

during intercourse. There were no significant differences between patients and nurses with Crohn's disease ($\chi^2=0.1$). Neither was there a difference between patients and nurses who were menstruating and those who had been amenorrhoeic for six or more months ($\chi^2=1.3$).

We believe that a substantial number of women with Crohn's disease have largely unrecognised sexual difficulties and that these may be partly responsible for the reduced fertility seen among women with Crohn's disease.⁵ Certainly such difficulties might account in part for the high level of interest in fertility and family planning among self help groups for patients with inflammatory bowel disease.⁶ Physicians, surgeons, gynaecologists, and family practitioners need to be sensitive to the needs of women with Crohn's disease.

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Children born in Seascale

SIR,—In the week of the 30th anniversary of the Windscale fire it is surely a remarkable coincidence that your pages should carry confirmation (3 October, p 819, 822) of the findings of Sir Douglas Black¹ concerning the raised incidence of childhood leukaemia around the Windscale (now Sellafield) plant. The discovery that the excess is confined to children of mothers living in Seascale at the time of birth raises a number of questions in relation to the continuing controversy over the safety of nuclear installations in Britain.

Firstly, as the *Lancet* observed after the inquiry,² of the 14 young people with leukaemia born in Millom rural district, three were born in 1957—the year of the fire—and one in 1958. The findings of Professor M J Gardner and colleagues sharpen the doubts that this small temporal focus have raised.

Secondly, in offering his "qualified reassurance" to the people of west Cumbria Sir Douglas relied heavily on the calculations of the National Radiological Protection Board, which claimed to show that reported levels of radioactivity discharged from the plant were far too low to account for the observed incidence of leukaemia.³ Profound uncertainties underlie the models used in these calculations,^{4,5} but the uncertainties are at their most broad and uncharted over risks to the fetus.

The fetal model⁶ relies on a tiny handful of animal experiments and is preoccupied with changes in physiology during gestation rather than with metabolic behaviour. Thus the fractional distribution of plutonium in the organs of the fetus is taken to be the same as that in the mother. Transfer of actinides from mother to child is based entirely on experiments in animals; the authors of the model remark that extreme care is needed in extrapolating from animals to humans. They also question whether the conventional concept of dose has any meaning when applied to the fetus. It

seems unlikely that committed effective dose equivalent, which is the quantity recommended for adult members of the population, is an appropriate criterion for estimating risks to the fetus.⁶

The model also includes a factor to account for the reciprocal relation between tissue dose and the increasing body mass of the growing child. Thus the dose—and therefore the risk arising—from a long lived α emitter lodged in the skeleton is taken to decrease with the rapid growth in fetal body mass.⁶ Tissue mass is relatively unimportant, and at the cellular level α particle dose averaged throughout the tissue may be biologically almost meaningless.⁷

Thanks to the work of Professor Gardner and his colleagues, those seeking an explanation for the existing excess of leukaemia in Seascale now have a clearer idea of where their efforts might be directed.

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Keeping up with orthopaedic epidemics

SIR,—The suggestion by Mr Christopher Bulstrode that the rising incidence of fractured neck of femur is responsible for the present difficulties experienced in running orthopaedic trauma services (29 August, p 514) has been challenged by Dr Fear and colleagues (26 September, p 782). They produce data from Leeds to show that the incidence of fractured neck of femur and the actual number of cases in the over 65 age group have not changed noticeably in the past 12 years.

When figures for the Cardiff Royal Infirmary (table) are considered in two five year periods,

Numbers of operations for fractured neck of femur and trauma cases at the Cardiff Royal Infirmary between 1977 and 1986

Year	Total operated on for fractured neck of femur	Total operated trauma cases
1977	407	1493
1978	390	1566
1979	382	1603
1980	379	1654
1981	382	2218
1982	427	1854
1983	398	2092
1984	403	1938
1985	463	2211
1986	454	2228

1977-81 and 1982-6, operations for fractured neck of femur increased by 10.5% and all trauma operations by 21%. The incidence of fractured neck of femur is rising gradually as the population ages but is overshadowed by a more rapid rise in general trauma. The motorcycle has taken over from the car as a major cause of trauma since the

widespread use of seatbelts; and knee arthroscopy becomes daily more popular, as does the operative fixation of secondary bony deposits of malignant disease.

Many other factors heap pressure on limited resources. To date the "epidemic" has been contained as far as theatre time is concerned and with little expansion in resources by the introduction of better x ray imaging, orthopaedic fixation, and anaesthetic techniques.

Clearly, a time will be reached when the elective case will be squeezed out by the trauma load, especially if the beds happen to be under the same roof.

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Reference bias in reports of drug trials

SIR,—I would like to commend Dr Peter Götzsche for his study of "reference" bias in reports of drug trials (12 September, p 654). It is dismaying that unbiased information retrieval should be so difficult. The modern meta-analyst or other researcher is faced with the challenge of collecting an unbiased series of reports for a given subject using the combination of an electronic searching system that provides incomplete retrieval of reports and a hand search method that relies on a biased set of reports.

I would also like to commend Dr Robert Newcombe for presenting the concept of "registering" protocols for peer review at the planning stage (p 656). Readers may be interested to know that Jerold Lucey, editor of *Pediatrics*, has indicated his willingness to adopt a system similar to that proposed by Dr Newcombe.

Dr Newcombe's arguments for a registration system would have been a good deal stronger if he had supported his statements about publication bias with data. Though there are data to support its existence in psychology and education,^{1,2} publication bias is far from being a fact supported by data in medicine. As far as I know, a study by Simes provides the only published data documenting the problem, in this case for cancer.³ Findings from an additional study⁴ show that a publication bias related to study results does exist but there it is the authors who fail to write up null or negative results rather than the editors who fail to accept them for publication.

Dr Newcombe wrote that currently the only prospect of eliminating publication bias is to contact all investigators who may have done relevant work; he mentioned the worldwide survey designed to identify all unpublished trials in perinatal medicine, undertaken by Iain Chalmers and others in connection with the Oxford database of perinatal trials. The survey is now complete, and the results are being written up. Very few responses were received reporting unpublished results of perinatal trials, indicating that there are not many unpublished results of trials, that the survey did not reach investigators with unpublished results, or that investigators with unpublished results did not respond to the survey. In any case, we are forced to conclude that retrospective registration of trials is not worth while in view of the enormous effort and expense required. Instead, we must devise a system for prospective registration of initiated studies, as Dr Newcombe and others have suggested.

Though the proposal to register studies through journals is a possible solution, the additional burden might prove too great for the already overloaded volunteer peer review system. Perhaps a more practical approach, at least in the United States, would be to set up registration through the institutional review boards, a system already in