelian inheritance[1] well illustrated by numerous pedigrees (regrettably a scarce entry in most hospital case notes). My only criticism regards the section on X linked recessive disorders, which fails to mention the phenomenon of X chromosome inactivation.

Apart from its biological interest, this phenomenon is of great practical importance because it means that at the cellular level the distinction between dominant and recessive conditions breaks down with respect to X linked genes. For instance, in a woman heterozygous for glucose-6-phosphate dehydrogenase deficiency some cells are completely normal and the others are completely deficient. As a result, about one half of the red cells are susceptible to haemolysis and therefore these heterozygotes "show some features of the condition," as mentioned in the first paragraph; this means in effect that, by definition, the condition is not recessive.

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A national ethics committee

SIR,—Certainly something needs to be done to improve and standardise the performance of "the myriad local ethical committees" described by Dr K Korlipara.[1] As a former lay member of two London teaching hospital ethics committees may I offer the following comments and suggestions?

Firstly, a national ethics committee as suggested by Baroness Warnock[2] would surely be excellent in a standard setting and monitoring role. The delays and difficulties would be inordinate, however, if such a committee were to peruse every protocol—in my experience at least four hours a week are needed for purely local work.

Secondly, far more explicit guidelines and interpretations are needed for ethical committees and prompt advice on new issues as they arise. In addition to abstract ethics there are the more personal problems of assessing informed consent and the justifications for medical intrusion, both mental and physical, into the lives of patients or volunteers and their families. Most people are tremendously willing to help and please the doctor, and care must be taken that this goodwill is not abused in an occasionally esoteric project.

Thirdly, there is a need for external professional