Size of tumour and operation performed in relation to length of history, 1979

	Short* history	Intermediate history	Long† history
No of inoperable tumours	1	2	7
Average tumour diameter (cm)	1.6	2.6	3.1
No of mastectomies	19	29	8
No of wide local excisions	16	22	1
Total No of patients	36	53	16

*Short history $\leq$ one month.

†Long history $\geq$ one year.

radiotherapy. The selection of patients for conservative surgery is on the basis of the relative volume of the tumour to the breast and on its position. Patients with central tumours still undergo mastectomy but patients with relatively small medial or lateral tumours have wide local excision.

If wide local excision and postoperative radiotherapy can control local disease as effectively as mastectomy, then our message to the public is not that shorter delay necessarily means longer survival but that shorter delay means less radical surgery.

We thank Drs J C Gazet, H T Ford, and T J Powles of the St George's Hospital combined breast clinic at the Royal Marsden Hospital for permission to review their patients.

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¹ Tubiana M, Chauvel P, Renaud A, Malaise EP. *Bull Cancer* 1975;62:341-58.

Screening for the small-for-dates fetus

SIR,—We thank Dr R H Klipstein (21 June, p 1534) for his interest in our two-stage ultrasonic examination schedule to screen for intrauterine growth retardation, which, using the crown-rump length $\times$ trunk area index, detected 94% of small-for-dates fetuses in almost 500 singleton pregnancies (17 May, p 1203) and which we are now subjecting to a prospective controlled trial. However, we cannot agree that the efficacy of a screening procedure can be equated solely with its predictive value (defined as the ratio of true-positive to false-positive diagnoses). Rather we believe that its efficacy must also take into account sensitivity (defined as the ratio of true-negative to false-negative results) and clinical usefulness.

We made the point that false-negative results (that is, undetected growth retardation) are of greater practical significance than false-positives and we therefore viewed the crown-rump length $\times$ trunk area index (false-negative rate 6%, false-positive rate 12%) as more useful than the crown-rump length $\times$ trunk circumference index (false-negative rate 11%, false-positive rate 9%). Many false-positives can be identified as such by further detailed ultrasonic examination following a screening diagnosis of growth retardation. Indeed, further management (including intervention) would depend, as we stated, on further intensive biophysical and biochemical monitoring and also, of course, on continued clinical surveillance. It is also

relevant that half our false-positives related to babies with birth weights below the 10th percentile (sometimes taken as the cut-off point defining growth retardation) but above the 5th percentile (our cut-off); it seems to us no great harm that these fetuses in particular should be subjected to investigation of their subsequent growth and wellbeing.

Thus we can reassure Dr Klipstein that there need be no undue concern that our chosen screening parameter will necessarily lead to more unnecessary intervention than would the use of the crown-rump length $\times$ trunk circumference index.

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Family trends in psychotropic and antibiotic prescribing in general practice

SIR,—The paper by Drs J G R Howie and A R Bigg (22 March, p 836) is a further useful addition to the relatively small amount of information about prescribing in general practice. It is of interest, however, that the authors did not consider the possibility that the children of anxious mothers actually do have more respiratory diseases requiring antibiotics than the children of mothers not so anxious.

There is also little comment on the finding that anxious mothers most often need psychotropic drugs while the children are young or while they are approaching puberty. Such a finding is perhaps not unexpected and might also tie in with the finding that mothers with more children are less likely to be high users of psychotropic drugs. These findings would reinforce the author's suggestions that family structure and dynamics may well be an important influence in prescribing.

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Deaths from non-accidental injury in children

SIR,—I would concur with Dr J A Baldwin's estimate (21 June, p 1533) that the number of children who die annually from non-accidental injury is considerably higher than the Registrar General's figure for "deaths due to homicide and injury purposely inflicted by other persons," as was suggested by Dr K T Farn (3 May, p 1145).

There are three aspects to deaths from this cause which merit consideration. Firstly, non-accidental injury occurs almost exclusively in the home in the absence of independent witnesses. Secondly, the injuries sustained may not be the immediate cause of death. Thirdly, some deaths due to non-accidental injury get misdiagnosed.

When a child dies in suspicious circumstances, the parents deny deliberately injuring it, and the medical evidence cannot determine conclusively that the injuries had been purposely inflicted the coroner has no option but to record an "open verdict." With nine of the 21 dead children in the sample of battered children reported by Smith and Hanson, the coroner had reached this verdict.¹ These "open

verdict" deaths are recorded by the Registrar General under the category "injury undetermined whether accidentally or purposely inflicted." In 1977 the number of child deaths recorded in this category² was 30—a figure which when added to the 78 homicides in that year exceeds Dr H B Valman's estimate (15 March, p 775).

There are also the cases where the inflicted injuries do not cause death in themselves but so weaken the child's resistance to infections as to lead to death from "natural causes." In 1975 nine dead children were referred to the Registers of Suspected Non-Accidental Injury maintained by NSPCC Special Units³ in five different parts of the country. Two of these children were recorded as having died of bronchopneumonia, one with 106 bruises of different ages on her body; both mothers were prosecuted for assault. Two of the other dead children (siblings) had originally been diagnosed as cases of cot death. It was not until their healthy 4½-year-old brother died in the same manner that their deaths were re-examined. Half of Johnson's 17 cases of battered babies, originally thought to have died of natural causes, had been diagnosed as cases of cot death.⁴ It would seem that cases where the attending doctor misdiagnoses the cause of death are not as uncommon as one might expect.

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¹ Smith SM, Hanson R. *Br Med J* 1974;iii:666-70.

² Office of Population Censuses and Surveys. *Mortality statistics: childhood and maternity 1977*. London: HMSO, 1979.

³ Creighton SJ, Owtram PJ. *Child victims of physical abuse*. London: National Society for Prevention of Cruelty to Children, 1977.

⁴ Johnson HRM. *Med Sci Law* 1969; April: 102-6.

Dorsal column stimulation in multiple sclerosis

SIR,—Your leading article (31 May, p 1287) presents a very reasonable assessment of the current state of affairs with regard to dorsal column stimulation in multiple sclerosis. The statement, however, that there is "total lack of any data showing how the treatment works" is too sweeping. Data exist but hard facts do not. Any proposition needs to explain why dorsal column stimulation will help "central" pain and bladder function and why the effect on micturition is insidious, usually maximal at six to seven days, wearing off equally slowly.¹ This favours a more hormonal than an electrical effect, although both may be responsible.

The fragmentary data relating to mechanism are: (1) Dorsal column stimulation elevates adrenaline, noradrenaline, and dopamine in plasma and noradrenaline in cerebrospinal fluid.² (2) There is no change in CSF homovanillic acid or 5-hydroxyindole-acetic acid.³ (3) Dorsal column stimulation reduces urethral sphincter tone,⁴ which suggests α -sympatholytic or parasympathomimetic action. (4) Dorsal column stimulation has no effect on or possibly depresses CSF met-enkephalin levels. It is possibly naloxone reversible.¹ (5) It has evoked potentials⁵ and H responses.⁶ (6) It has improved leg blood flow.⁷ Observations 1-6 are based on very small numbers. The possibility that a neuropeptide or prostaglandin is involved needs close scrutiny.

The overwhelming problem in multiple sclerosis is how to disentangle possible benefits